

THE EXPANDING HORIZON
a
Geographical Commentary
upon
Routes, Records, Observations & Opinions
Contained in Selected Documents
Concerning Travel at the Cape
1750 - 1800

by
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INDEXED

CONTENTS.

Preface	1.
Introduction	5.
A.F. Beutler	16.
C.P. Thunberg	67.
F. Masson	102.
A. Sparrman	130.
H. Swellengrebel	169.
W. Paterson	234.
R.J. Gordon	270.
F. Le Vaillant	338.
L. Degrandpré	368.
J. Barrow	380.
Appendix A. Governor J. van Plettenberg	423.
Appendix B. Jacob van Reenen	428.
Appendix C. Tables of Itinerary Comparisons	431.
Principal References	433.

(Plates of maps illustrating these travels
are bound in a separate volume)

PREFACE.

Much of this thesis has already appeared in print. The original articles, however, have been considerably altered and amplified in the light of information acquired subsequent to their publication. The chapters on Barrow, Sparrman, Thunberg, Masson, Paterson, Gordon and Le Vaillant are founded on contributions printed in the order given and in successive years in The South African Geographical Journal, 1944 - 50. The chapter on Gordon has also received substantial additions from my contributions to Africana Notes & News, particularly from Vol.IX pp.84 - 94. The chapter on Beutler was printed in The Archives Yearbook for S.A. History, 1953, Vol.I. The chapters on Swellengrebel and Degrandpré as well as the brief appendices on Van Plettenberg and J. van Reenen have not appeared in print.

I now tender again my sincere thanks for financial assistance received from the Council of Rhodes University in aid of publication of several of the above-mentioned contributions to The South African Geographical Journal, and also for grants that enabled me to follow in the field the routes taken by the early travellers. On this rewarding task I journeyed by road to terminal points that lie respectively in the vicinity of Mossel Bay, Prince Albert, Graaff Reinet, Colesberg, Bethulie, the Aughrabies Falls and Butterworth. I also gratefully acknowledge a grant made by the National Council for Social Research for the purpose of visiting the Gubbins Library at the University of the Witwatersrand. On my own resources I have paid a number of visits to the Cape Archives. I have worked in London in the British Museum, the British Museum (Natural History), the Public Record Office and the Library of the Royal Geographical Society. I have visited Holland and studied there the Gordon Collection in Amsterdam, the Van de Graaff Collection in Delft, the Janssens Collection in The Hague, and the Bodel-Nijenhuis Collection in Leiden.

The number of important eighteenth century maps of the Cape in these collections in Holland, in the Cape Archives and scattered elsewhere in the Union of South Africa and Europe, is such that they will require an entire monograph devoted to

them if they are to receive the attention that they merit. This work has yet to find its author, and no attempt will be made by me to usurp his functions. I will only refer to these maps in a cursory manner as my subject requires, and will leave to some other investigator the task of their detailed description, collation and appraisal.

I have also omitted from full-length discussion the records of the following journeys that were made during the half-century 1750 - 1800 because they have already been dealt with by other writers. By H. Hop into Great Namaqualand 1761 - 62, treated by Dr. E.E. Mossop in Van Riebeeck Society Vol. 28. The same editor in Van Riebeeck Society Vol. 15 deals with H.J. Wikar's journey along the lower Orange River in 1779, and with the journeys to the north of that stream by J. Coetse and by W. van Reenen in 1760 and 1791 respectively. I have not discussed the routes taken by survivors of the wreck of the Grosvenor in 1782, nor of the expeditions sent in search of them, that have been examined by Prof.P.R. Kirby in Van Riebeeck Society Vol. 34. But in a short appendix I have discussed that part of Jacob van Reenen's journey of 1790 that lay west of the Great Fish River, because it is the only account of which I know that gives this itinerary between the Attaquas Pass and Assegai^a Bush near Grahamstown. This discussion I have done independently of one prepared by Professor Kirby (but still unpublished) who in addition follows the route to the expedition's turning point in Kaffirland. I have omitted discussion of the journey to Cape Town made in 1796 by the survivors of the wreck of the Hercules near the mouth of the Baka River, described by Captain Benjamin Stout; and the travels of Lady Anne Barnard in 1798. The travellers named in this paragraph together with those dealt with in the following chapters are all of whom I know that have left adequate accounts of their movements. Some others whose records are very brief receive incidental mention, for example Faber and Mentz 1769, C.H. Leiste 1777, Jochem Prinsloo 1777, Colonel William Dalrymple 1785, Boos and Scholl 1786 and V.C.P. von Winckelmann 1788. I have reserved for discussion at another time the official journey made in 1768 by J.W. Cloppenburg from the Cape to the vicinity of George, back to Tulbagh and then north to about the position of Citrusdal by the Olifants River.

I am grateful to many of my past and present colleagues at Rhodes University for the invaluable assistance that I have received from them in investigating the many questions that have arisen in the preparation of this work. These questions are indicative of the wide field of discussion covered by the eighteenth century travellers at the Cape, and the breadth of the territory that now can be claimed to lie within or to border upon the confines of physical and human geography. Not only have I received quite indispensable aid in the translation of French, German, Swedish, Latin and Nederlands, but also I have been advised on the meanings of place names in the Native tongues of South Africa, and upon tribal identifications. I have taken advice on the chemistry of hot springs, on the physics of barometry as applied to height measurement, on eighteenth century methods of obtaining latitude and longitude, on the geographical range of plant species, on botanical nomenclature, on ornithology and on geological, mineralogical and meteorological topics.

From outside this university both in this country and overseas I have received specialist information on a variety of topics from staff members of universities, libraries, museums, government departments and learned societies, as well as from private individuals. In areas in the Cape where I knew no one with whom to establish contacts, I wrote to magistrates, headmasters, police station commanders, bank managers and town clerks, requesting them to refer my enquiries to interested persons in the town or district. I cordially acknowledge the very valuable assistance that I have often received from these intermediaries and from the persons to whom my enquiries were referred. These complete strangers have frequently gone to very considerable trouble upon my behalf. I must also thank those farmers and their wives and families who gave me hospitality upon my travels, as well as those who granted me access to their private roads or permission to walk over their lands.

The appropriate language and spelling to adopt for some place names has presented difficulties in this work because of the different forms these may take. In most cases, where there is a choice between the Nederlands, English and Afrikaans form, I employ the first because it is the one used in the eighteenth century writings that are my chief references. I try to use Afrikaans names only if I believe that in that century these places did not have the Nederlands forms applied to them

because they were then unnamed or non-existent. But it is often hard to find definite evidence in support of one of these alternatives, so that in these cases errors may occur. If on occasion I have broken these rules and appear to have selected certain spellings somewhat arbitrarily, the reason will usually be that they happen to be the forms most familiar to me in my reading and conversation. For example, the stream on the western boundary of the Division of Albany in which Grahamstown lies has been variously rendered as the Boschjessmans, Bossiesmans, Bosjesmans, Boshmans, Bushmans and Boesmans River. Unless I feel that it fits the context better to use the form employed by the early writer whose work is under discussion, I prefer to call it the Bushmans River, because this is the form in which it appears most frequently in the written records of the eastern frontier, and is also the one most commonly used in Albany to-day.

In this work the emphasis is often on routes that I have studied in the library, maproom and in the field. I have been grateful when travellers have given explicit itineraries that are easily recognisable. Accordingly I have tried to set down my findings and reflections in unambiguous language, so that what I have written will always be easily followed. Thus I have often been reminded of a passage that, taken in a metaphorical sense, has encouraged my efforts to be clear and straightforward. It was written in 1815 by the missionary, John Campbell, on his journey northward from Graaff-Reinet. "In consequence of the late rains, the boers said the marks of our waggon wheels would be visible for four years: as we were thus commencing a path which perhaps may be travelled for hundreds of years to come, we endeavoured to proceed in the most level and direct way we could."

INTRODUCTION.

This study seeks to provide a geographical commentary upon documents relating to travel in the Cape during the second half of the eighteenth century. These documents include not only books of travel but also travel-journals letters and maps both published and unpublished. They have been examined in the first place to ascertain what light they throw on the evolution of geographical ideas concerning the phenomena now capable of classification under the broad heading of physical geography. Secondly they have been viewed as part of the geography of travel and exploration which deals with routes, the identification of places, the explanation of place-names and the evolution of the map, or in its absence, of the mental picture of the regions reported upon.

Historical events are also considered, for the geographer can no more afford to ignore history than the historian dare cast a blind eye upon geography. Geography and history are fields of enquiry between which in certain regions no sharp line of demarcation can usefully be drawn. Indeed their borderlands overlap, and in this shared frontier zone geographer and historian may find mutual support in their researches. Certain aspects of man's relationships to the natural environment, of vital concern to the geographer, cannot be properly comprehended without a knowledge of the cultural inheritance of the social group. Conversely, certain aspects of the history of the social group are better understood when viewed in relationship to the physical endowment of its environment. This is particularly true where man is in surroundings where he is a newcomer. In such situations the interdependence of geography and history is probably most plainly apparent. Accordingly some passages have been inserted that describe and discuss the intimate and ordinary relationships between man and geographical environment on the frontiers of occupation, and also provide a glimpse of the economic geography of pioneer settlement.

The half-century 1750 - 1800 witnessed a great expansion of the area explored and inhabited by the European colonists of the Cape of Good Hope. Conditions were then such that virtually

the only way of making a settled living at any distance from Table Bay was to raise stock in a primitive extensive method of land utilisation.

Before the era of the large dam and borehole, a permanent source of surface water was essential for the stockfarmer, and these are not naturally abundant in the Cape. Each farmer had to have at least one perennial source of water from spring, stream or deep river-pool. Its capacity determined the number of his animals that would survive in time of drought, when they were unable to graze far from it. There was often much grazing-land unutilized because it was usually out of reach of water for large herds of slowly-moving domesticated animals. The land was thinly populated and dwellings were remote from each other, particularly in the drier areas where water was scarcest. To find unoccupied permanent water with sufficient grazing in the vicinity, the rising generations of new farmers had perforce to move farther afield. These searchers for sites of new farmsteads had first to learn in what quantities, if at all, the water would hold out during droughts. Permanent settlement was not effected until this had been ascertained. Methods of trial and error were necessary where the prospective occupier had no other method of discovering the reliability of his water resources. Beyond this tattered fringe of loosely occupied land there ranged adventurous hunters and restless quasi-nomadic graziers in quest of meat, ivory, pasture and bartered cattle.

The paths followed by the colonists in these movements must often have been those lines of passage suggested by terrain and water supply that had been used traditionally by the flocks and herds of the Hottentots. Ever since the latter reached this southern continental extremity by overland migration, they and their stock must have trodden the valley paths, threaded the linking kloofs, climbed the beckoning neks and struck out arrow-straight over the plains for the nearest water. Along these established routes followed the European explorers, hunters and pioneers, guided either by the Hottentots themselves or by the same considerations of easy passage that had given the paths their being. And so in many cases the horses, pack-oxen and waggon-wheels of the questing colonists only marked more clearly those general lines of movement that had long been used.

The colonists on and beyond the fringe of settlement were, it may be assumed, in the main typical frontiersmen, rough and ready and usually unlettered. If they wrote at all, it was

7

but small in quantity and significance, and practically none of it survives. In Cape Town and the longer-settled districts in the vicinity where standards of literacy were higher, few were interested in the pursuit of natural philosophy: though the proportion of the uninterested to philosophers was probably very little different from what it was in Europe, where members of learned societies must have formed an infinitesimal proportion of a largely illiterate population. Therefore the documents that are available to form the subject of this study were largely composed by two classes of person, namely private travellers on visits from Europe, and servants of the Dutch East India Company. Travel records made by visitors are more numerous, so that they provide the main sources of material for eight of the following chapters, whilst only two are devoted to travellers who were Company's servants, namely Ensign Beutler and Colonel Gordon.

Of the writers dealt with in the chapters that follow, seven of the visitors published accounts of their journeys not long after their return to Europe. Only Swellengrebel's journal remained unpublished until as late as 1932 when a somewhat abridged version was printed. By contrast the reports of the Company's servants remained long in manuscript only. The diary of Beutler's expedition was first published in 1896; whilst the first attempt to assemble the scattered evidence of Gordon's journeys into a consecutive account was printed in 1949. Those travellers not dealt with in the following chapters, because they have already been treated by modern authors, were very largely officials and colonists and not visitors to the Cape. And their accounts, except that of Hop's expedition published in 1778, remained in manuscript for at least a century. Thus it appears that the travel narratives published by private visitors were the chief source of information regarding the interior of the Cape available in Europe towards the close of the eighteenth century.

The information contained in these documents will be examined from several angles. Enquiry will be made into what was known by the colonists themselves of the topography of the regions beyond the frontiers of settlement. Within and beyond these frontiers the chief routes and the origins and identities of place names along them will be discussed. Enquiry will also be made into the extent to which documents of the period added to the knowledge of the regional geography of the Cape or contributed to the general body of physical geography. The observations

made and the theories they evoked are studied here to see how accurate the former were, and how the latter are viewed in the light of modern hypotheses.

Our Enquiry opens with the examination of the journal and map that epitomise the activities of the official expedition into the eastern Cape led by Ensign Boutler in 1752. This is remarkable as the first Government-sponsored expedition to pass near the sites of the present Port Elizabeth and East London and to penetrate beyond the Kei River. The journal gave valuable information regarding the topography, climate, natural vegetation and inhabitants of the eastern Cape, and faithfully recorded in writing for the first time much that had previously depended upon hearsay. White settlement had then only attained the vicinity of Mossel Bay, so that it is most unlikely that the Governor at the Cape contemplated the extension of the colony to the borders of Kaffirland, then at the Keiskama River. But he was now authoritatively informed that the land in that direction was more fruitful than in the interior lands of the Karroo, and that it held promise for European settlement. In that direction therefore lay the best prospects for future expansion. Boutler's action in planting on the shores of Algoa Bay a beacon bearing the V.O.C. monogram of the Dutch East India Company established its dominion at least as far east as that point, and thus perhaps prevented the French from establishing a colony there.

A gap of twenty years ensued before the Swedish botanist, Dr. C.P. Thunberg set off into the interior in 1772 on the first of his three journeys, the last of which he completed in 1774. He was the first private visitor from overseas to travel inland to any considerable distance from the Cape, though his published account was forestalled by those of Masson and of Sparrman. Thunberg not only visited the eastern Cape but also the present Calvinia district and the Roggeveld. He apologised for what he considered to be a lack of literary merit in his book. To-day this is of small concern and we are grateful for his informative style unencumbered by verbiage. He was evidently a man of discernment who recorded his observations and opinions in economical language truthfully and clearly. The chief defect of his volumes is that the material is often badly put together

so that in parts it resembles a selection of random jottings from his notebooks. Admittedly his travels here contributed chiefly to the advance of botany, but there is much in his remarks on geology, relief, hydrography, weather, climate and natural vegetation that is of considerable geographical interest. Though his travels at the Cape were completed before Sparman began his long journey here, the latter's book appeared in print five years before that of the former. Since Sparman's book is in most respects a superior production to that of Thunberg, it not only forestalled but also has overshadowed the latter's work to an extent that is perhaps incommensurate with their respective merits.

A few months after Thunberg's first journey had begun, the Scottish plant-collector Francis Masson set off on his first visit to the Cape interior, and subsequently joined Thunberg for two journeys. Though Masson's account is only about fifty pages, it commands our attention as the first description in English, printed or manuscript, of a journey of any length into the interior. Indeed, when it appeared in 1776 it was the first account printed in any language of travel in the better-watered regions of the eastern Cape. The only other accounts of Cape travel that had preceded it had been printed fifty years earlier in 1726 by Francois Valentyn in his Beschryving van Oud en Nieuw Cost-Indien where particulars are given of the journeys of Van der Stel into Namaqualand in 1685 - 86 and of Starrenburg in the same direction in 1705. By contrast with the aridity that they encountered, Masson told of the dense forests and well-watered grazing lands that lay to the east of the Cape. Though he had not enjoyed the advantages of much education, his account reveals his intelligence and powers of observation in the quantity of reliable information that is packed into his pages. Since he and Thunberg made two long journeys in company, there must have been more than a shared interest in plant-collecting that kept them together, a rather strangely assorted pair, the Scottish gardener and the Swedish Doctor of Physic. Whatever it may have been that made them not uncongenial to each other, there is little doubt that together they travelled further than they would have done had they travelled separately, lacking mutual support and companionship. And so their travels here, like their accounts of them, must be considered as complementary to each other, with Masson's much the smaller contribution.

Dr. A. Sparrman, that observant and exact Swede, was interested above all in mammals that he dissected and described in painstaking detail. Before he made his single long journey into the Cape interior, he had spent over two years sailing around the world in Captain Cook's Resolution. In 1775 - 76 he travelled from the shores of Table Bay through the coastal regions as far as the present district of Somerset East. He was an acute and indefatigable recorder of all that he saw, including the human species: and he is the first to comment at any length upon the characters, manners and outlook of the settlers near the frontier. However, where he finds fault, his criticisms are couched in terms of genial irony and were probably made with a merry twinkle in his eye; for a quiet good-humour is often discernible in his writing. His book is well written, well constructed and full of accurate observations, many of which are of geographical interest. Perhaps its only fault is that his accounts of mammalian anatomy are much too long for the general reader. Special mention must be made of his map of the Cape and its interior, the first to be published that shows much more than coastline, incorrect rivers and eastwards-displaced names of Hottentot tribes taken in the main from P. Kolb's somewhat fantastic map of 1719. The interior features of Sparrman's map represent mainly what he himself had observed and nearly all of them can be identified to-day. Though very inaccurate in most respects, it was a praiseworthy amateur attempt to provide his readers with a cartographical guide to his wanderings: and he deserves credit for possessing the geographical sense to realise that need and for attempting to make provision for it.

Hendrik Swellengrebel may have made his journey of 1776 in the hope that the personal acquaintance of the territory to be obtained from an extensive tour of the interior, might enhance his prospects of becoming Governor of the Cape as his father had been. A man of culture, influence and means, he travelled as a private individual whose chief interest lay in investigating the possibilities of the better utilisation of the resources of the land by the colonists. His journal in parts resembles an early attempt at a broad land utilisation survey and an economic geography, of the frontier districts of the eastern Cape in particular. It has never been published in full, but was printed in a somewhat abridged form only, as recently as 1932. It gives a more detailed and intimate picture of the homes and occupations of the frontiersmen

than is to be found elsewhere, and in this respect is a unique and valuable document. Unlike his predecessors he did not proceed to and return from the eastern Cape by the coastal route, but only followed it homeward bound, having struck out across the Karroo on his outward journey. Thus he provides a detailed itinerary of a round trip very similar in outline to that followed in 1778 by Governor van Fleettenberg. (Comment upon the latter's tour has been kept to a minimum by the present writer because it has been dealt with frequently by other authors.) Swellengrebel also recognised the need of a map as an essential complement to his journal, which was accompanied by one whose origins are obscure, but seems to have been traced or copied from a map compiled by the Company's surveyors and cartographers. Considering its origins it is not surprising that it is much more accurate and comprehensive than Sparrman's.

William Paterson, son of a Scottish gardener, rose from humble beginnings to become a Fellow of the Royal Society and Lieutenant-Governor of New South Wales. His travels in South Africa were early in his career, for he was only 21 in 1777 when he arrived at the Cape. He had been sent here by the Countess of Strathmore as a botanical collector, but it is not known how he was chosen for this post, what his qualifications were for it and where he had obtained them. His career shows that he possessed ability well above the average, and the tenacity of purpose that carried him through his exceptionally long and often arduous travels in South Africa must have been but one of the attributes to which he owed his success. His four journeys totalled a considerably greater distance than was covered by any other visitor of the century, even if Le Vaillant's unallowable claim to have reached the southern tropic be accepted. Paterson's terse narrative is entirely authentic, and it is extremely regrettable that such a reliable and widely travelled author should have written so short a book. His map too is disappointing since it is little more than a direct copy of Sparrman's. The geographical value of his book lies mainly in its concise record of itineraries, particularly in the less-travelled regions of the N.W. Cape. It is also the chief printed source of our all too scanty knowledge of the travels of Colonel R.J. Gordon.

Colonel R.J. Gordon, a Dutchman of Scots ancestry, became Commander of the Company's Garrison at the Cape which he visited first in 1773, and returned to in 1777 to remain here until his death in 1795. To the land of his adoption he brought the education and culture he had acquired in Europe, and employed it at the Cape in extensive investigations that were fired by his exceptional intellectual curiosity, his physical energy and his passion for recording. His restless spirit of enquiry led him to wander far beyond the frontiers of settlement, so that he became the effective discoverer of the Orange River near Bethulie, and leader of the first party of Europeans known to have reached the mouth of that stream. There is good reason to believe that he had prepared for publication a manuscript that dealt with his travels and researches. It is indeed a deplorable circumstance that this document is now lost, for in its absence our knowledge of his work must rest chiefly upon his great collection of drawings of scenery, Natives, animals and plants, and upon his remarkably detailed and accurate Map 3. Because his drawings and maps are frequently copiously annotated, their value as a source of information regarding his movements, discoveries and opinions is greatly enhanced. Outside the sphere of geography his chief contributions to knowledge were in zoology and botany: within it the exploration, cartography, barometry and meteorology of the Cape benefited most. Amongst the Company's servants at the Cape he stands out as a man of quite exceptional type, a personality endowed with the love of, and by education equipped for, the study of natural philosophy. The fragmentary record that is all that remains of his researches is indeed an impressive one. How great then the sum total of his complete work must have been.

Very different from his predecessors and successors was the French ornithologist and naturalist F. Le Vaillant who filled five fulsome volumes with his highly-coloured account of his travels in the Cape in 1781 - 84. He represents himself as a dandy who wore fine clothes in the veld and treasured in his waggon a dressingcase of powders, perfumes and pomatums. Imbued with the philosophy of The Noble Savage he is wearisome in his adulation of the simple Hottentots. His gallant heart was

bewitched by the charms of a young maiden of the Gonaqua tribe, and idyllic pages describe his continent dalliance with this nymph. The authorship of his travel books and the chronology and routes of the journeys described in them are all open to question. Similarly his ornithological and botanical work is not always irreproachable according to the opinion of some authorities. His travels, in fact, appear to have been written up with attention less upon veracity than to contemporary popular taste. In this he evidently succeeded as is attested by the ready sale of his books and of their translations. Thus he scored a temporary triumph with his public, at the expense of acquiring later a permanent notoriety for unreliability when it became possible to begin checking his narrative in detail. Gross fabrication also seems to have been applied to the construction of parts of his map. How much wiser it would have been if he had eschewed all exaggerations, distortions and inventions, and had written only the plain tale of his travels. For he went far and saw and did much, so that the unvarnished facts would have secured his reputation as a traveller, naturalist, collector and observer. As it is, a modern geographical commentary deals more with exposures of weaknesses in Le Vaillant's books than with a discussion of the authentic information that may be derived from them. This is not to say that much that is true and valuable is not to be found in them. But because his books contain many easily demonstrable lapses from veracity, his statements must always be subjected to a cautious scrutiny and not be accepted without reservation.

Count L. Degrandpré who visited the Cape in 1793 was a French naval officer and captain of a privateering slave-trading vessel. He made no extensive journey into the Cape interior, and indeed it is even doubtful whether his visit to St. Helena Bay was made overland or by sea. His comments on the Cape fill only about 200 octavo pages and deal chiefly with the naval and military aspects of its character and position. However, there is an unusually high proportion of space devoted to topics that are classifiable as physical geography. The space thus used would be considerably less were the remarks not written in such verbose language. In rambling style he discourses on meteorology, changes in sea-level, the geological structure of the mountains around Table Bay and the depths of the

adjacent sea. His observations and reflections do not represent any new discoveries but they afford an interesting view of lay scientific opinion at that period. Theories initiated by his predecessors at the Cape are developed by him, to be in turn discussed by his successors. Thus he takes his place as an expositor in the chain of developing geographical ideas whose relationship to the Cape is an important theme in the chapters that follow below. ✓

Last in this series of eighteenth century writers is Sir John Barrow, a remarkable man who, in an age of privilege, rose by his own efforts from the obscurity of peasant origins to become Second Secretary at the Admiralty and a baronet. His extensive travels at the Cape in the period 1797 - 99 were of an official nature, and his two large volumes in which they, and other matters pertaining to the Cape, are recorded may owe their flavour to that circumstance. They are factual to a degree and the author's personality is generally kept well in the background. It is a great pity that he does, however, obtrude his personal spleen in his unwarrantable attacks upon the characters of the Dutch colonists, and thereby displays a lack of taste and of judgment that is the only serious defect in his volumes. With no specialized training, but self-equipped by his wide and very perceptive study, he expresses his opinion to a greater degree than any of his predecessors upon a variety of subjects that fall within the ambit of physical geography. In his discussions are reflected the growth of enquiry into and the knowledge of the workings of physical processes that characterized the period in which he wrote. He takes the hypotheses and laws proposed and enunciated by the natural philosophers in Europe and attempts to apply them to Cape examples. In this role he is a sober and judicious observer whose impressions and reflections command respect. His map of the Cape, extending to or beyond its frontiers, depended largely upon his unaided efforts for its construction. It was the first to be published that shows the detail in the interior with that approach to accuracy that could be expected considering the circumstances under which it was constructed. It was indeed a notable achievement and was Barrow's outstanding contribution to the improvement of geographical knowledge of the Cape.

The common bond that binds our attention to these travellers of diverse interests and nationalities is the cognizance they gave in varying degree to matters of geographical concern. They advanced the frontiers of knowledge both in the literal and in the metaphorical sense. They explored new territories and tested new theories. Though few of the latter were evolved by them, they took those of others and attempted to apply them in the South African scene. Reflected in their observations and deductions are the beginnings of modern geographical theories. In the routes they took is apparent the cumulative growth of topographical knowledge that led to progressive improvement in the maps of the Cape.

Excepting those records that have only been brought to light by modern investigators, the writings of our travellers were upon publication, each in turn, the latest source of information upon the Cape that was available in Europe: so that a study of their books is the best way in which an understanding can be obtained now of what was then known of the Cape to the educated few who had read them. Because these books were not always published in the same order as the respective journeys were made, it is not invariably the case that each traveller in turn is likely to have read his predecessor's account of his journey. But in a general way it is probable that before they embarked, these men each turned to their forerunners' books for information, encouragement and warning.

The picture as they drew it is an attractive one, despite the unavoidable discomforts of travel in a sparsely settled land where great distances, unmade roads, difficult terrain, drought and flood provided a variety of challenges. Fortunately these handicaps were no deterrent to men endowed with a spirit of inquiry. Themselves agents of progress in a progressive era, with restless curiosity they strained forwards towards distant goals. On their purposive journeys they recorded their routes, observations and opinions, whose publication expanded the horizon of contemporary knowledge, and whose preservation in print or manuscript perpetuates for our enrichment the thoughts and scenes of their day.

A. F. BEUTLER. 1752.

EXPEDITION INTO THE EASTERN CAPE.

Beutler's expedition of 1752 stands as a cornerstone in the foundations of the history of the eastern Cape, for it was the first serious attempt by the government to ascertain the potentialities of this region. Official knowledge of the territories to the east then extended only as far as the forests and kloofs south of the Outeniqua Mountains, and north of them to the semi-desert regions of the Little and the Great Karroo. But hunters had passed between these contrasted regions through the Lange Kloof, and beyond had reached country of increasing promise, where grass brushed the horseman's stirrups and where the larger streams were never quite without pools.

These spacious and virtually unoccupied lands of grassy plenty to the east, drew to them with irresistible attraction the graziers of the frontier districts who needed no government-sponsored expedition to break the trail for them. Fearless and footloose, the forebears of those who a century later would initiate the Great Trek, had already long before 1752 journeyed eastwards and spied out the land for themselves. Beutler's expedition was therefore not a necessary prelude to the settlement of the eastern Cape. But in its enlargement of the area over which the Company claimed ownership, it was the preliminary to the extension of official administration of these territories, however tardily this may have been accomplished.

Governor Tulbagh's instructions to the expedition expressly enjoined investigation of the interior regions of the eastern Cape with a view to their possibilities for development. This noteworthy expedition was led by Ensign August Frederik Beutler supported by Assistant Carel Albrecht Haupt who was also the official diarist.⁽¹⁾ Other members whose names are known were Carel David Wentzel who was surveyor and cartographer; Pieter Clement, onderstaunman or second mate, who was the assistant surveyor; J.H. van Ellewe, surgeon;⁽²⁾ Hendrik Beenke of Celle, overseer of the Company's Schuur, botanist; Vollmar Brotruk of Schwarzburg, blacksmith; and Johann Hendrik Swierler, waggonsmaker.⁽³⁾ A detachment of 37 soldiers and a numerous company of Hottentot servants and drivers made up the total of 71 persons in all. They were accompanied on parts of the journey by a few colonists from the outlying districts. The expedition's food

1. Hoge 1946 & Schmidt-Preteroria give biographical particulars of Beutler, Haupt & Wentzel.
 2. Mossop 1947a, p.91.
 3. Moritz 1938 pp. 40, 316 - 7.

and equipment, including a small boat, was stowed in eleven waggons that left the castle at Cape Town on 29th February 1752.

The sole contemporary account of this expedition to be printed in the 18th century was by the Swedish botanist, C.P. Thunberg,⁽¹⁾ who briefly mentioned it on hearsay gathered by him at the Cape in 1772 - 75. He reported that Beutler, besides being haughty and stupid, was a strict and rigorous commander who punished with such severity that "his people at length grew extremely mutinous". With what justification, if any, these strictures were made is not revealed by the official journal of the expedition which naturally does not discuss the character of its leader.

It was nearly a century and a half (1896) before the journal of the expedition first appeared in print.⁽²⁾ When it was printed again by another editor⁽³⁾ it was introduced by a comprehensive summary and furnished with an appendix on the survey methods employed. Neither of these publications is rare, so that it would be superfluous to repeat here more than a bare outline of what they contain. The object of this paper is rather to comment upon some matters connected with the journey and to present in cartographical form with explanatory notes, a reconstruction of the route followed.

The actual route followed by an explorer is of interest to posterity. The growing number of those who prize their country's history should ensure that the story of Beutler's trek will become increasingly well-known and more frequently read in South Africa. It is generally agreed that a book of exploration is only complete with a good modern routemap. Without it, the events occur as it were in vacuo. The precise locality of their occurrence must be of particular concern to the geographer, whose study has been defined as the philosophy of place, and perhaps of no less value to the historian or general reader who can more effectively visualise the drama enacted when its locale is known. Whilst Wentzel's map is far from being worthless for this purpose, it is not surprising considering the circumstances under which it was made that it often fails to provide an immediately intelligible key to the whereabouts of events. An attempt to provide as accurate a key as possible is made in the ensuing pages and in the accompanying maps.

Considerable satisfaction is afforded by tracing the details of the route on maps and in the field,⁽⁴⁾ and the unravelling of the

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1. Thunberg 1795 II, 106.
 2. Theal 1896 II,
 3. Molsbergen 1922 pp.257 - 336.
 4. Due largely to generous financial assistance by Rhodes University, the present writer was able to investigate in the field the greater part of Beutler's route between Mossel Bay, the Lange Kloof, Port Elizabeth, East London, Kingwilliamstown, Bedford & Cradock.

complications of an obscure section may reveal the reasons for previously inexplicable deviations such as that made on 26th to 28th May, which it is now clear was to avoid the deep trench of the Kowie River. From these investigations also emerge long-forgotten place names as well as early forms of current names which may have ethnographic as well as historical value. For example, rivers with names of Hottentot origin give indications of the former territories of that people before they yielded to the paramountcy of the advancing Bantu.⁽¹⁾

Cartography and Surveying.

The map of the expedition's route produced by Wentzel, presumably assisted by others, exists in at least four equivalent copies. An equivalent copy⁽²⁾ is a contemporary facsimile, of equal importance to and indistinguishable from the original, usually made by or under the direction of the author of the original. In equivalent copies, differences in inscriptions, decorations and in minor details, such as spelling of place names, may occur. By contrast, a derived copy is not facsimile. Several equivalent copies were probably produced of all important maps then made at the Cape so as to minimise the danger of loss at sea when being sent to the Chamber of Seventeen in Holland. Moreover, at least one copy was usually retained at the Cape for reference, as seems to have been done in this case. For in 1775 a copy existed at the Cape,⁽³⁾ perhaps the same that Van de Graaff took with him to Holland in 1791,⁽⁴⁾ and another copy was listed at the Castle as late as 1794.⁽⁵⁾ Wentzel's map is now known in what appear to be four equivalent copies, at the Hague,⁽⁶⁾ Delft,⁽⁷⁾ Johannesburg⁽⁸⁾ and Cape Town respectively.⁽⁹⁾ The first three each measure about 9ft X 3½ft whilst the copy in Cape Town is 7½ft X 3ft. Derived copies exist in Amsterdam⁽¹⁰⁾ and Delft;⁽¹¹⁾ whilst one that may be either equivalent or derived is in

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1. Maingard 1934 p.151.
 2. Forbes 1952b, p.98. Here instead of "equivalent copy" the term "primary copy" has been used.
 3. Moodie 1838 III, 49.
 4. Koeman 1952a, p.73.
 5. V.G. 245 No.72.
 6. Rijksarchief, The Hague, Inventaris Loupe No.852. Reproduced by Molsbergen 1922 at p.264.
 7. (Koeman 1952b, plate I, reproducing No.218 of the Van de Graaff Collection. (Koeman 1952a, p.83.
 8. Africana Museum.
 9. Cape Archives, M.79.
 10. Rijksmuseum, Amsterdam, Gordon Collection, Map 2.
 11. Koeman 1952b, plate II, reproducing No.219 of Van de Graaff Collection.

Paris.⁽¹⁾ All but the latter have been examined for the present study, but the principal map reference has been a photograph of the Johannesburg equivalent copy. Unless stated otherwise, throughout this chapter distances are given in English statute miles, on the basis that Wentzel's mile of 1900 Rhenish rods equals 7158 metres or about 4.45 English statute miles. Wentzel's longitudes are measured east of the Peak of Teneriffe, and for his starting point at Cape Town he has used the value of longitude 38° east.

Dr. Godée Molsbergen's printing of the journal is followed by a lengthy appendix by R. Posthumus Meyjes on the methods used for ascertaining the distances and directions of each day's march, and the position in latitude and longitude of each halting place. The chief conclusions reached by Meyjes are that contrary to instructions received, the course was laid down throughout by dead reckoning instead of the latitude being ascertained as frequently as possible by astronomical observation. Further, Meyjes suggests that too high a value was assigned to the correction for magnetic variation applied to the figures of the observed compass courses. This must have led to a cumulative northward shift of the plotted route which was not checked by frequent observations on the sun for latitude.

Meyjes points out that an excess correction for magnetic variation would give a an error of negative sign (not far enough to the east) to the values of the longitudes of plotted positions. He also shows how additional errors of negative sign would be given to longitude positions by a misapprehension concerning the exact value in Rhineland rods of 1° of latitude,⁽²⁾ as well as by underestimates of distances travelled in an easterly direction. To these effects, he believed, can be assigned the fact that the route east of St. Francis Bay was mapped by Wentzel progressively too far west and too far north, culminating at his turning point near Butterworth in negative errors in longitude and in latitude of about $60'$ and $38'$ respectively. At his turning point near Cradock as mapped, these negative errors are reduced (as will appear subsequently) in longitude to about $11'$ and in latitude to about $30'$. Though identical in sign, these figures differ in quantity from those of Meyjes, presumably because of the better maps available to the present writer.

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1. Deherain p.183 note: Archives du service hydrographique de la marine à Paris, portefeuille 115, division 2, pièce 7.
 2. Molsbergen 1922 p.345.

It is not unlikely that the values for the correction of magnetic variation (an average of about 19° 50' west) applied by Wentzel were much more nearly correct than Meyjes believes, who suggests that the variation that should have been used was about 16° W. The observations copied by Pieter Cloete from the journal of Hendrik Swellengrebel ⁽¹⁾ whom he accompanied on his journey into the eastern Cape only 24 years later (1776) were 23° W near Beervlei, Willowmore, and 24° W at the farm Brooklyn where the National Road from Graaff-Reinet to Aberdeen crosses the Swarte River. ⁽²⁾ On Beutler's trek the variations recorded were, from west to east, 20° W at Van Stadens River on 11th May; 18½° W near Bedford on 17th August; and 21° W at Abbotsford on 23rd June. Since the rate of change in magnetic variation here is now less than four minutes annually, and was probably not very different then, it seems that Swellengrebel's results tend to support those of Wentzel. For it is surely unlikely that the magnetic variation would have increased from about 16° (Meyjes) to about 23° (Swellengrebel) in 24 years. If then there was less error in the figure adopted for the magnetic variation than Meyjes supposes, a greater share of the cause of negative errors in longitude can perhaps be assigned to reductions of distances travelled in an easterly direction.

Meyjes could not check his own suggestions in detail because when he wrote (1922) accurate large-scale maps of the area were not available. Nor did he follow the route in the field. The use of both of these methods has shown the present writer that serious diminutions of distance did indeed occur in that part of the journey which lies east of St. Francis Bay, just as Meyjes suspected. This is well exemplified by the route laid down outward-bound between the Bushmans and Great Fish rivers which cannot be reconciled in any way with the actual distance and topography except by considerable stretching. Other examples are the section between King William's Town and East London covered on 19th to 22nd June; and homeward bound between the Kei and Fish rivers. The evidence of these compressions in longitude, and also in latitude, will be discussed in some detail subsequently in the accounts of the respective portions of the journey.

To the present writer it seems that these compressions are of too great a magnitude to be accounted for by the errors in calculating the route which are advanced by Meyjes, and that they may be more

1. See below p. 171.
 2. (Molsbergen 1932 pp.6 & 7.
 (See below pp. 187, 189.

satisfactorily assigned to a simpler cause. This is that for his turning point near Butterworth, Wentzel adopted a position that did not conflict with the weighty and long-established authority of the current atlas maps of southern Africa. These show the coastline of the eastern Cape trending well to the north and west of its true position, hence producing a compression in longitude as well as reducing the latitude of coastal features. Accordingly it is now suggested that he compressed his map westwards and northwards in deference to work of cartographers of world-wide reputation from whose delineation of the coastline he did not dare to differ greatly. This conclusion was reached by the present writer independently before it appeared in print elsewhere. (1)

Large negative errors (too far north) occur in his latitudes in the eastern Cape. For example, the defect in the latitude he adopted for the camp at the Zwartkops River is 41', whilst 38' is the defect in the value used for his turning-point near Butterworth, which figures are approximate as we do not know the exact position of the camp in each case. Hence between his positions of these two points there is but little compression in latitude. This effect is seen, however, between the Zwartkops River mouth and their turning-point near Cradock. The latter is placed only about 29' too far north, whereas if its correct distance apart in latitude relative to the Zwartkops River mouth had been maintained, it would have been placed 41' too far north. This compression was chiefly applied to their route up the Great Fish River: for whilst the actual straight-line distance from Baviaans River at the foot of Daggabours Nek to their crossing of the Tarka River is at least 21 miles, it measures only about 13 miles on Wentzel's map. A proportionate compression is suspected of their route beyond the Tarka River.

These compressions were probably designed to cause his adopted latitude positions to conflict as little as possible (and even so, they differed considerably) from those which depended on solar observations made by Clement. This, as Meyjes, points out, was Clement's assigned duty, but his superior officer, Wentzel, apparently chose to ignore these observations, except on a single occasion when he noted without further comment that the "improved latitude" of the turning point near Butterworth was $32^{\circ}17'$, whilst his (Wentzel's) figure used in plotting the route was $31^{\circ}39'$. There is little doubt that Clement supplied this "improved latitude" which actually was within two or three minutes of the truth; but exactly how little

1. Koeman 1952b, p.23.

in error we do not know, as the expedition's precise turning point is uncertain. However, perhaps Wentzel can scarcely be blamed for not using Clement's latitude value which would have shown the farthest point from the Cape reached by the expedition to lie out at sea some 10 miles east of the Gonubie River mouth on the coastline used by Wentzel, and which it is presumed was taken or influenced by a contemporary small-scale map of Africa.

It is probable that these compressions were not made in the field, but months later when the final version of the map was being drawn from the rough field sheets at the Castle at the Cape, and when copies of Haupt's journal were being prepared for transmission to Holland. This is borne out by the positions in latitude and longitude of four points given by Beutler in a letter to the Governor despatched from their camp at the Keiskama River on 31st July. These widely separated points are the mouths of the Kabeljauws and Zwartkops rivers, the expedition's turning-point near Butterworth and the camp at which the letter was written. Not one of the eight values fixing these four points in Beutler's letter agrees with the positions assigned to them in the expedition's map and journal. This strongly suggests that the positions of all camps in the eastern Cape as given in the map and journal were "cooked" adjustments of the figures obtained on the journey by estimate and dead-reckoning and used by them in the field.

Though this presentation of Beutler's route has been done with care, and many of the findings checked by observations in the field, no claim to infallibility is made. However, the present writer is confident that in the main the route as described here is substantially correct, and is pinned down between a considerable number of points identified with fair certainty. Where doubtful sections are encountered these will be indicated: but for by far the greater part of this attempt to describe accurately where they went, there are few points whose positions are likely to be in error by as much as 5 miles.

The following reconstruction of the route which they took is likely to be closer to the truth than the identifications of camp sites. The route has been studied from the recorded directions and distances of march as given both in the map and the journal of the expedition and has been compared with the lie of the land depicted on modern maps, and for parts of the journey, as seen in the field. The course taken by the waggetrain is then often (but not always) seen to follow the obvious direction of minimum difficulty such as a flat interfluvium or the line that makes for a break in the hills. Obscure in most cases, however, are the exact positions of the camps, since they were often merely described as having been by a small unnamed streambed containing a few pools. Hence when using the

hydrography as a guide to the route, it must be remembered that such small watercourses were mapped merely because the column happened to have camped by them, and thus were given undue emphasis, whilst larger streambeds may have been omitted because of the numbers of them encountered. And though we can often say for certainty by what stream they camped, the precise locality of that event is usually unidentifiable.

Whilst reasons can often be advanced why Beutler may have chosen one route rather than another, there can be no certainty that in fact the reasons suggested were indeed those chiefly or even partly influencing the choice. There may on occasions have been factors involved that had no direct connection with the terrain, such as incompetent or ill-intentioned guides or the desire to meet Natives to barter with them. There may have been obstacles which have now disappeared, such as bush then virtually impenetrable but now cleared by axe and fire; or long deep river pools now filled by debris brought down by man-accelerated soil erosion. But this study shows that in the main the route which is still the line of easiest travel was in fact the one usually taken by them, and indeed over considerable distances is the route followed by the roads of to-day.

Table Bay to Mossel Bay, 29th February to 3rd April.

What little comment the route of the expedition requires upon its first stage has already been made by Graham Botha⁽¹⁾ and by Mossop.⁽²⁾ The column passed over the Hottentot Hollands Pass and then proceeded eastwards through Swellendam along much the same route as that now followed by the National Road to Mossel Bay.

Three marches before they reached that place occurred the first of several events that were to give an added purpose and significance to the expedition. On 31st March at the Gouritz River they met a sailor, Francois Rubion, and on 2nd April at Mossel Bay an officer, Jacques Perrot, of the French sloop Le Necessaire from which they had been sent ashore on 27th February to fetch water at an unknown bay [Algoa Bay] to the east.⁽³⁾ The boat had overturned in the surf,

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1. Botha 1926a, pp.52.65.168.
 2. Mossop 1929 pp.92,102.
 3. Particulars here additional to those given in the expedition's journal maintained by Heupt are from the log of Le Necessaire, Archives de France, Paris, Naval Collection, No. 6, JJ.78.

but though none of the crew was drowned, they had been unable to regain their ship which, due to a storm, had abandoned them to make their way on foot to the Cape. From these Frenchmen Beutler learnt that Le Necessaire, accompanied by other vessels, had come from Mauritius to examine the S.E. coast of the Cape where several landings had been made, with a view to investigating the possibilities of establishing a French settlement there. He heard too that one of these ships was commanded by the celebrated cartographer Captain d'Apres de Mannevillette. This was he who had published in 1745 Le Neptune Oriental, a volume of charts and sailing-directions, of which a second edition was to appear in 1775.

Whilst no evidence has been discovered by the present writer regarding the alleged French purpose to initiate the establishment of a settlement in what is now part of the eastern Cape, that is not to say that such evidence may not be found. It is known that d'Apres de Mannevillette commanded Le Glorieux which brought the Abbe de la Caille to the Cape in April 1751.⁽¹⁾ Recent enquiries at the National Archives of France, Paris, have confirmed that De Mannevillette was indeed off these coasts at the time of the stranding of the boat from Le Necessaire, since that ship was accompanied by Les Treize Cantons to which he had transferred as captain from Le Glorieux at Mauritius. A study of the log of Le Necessaire may reveal whether, as was alleged, other landings had taken place on these coasts besides the one that led to the stranding of the party at Algoa Bay.

Meanwhile Le Necessaire had reached the Cape on 9th March and there reported that a boat's crew sent ashore for water at an unidentified bay had been stranded, and were doubtless making their way westwards on foot. The Governor despatched a message after Beutler telling him that if he encountered these Frenchmen he should assist them as far as possible without hampering the aims of the expedition. Whatever else the French may have revealed at the Cape is uncertain, but it is clear that at least they aroused serious suspicions, causing the Governor to order Beutler to erect possessional beacons bearing the Company's monogram at all the bays that he might discover. This appears to be an order to him to proceed coastwise instead of penetrating inland. But the contrary view has been expressed that Beutler changed his route upon his own initiative.⁽²⁾ The Governor's letter arrived on the very day that F.Rubion reached the expedition.

From Beutler's original instructions that at Mossel Bay he was to turn inland and explore the interior, we need not necessarily infer that he had been meant to strike into the heart of the Karroo. Information about this area had already been obtained by Schrijver's expedition of 1689 which had penetrated to the vicinity of Aberdeen.⁽³⁾ It is problematical whether those who frased Beutler's instructions

1. McIntyre p.82.
 2. Molsbergen 1922 pp.272,273,xxv. 3. Mossop 1931.

knew that in fact Schrijver had gone N.E. of Mossel Bay. It is, however, unlikely that they did so, and probable that they did not intend to send Beutler in the same direction. Far more likely was it intended to send the expedition to Kaffirland, well-watered and teeming with cattle, of which reports must have been brought to the Cape by hunters, such as those who had accompanied the ill-fated Hermanus Hubner into the Transkei in 1736,⁽¹⁾ and others who also may well have penetrated as far or farther than he.⁽²⁾ Since these hunters probably could not or would not indicate except in a very general sense where they had travelled, the direction in which lay the lands of greatest promise is likely not to have been known at all exactly to the Governor's Council. That body, however, may have been aware of the fact that near Mossel Bay the route to Kaffirland took a turn inland, to avoid the then impenetrable region between the Outeniqua Mountains and the sea. After that the general trend of the route was probably considered by the Council to be northerly, as suggested by the narrow shape of South Africa in contemporary atlas maps. And this is probably all that was meant by the instructions to go north of Mossel Bay. This being so, Beutler would probably have found his way to Kaffirland, and by much the same route, even if the sailors from Le Necessaire had not been stranded at Algoa Bay. Thus it seems unlikely that this event diverted the expedition from a course due north through the Karroo into the present districts of Victoria West and Prieska.

Mossel Bay to St. Francis Bay. 4th April to 4th May.

Having received these new instructions, Beutler and his men left Mossel Bay on 4th April, and on the 5th passed Hagelkraal which was "the last place on this east side of Africa inhabited by Christians." This farm's name remains unchanged to this day, and it is situated on the stream of the same name near the base of the Attaquas Pass which crossed the Attaquas Mountains some 3 or 4 miles west of the Robinson Pass. Though Hagelkraal was then the last place of permanent white settlement, it by no means marked the limit of exploration. For it has been shown by Mossop that Schrijver's expedition of 1689 must have crossed the Attaquas Pass.⁽³⁾ If Beutler was aware of this it is not mentioned in the expedition journal. In addition it can be seen in the reference quoted above in connection with Hubner's expedition of 1736, that Beutler's party had been preceded in the far eastern Cape by at least two groups of

1. Theal 1909, p.496. Perhaps this was the same H.Hubner who lived by the Great Fish River at Hermanus Kraal (near Port Brown) which was named after him according to De Mist, see Theal 1911 p.168. But another explanation is given by Cory 1910 p.396.

2. v.d.Merwe 1945 pp.32 - 36.

3. Mossop 1931 pp.220 - 1.

colonists. This will account for the fact that several rivers such as the Swartkops, Sundays and Bushmans had apparently received Dutch names before the expedition of 1752 visited them.

The distances and directions given in their journal and map enable identification of the great majority of their rivers between Hagelkraal and the Swartkops River (10th April to 14th May) to be made with some confidence.⁽¹⁾ Moreover, assistance in identification has been obtained from the following travellers who during the next fifty years or so covered all or part of this section, and left some account of their experiences. Thunberg⁽²⁾ and Masson,⁽³⁾ 1772 and 1773; Sparrman,⁽⁴⁾ 1775; Swellengrebel and Cloete,⁽⁵⁾ 1776; Van Plettenberg,⁽⁶⁾ 1778; Le Vaillant,⁽⁷⁾ 1782; General Janssens⁽⁸⁾ and D.G. van Reenen,⁽⁹⁾ 1803; De Mist⁽¹⁰⁾ and Lichtenstein,⁽¹¹⁾ 1803.

As has been remarked above, the journal says that they passed Hagelkraal on 5th April and proceeded further on to camp at the foot of the Attaquass Pass. If the latitude and longitude positions in their journal and on their map be compared, however, it will be noted that the name Hagelkraal has been inserted on the map in error against their camp-site of 5th April. (Actually, they camped at Hagelkraal on 30th September on their return journey). On 5th April they probably camped on the west bank of the Molen River near a place on the east bank to be known later as the Kleine Paarde Kraal. It was hereabouts that Swellengrebel in 1776, proceeding in the opposite direction, reported "de Kleyne Paardekraal, needs een uytspanplaats en het eynd der Attaquaskloof".⁽¹²⁾ Here the farm Paarde Kraal retains part of this name to this day.

On the 6th they rested and on the following day continued up the east side of the Molen River valley and over the watershed to the headwaters of the west-flowing Kamma, tributary to the Gouritz. By one of the south tributary rills of the Kamma they camped on the 7th at their Paardekraal, a locality to be referred to later as Groot Paarde Kraal by Swellengrebel and others, and on the farm now called

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1. Maps chiefly used in tracing this section of the route were:-
Oudtshoorn Division Map 1932.
Iedismith & Oudtshoorn Sheets, $\frac{1}{2}$ - Million Series, U.D.F. 1943.
Mossel Bay Sheet, No.45, $\frac{1}{2}$ - Million Topo-Cadastral Series
Provisional Issue, 1943.
 2. Thunberg 1795 I, 198 - 200 & II, 53 - 60.
 3. Masson 1776, pp.289 - 301.
 4. Sparrman 1786, I, 294 et seq.
 5. Molsbergen 1932 pp.22 - 32.
 6. *ibid* pp.53 - 54.
 7. Le Vaillant 1790, I p.252 et seq.
 8. Molsbergen 1932 pp.123 - 126.
 9. Blommaert & Wild, pp.71 - 72.
 10. Theal, 1911 p.156 - 158.
 11. Lichtenstein 1928 pp.256 - 266.
 12. Molsbergen 1932 p.31.

Paarde Kop. On the 8th their journey took them E.N.E. to the head of the Kama between peaks to the north or left now mapped as 3991 ft. and 3962 ft., and to the south or right mapped 3860 ft. and 3872 ft.⁽¹⁾ Thus they crossed the watershed between the Kama and a stream flowing N.E. to join the Safraan River. Following down this stream they camped near the Safraan River on the 8th and remained there on the 9th to recover from the fatiguing crossing of the mountains. This reconstruction of their movements during the period 5th to 8th April agrees with Swellengrebel's account of the chief compass directions (corrected for magnetic variation) taken by him when traversing the pass, and also accords with the map of the pass given by Steedman.⁽²⁾ Confirmation is given further by the Divisional Map of Oudshoorn.

On 10th April they passed their Saffraankraal which Sparrman was to describe later as the place where "the long and tiresome vale of Attaquas ends."⁽³⁾ Beutler and his men were to camp at Saffraankraal when homeward bound, and they map it between the Safraan and Moeras rivers. Saffraankraal is now a veepos on the west bank of the Safraan River near the south boundary of the farm Safraan Rivier which belongs to Mr. G. Laubscher, chairman of the Oudshoorn Divisional Council. The old and the new positions of Saffraankraal (to give it the old spelling) are sufficiently close for them to have been on the same farm at some time in the past. Bunbury recorded that in 1838 Saffraan Kraal was occupied by a farmer named Rauberheimer.⁽⁴⁾ Though Wentzel mapped it between the Safraan and Moeras rivers, the journal of Beutler's expedition mentions only their crossing of the latter on the 10th. In fact their map shows that they crossed it three times on a course almost due east. This strongly suggests that after they had crossed the present Moeras River once, they then twice crossed its eastern tributary, the Klein Moeras, in following it up south of the Witberg. After a journey of about 9 miles in a direction 85° true, they camped by a small running stream, probably the Kandelaars, whose name seems to be a corruption of Cannalandsche River used amongst others by Swellengrebel and Cloete.⁽⁵⁾

Next day, 11th April, they travelled on a true bearing of about 70° a distance of 9 or 10 miles, crossing on the way their Klipbanks or Klippendrift River, now probably the Groot

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1. Ladismith Sheet $\frac{1}{2}$ - Million Series, U.D.F. 1943.
 2. Steedman, I.
 3. Sparrman 1766, I, 294 - 5.
 4. Bunbury p.104.
 5. See below p. 224.

Doorn and not the Klip River as the similarity of names would suggest. They camped by a stream which they record was called the Saffraan (a name also encountered on 8th April) or Muysekraal,⁽¹⁾ and which was probably the present Klip River. They rested on the 12th and on the 13th travelled some 11 miles on a true bearing of about 77° . On the way they crossed their Lange Cloofs River with beautiful clear running water, probably that which is now known as the Doorn and comes through the Paarde Poort. Their camp at Rietvalley was evidently by our Braikie River. On the 14th they altered course to a few degrees south of east and after a journey of about 11 miles camped at Matjes River whose name remains unaltered to this day. Their journal informs us that this river marked the end of Cannaland, which was named after a plant called Canna by the Hottentots and prized by them for its medicinal properties.⁽²⁾ The plains which here lie north of the Outeniquas were evidently known as Cannaland, which travellers felt they had left behind them on entering again the domain of kloofs and mountains east of the Matjes River. This is supported by Thunberg's remark that Lange Kloof begins at Matjes Kloof.⁽³⁾

A study of the rivers passed between the Moeras on the 10th and the Matjes on the 14th shows that the names of some of them that were entered by Haupt and Wentzel had been altered or misapplied by the time that they were again recorded, namely by Swellengrebel and Cloete and by Sparrman. For example, whilst on Beutler's journey Muysekraal lay east of the Klipbanks or Klippendrift River, it is recorded that Swellengrebel and Cloete came to it west of that stream.⁽⁴⁾

On the 15th April they crossed the Ganses^kraal, (which they spelt Ganses^craal), then their Modder which is probably now the Molen, and camped by the Diep River whose name remains the same. The 16th was spent encamped there. On the 17th they first forded their Quacha River which their map shows as a tributary of the Diep, and remains unidentified. Towards evening they reached and camped by the Keurbooms River near where it makes a reverse-turn from flowing W.S.W. to E.S.E.. They crossed it here next morning, the 18th, and travelled up its south bank some 8 or 9 miles to camp at their Wolvecraals River on a stream which was evidently the Potjes River,⁽⁵⁾ and probably at a point not far from the present Wolvekraal.

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1. Botha 1926a, p.65 identifies this as the Doorn R.
 2. Pettman p.140.
 3. Thunberg 1795 II, 56.
 4. See below p. 223.
 5. (Sparrman 1786 I, 304. Pot River also called Chanika. (Pettman p.37.

Their journal puts the distance travelled this day at 11½ miles which appears to be an exaggeration. Whilst some entries on this section seem to overestimate, others appear to underestimate the daily distances travelled. However, as Meyjes has noted, the net effect on the route between Mossel and St. Francis bays was to exaggerate slightly the longitude distances separating these places.

A distance of 9 or 10 miles on the 19th brought them to their Rietvalleys River, and hence probably the stream at the present Welgelegen, 3 miles west of Haarlem, and shown as Welgelegen aan Rietvalliĳ on the Gordon Collection Map 12⁽¹⁾ whose evidence will be cited frequently below where it will be referred to as Friderici's Map. The Moordenaars River that they crossed on the 20th is unidentified, but their camp that night on their Diepegats River was probably by the present Diep River at Misgund. The 21st was a rest day and on the 22nd they journeyed as far as their Krays River which they found to be impassable due to flood waters so that they camped by it. Since they estimated that they had travelled some 8 or 9 miles from their previous camp, their Krays is likely to be the stream at Grootplaats, a western tributary of the Louterwater. On the 23rd April they crossed their Krays and then their Klipriviertjie which is probably the Louterwater on the farm Klipdrift. Here in 1776 Swellengrebel and Cloete crossed the Klippendrift or Groot Aapjes River which was also known as the Aapjes and is now the Louterwater.⁽²⁾ After a journey of about 7 miles Beutler's column halted for the night on the north bank of an east-flowing stream, their Groene River and undoubtedly the present Krakeel. Their camp seems to have been about a mile east of Krakeel railway siding.

On 24th April after about 4 or 5 miles they crossed with difficulty to the south bank of the Krakeel and shortly afterwards as their map shows also crossed the Wagenbooms River (at the western entrance to Joubertina) though these names are not mentioned by them at all. They camped by a tributary of their Groene (Krakeel), probably that by which Twee Rivieren railway siding is now situated. "This is the last river one meets in the country of the Long Kloof" remarks the diarist, evidently in anticipation of crossing the next day the watershed into the valley of the Kroome River.⁽³⁾ On the 25th they soon crossed three separate channels of one stream which they called the Pannakoecks River, and was probably one of the rivers

1. (See below p. 328.
(Green p. 78 (biog.note on
Friderici)
(Koman 1955, p.277 etc.

2. See below pp. 148,220.

3. Perhaps the best available map in 1957 of this area is the geological map by E.H.L.Schwartz in Cape of Good Hope, Report of Geological Commission 1904, presented 1905.

of the present Twee Rivieren. These three spruits are marked in Sparrman's map as De 3 Fonteins but are shown flowing south instead of north.⁽¹⁾ In Friderici's Map they are named 3 Riviere, Piet du Pree, whilst in Burchell's map they are Drie R. It should be noted that Wentzel's map wrongly shows the rivers they encountered during the period 19th to 24th April joining the Olifants River, whereas they actually are tributary to the Couga-Gantoos system. An observation in the journal of 24th April on this topic is neither in accord with Wentzel's map nor entirely correct. This is that all the rivers in the Lange Kloof (which as we have seen was then considered to begin at least as far west as Matjes R.) except the Keurbooms, run into the Gantoos. However, these mistakes are understandable considering the nature of the country and the somewhat involved pattern of the hydrography of that then little-known region.

Some time after crossing the Pannekoeks, the waggons "descended a rocky height marking the end of the Lange Kloof and the beginning of the Kromme River Kloof". Presumably this descent was made just west of the present Heights railway siding. Down the Kromme River they followed, and having crossed it twice, camped by it after a journey of 11 miles in a direct line. Hence this must have been near Kompaniesdrift though this name does not appear in their map or journal.⁽²⁾

On 26th April no particulars of the journey are given save its direction and the distance of 5 miles, so that they must have reached the vicinity of Kammebos that day. It is uncertain which of the southern tributaries of the Kromme that they crossed in the early part of their journey of the 27th is the one they map as the Wit Eschenboom, the Witte Eschenboom, Wit Essen Boon or Wit Essehe Bosch.⁽³⁾ It probably was the stream at the farm marked on his map by Sparrman in this vicinity as Witte Els, and could be one of the two southern tributaries between Kammebos and Jagerbosch sidings, more likely the former. A Witte Else Drift is mentioned hereabouts in 1783.⁽⁴⁾ Their journey on the 27th of about 8½ miles brought them to Melkhoutbosch, and hence by distance covered and similarity of name, the present Melkhoutkraal. There they remained encamped on the 28th, and on the 29th journeyed 8½ miles to Eschenbosch, now Essenbosch, on a northern tributary of the Kromme.

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1. (Sparrman 1786 I, p. 310.
(Wentzel 1944 reproduces Sparrman's map.)
 2. Port Elizabeth Sheet, 1 - Million Series, U.D.F. 1943 was the map chiefly used to trace the route from here to Sandflats.
 3. In the equivalent copies of Wentzel's Map in Cape Town, Johannesburg, Delft and The Hague respectively.
 4. Kirby, 1953 p.182.

From Eszenbosch they tell us that the direct route to the Gantoos lay N.E. by E. On their return journey 4 months later they came that way, but now they made for the shores of St. Francis Bay to place the Company's beacon there. On 30th April their Earste River which contained 3 ft. of good water was the Diep, and its tributary from the N.N.E. was probably their Tweede River by which they camped that night on what is now the farm named Zeekoe. On 1st May they record crossing the Leeuwenbosch River, now the Leeuwbosch, and after a journey of about 10 miles camped at Geelhoute Bosch by a streamlet, presumably near the Geelhoutsbosch River in the vicinity of Woodlands. Here they rested on the 2nd and on the 3rd went east for 5½ miles where they camped near the mouth of the Zeekoe River at the roadcrossing where Chaitan and Alooridge are now situated. A journey of 7 miles on the 4th brought them to the Kabeljauwe River near the present road and rail bridges.

Kabeljauwe River to Zwartkops River, 5th to 14th May.

On 5th May a party investigated the shoreline, and in the river's mouth on a small elevated island erected a beacon bearing the Company's monogram, V.O.C.⁽¹⁾ This little island is likely to have been a temporary feature of sand, since no trace of it seems to exist now, and a search for the beacon in 1949 made by the present writer, aided by air photographs, proved fruitless.

The following day they were at the Gantousch (Gantoos) River which was so full that the 7th May was occupied in crossing it with the aid of their boat, apparently near Hankey. Their map shows that on the 8th they followed up the Klein River on which Hankey is now situated, then swung S.E. to reach their Soeri River (presumably a transcription error for Loeri) near the village of Loerie where they camped. On the 9th they camped by their Galgenbosch, or Gallows Wood, so called because some travellers had cut their names on a tree and someone else had added a gallows above them. This has been identified as Thornhill,⁽²⁾ which agrees with the given direction and distance from Loerie but not with Wentzel's map which shows their camp on a tributary of the Van Staden's River. However, in either case it is clear that Galgenbosch now survives in part as the Langore Forest Reserve and other fragments; but in those days it was far bigger, as the journal states that it stretched from the Gantoos to the vicinity of the Zwartkops River.

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1. Vereenigde Oostindische Compagnie, the United East India Co.
 2. McKay p.54.

On the 10th May a detachment rode south to observe the coast from a convenient elevation. The waggon-train, having come over high ridges covered with excellent grazing, halted for the night by the Van Stadens River, perhaps about one mile below the present National Road bridge. The 11th was spent encamped in those very pleasant surroundings, and the opportunity was taken to observe the magnetic declination of the compass, which was found to be 20° W. On the 12th they came to a big vlei called Cracha Coma by the Hottentots. The shape given to it on his map by Wentzel closely resembles its appearance on modern maps⁽¹⁾ where it is in the locality named Kraggakama or Craggakama. However, in the short time that has elapsed since these modern maps were drawn, this sheet of water has become considerably attenuated and is represented now by the small vlei a mile south of Lake Para.

On 13th May the waggons went N.E. direct to the agreed camping spot by the Zwartkops River. Beutler took a party S.E. by E and came to a rivar they called the Fransche because, according to their Hottentot guide, the crew of the wrecked French boat from Le Necessaire had there spent under a tree their first night ashore. From Wentzel's map this is seen to be the first south-flowing stream east of Kraggakama vlei, and hence probably the blind river on the farm Chelsea $1\frac{1}{2}$ miles east of the vlei. Their route brought them to the coast at a point identifiable from their map as the modern Humewood, between two unnamed streams, probably those in Happy Valley and Bankens River Valley. Between these their map bears the legend which translates thus. "Two sweetwater springs and stranding of the French boat from Le Necessaire, 1752." They identified the spot from fragments of the boat on the beach. They then rode N.N.W. for $4\frac{1}{2}$ miles by their account (about 7 miles actually) to the saltpan $3\frac{1}{2}$ miles W.S.W. of Zwartkops village. From the northern point of this pan they rode N.N.W. to rejoin their waggons halted by the Zwartkops River between Despatch and Perseverance where the river narrows just above tidewater.

Here the waggons remained on 14th May and the day was spent in erecting the Company's beacon on a hill at the mouth of the Zwartkops River. Their map shows that it was placed on the south bank where there are now sand dunes and tidal flats. In Beutler's letter to the Governor it is stated that the beacon was placed "at the mouth of the Zwartkops River where the French boat was wrecked", though this event is shown by both his map and journal to have occurred near Humewood. But he probably used this description of the locality of the wreck in a general sense, since he could not hope to give the Governor any clearer idea of its whereabouts on a coast than

1. Geological Survey S.A., Cape Sheet 9, Port Elizabeth, for example.

very imperfectly known. The position of the beacon in latitude and longitude given in this letter does not make sense and disagrees badly with that assigned to it in Wentzel's map, ⁽¹⁾ which is consistent with its position as described in the journal. Positions in the journal were probably altered after the return of the expedition to the Cape when a fair copy of their report and map were being prepared for despatch to Holland.

Subsequent History of the Swartkops Beacon.

There on the south bank of the mouth of the Swartkops River the beacon was visited in 1776 by Henrik Swellengrebel who took a round of compass bearings from it to a number of prominent features of the surrounding landscape. These bearings, however, when checked in the locality cannot be made to fit any interpretation of the objects on which he sighted, so that they are useless for locating the site of the beacon. Whether this is due to bad observations by Swellengrebel or to faulty transcription into or from his journal is unknown. Search here in 1948 - 49 and again in 1952 failed to find the beacon which may be covered by driftsand or sunk in the saltmarsh. However, since it was apparently not in this position when Governor van Plettenberg passed here in 1778, it is likely that shortly after Swellengrebel's visit it had either disappeared or had been removed to the vicinity of the Baakens River around which Port Elizabeth has now grown up.

Sparman published a paragraph on this matter which though probably incorrect in detail, since he had it on hearsay, may have been true in so far as he related that a beacon had been brought by sea to Krakekamma Bay, which his book and map make clear is the present Algoa Bay. ⁽²⁾ He was there in 1776, shortly before Swellengrebel and Cloete. If a beacon had been brought by sea and placed near the mouth of the Baakens or of the Shark River, it might have been unknown to and unobserved by Swellengrebel and his companion.

It may be of some significance in this connection that Baakens River means the river of the beacon. Indubitable, however, was its greater suitability than the Swartkops mouth as a site for a beacon, since landings could be effected near the Baakens with greater safety as it was better sheltered from the south-west and south, and it possessed a good spring of fresh water ⁽³⁾ as an obvious attraction

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1. Molabergen 1922 p.341 note 3.
 2. Sparman 1796, I, 351 & II, 315.
 3. Barrow 1801 p.132 & 1804 map at p.86.

which was absent from the vicinity of the tidal Swartkops River mouth. The removal of the beacon to the Baakens River locality is suggested by the following extract translated from Van Plettenberg's travel journal maintained by O.G. de Wet.⁽¹⁾ "Having crossed the Swartkops River [from the north] at 1.45 p.m. we found ourselves at 4.30 p.m. at the Bay Lagoa, close by the mouth of the Swartkops River where we stayed that night as well as the following day. Friday 23rd October 1778, the air being pleasant and cool, His Excellency the Governor betook himself to horse in the forenoon, and rode an hour's journey along the west side of the bay to the Company's beacon or markstone in which locality there gushes forth a spring of good water."

The possessional stone visited by the Governor was almost certainly that represented on Friderici's Map by a V.O.C. monogram sign on the north bank of the Baakens River not far from the sea, and marked Baakjesfontein. Whilst none is shown near the Swartkops River, two other V.O.C. beacons are shown on this map in the vicinity of Hunewood and of Summerstrand. Perhaps their existence there at a later date is confirmed by the appearance of Baaken Fontyn and Beacon Point at these respective localities in the map of Algoa Bay published by Barrow.⁽²⁾ In H. Leiste's map,⁽³⁾ the fieldwork of which was done in 1777 - 78,⁽⁴⁾ the only beacon on the shores of Algoa Bay is shown somewhere near Happy Valley (formerly Shark River, said by some to be corrupted from Zak Rivier) which lies between Hunewood and Summerstrand.

It is probably this beacon that was referred to by J.C. Chase⁽⁵⁾ in 1844 as "the possessional stone we now see on the sand-hills at Shark River," and is mentioned as follows in the Cape of Good Hope Almanac, 1845, page 356. "In 1772 the Dutch East India Company set up several beacons or possessional landmarks, along the coast; one at the Swartkops River, and another on a sand-hill at the Shark's River, to the southward of the anchorage, where it is still to be seen ---- a small obelisk, of Robben Island blue slate, on which the Company's cypher is engraven." This beacon, however, has long been lost to view and modern developments have considerably changed the aspect of this locality. Another beacon that Governor van de Graaff intended to be erected at Algoa Bay got no further than George where in December 1803 Commissary de Mist caused it to be incorporated in the front gable of the Company's Post.⁽⁶⁾

1. Molsbergen 1932 p.51.

2. Barrow 1804 p.86.

3. V.C. 178.

4. Forbes, 1952b, p.99.

5. Godlonton p.62.

6. (Molsbergen 1932 p.229.
(S.A. Museum, Guide
Leaflet No. 1, p.45.

Zwartkops River to Bushmans River, 15th to 20th May.

By whom and at what date prior to Beutler's expedition the Zwartkops, Sundays and Bushmans rivers had been named is unknown, though as has been noted above there are records of at least two journeys which passed this way before Beutler did.⁽¹⁾ Because the colonists desired to obtain ivory by hunting and barter, Beutler was actually forestalled by at least sixteen years in his journey into Kaffirland; for in 1736 a column of not less than thirteen waggons travelled to the north-east, probably as far as Pondoland. But for the attack by the Kaffirs on this party when on their return journey, and the resulting death of its leader, Hermannus Hubner and some others, it is likely that the story of this expedition would never have been preserved. And when this tale of trafficking beyond the frontiers of the settlement was divulged, it emerged that Hubner's companions when homeward bound after his death, met other colonists making east across the Sundays River also in quest of ivory. In addition to these, other parties had probably preceded Beutler across the Bushmans River though there is no known record of their adventures beyond the colony's frontiers. But this does not detract from the achievement of Beutler's party in being the first to bring back from the eastern Cape and Kaffirland a large-scale map of their route and a journal of their adventures, observations and reflections.

Though one of their objects was to investigate the coast for possible harbours where the French might have landed, they here swung inland because of the difficulty of crossing the Sundays River further downstream where it has a precipitous east bank and where it is tidal as far as Barkly Bridge. The Coerney River offered good drinking water on the route east to the Bushmans River where the next certain supply was to be found. Having crossed the latter they approached the coast again, but as will emerge subsequently, they were repeatedly forced to swing inland to avoid the deeply entrenched lower courses of rivers.

On 15th May the column departed from the Zwartkops River and after a journey in a N.E. direction of about 6 miles camped at a little river containing good water. This was obviously the Coega though its name is not mentioned by them. On the 16th their given direction and distance were N by E 11½ miles which brought them to the Sundays River where, as their map shows, they camped above its confluence with the Coerney, and hence near Sunland. The

1. See above pp. 25-6. And note further that a journey in 1702 may have reached Algoa Bay and beyond. See Leibbrandt 1897, pp.133 - 149. Valentyn, p.89.

total distance given by them between their camps on the Zwartkops and Sundays rivers is $17\frac{1}{2}$ miles, whereas the actual distance is about $22\frac{1}{2}$ miles. Hence compression in latitude has occurred here, and is frequently repeated later as will be noticed subsequently.

On the 17th their journey took them E.N.E. across the Sundays and Coerney rivers to cut off the northern bend of the latter and rejoin it near the railway siding of Woodlands on the farm named Courney. Hereabouts was probably situated, as they reported, "a place called by the Hottentots Koerne, meaning a small wood, but we named it Hoeriercraal because of the many guineafowl it contained." The 18th was spent resting there, and on the 19th they went east for a distance stated to have been about 6 miles, on the way crossing the Coerney River several times till they camped by it higher up at Springboldkenfontijn, whose position is unidentified but was probably within 2 miles N.W. or N. of Sandflats.

Continuing east on the 20th a journey by their account of about 6 miles brought them to the Bushmans River at a position, from the evidence of their map and not from their stated direction of travel, on or near the farm Long Lee, incorrectly given as Langley on a recent map.⁽¹⁾ Here is situated Rautenbachs Drift a half-mile or so above the bridge on the road between Sandflats and Sidbury. Amongst the many travellers who were later to follow this route between the Zwartkops and Bushmans rivers were A. Sparrman and W. Paterson.⁽²⁾ The distance travelled as given in Beutler's journal and Wentzel's map between Sunland and Rautenbachs Drift totals about 22 miles, whereas the true distance cannot have been less than 27 miles. This is the first of many W - E compressions of the route that will be noticed subsequently.

1. East London Sheet, $\frac{1}{2}$ - Million Series, U.D.F. 1943.

2. See below p. 253.

Bushmans River to Great Fish River, 21st May to 2nd June.

In spite of the proximity to Grahamstown of this section of the route which enabled it to be investigated with particular thoroughness by the present writer, ^{to trace} it has been ^{a task} ~~one~~ of some difficulty. This was due in a considerable degree to the notable and peculiar absence from it of Native names for the rivers. Perhaps this arose from their guide here being a Damasonqua Hottentot whose territory lay around Algoa Bay whereas this was the land of the Hoengeyquas. Had the indigenous names of the rivers been given, some of them would almost certainly be recognizable now. As it is, no such aids are available to assist in identifying their route, which must therefore be traced here from its description in the journal and by the distances apart and the directions of the rivers they mapped. But since both journal and map here (as well as in sections elsewhere) detail a route that cannot be made to fit the facts of the topography, the absence of autochthonous names for the rivers here is particularly unfortunate. For if upon the modern 1:250,000 map of this area there be superimposed a representation of this part of Wentzel's map drawn to the same scale, no fit can be obtained that has regard to the hydrography and relief unless west-east stretching be visualised to make a distance on his map of 48' of longitude become 55' of longitude in actuality, an increase of about 15% and a W - E distance of about 7 statute miles. If this interpretation of the route be correct, W - E compression totalling at least 9 or 10 miles occurs in the journeys of 24th and 25th May. These and other less important compressions are, however, somewhat offset by minor W - E expansions caused, for example, by plotting the courses of 26th and 31st May with an excess northerly component, so that the overall W - E compression is only about 7 miles.

From their camp by the Bushmans River the best route to Kaffirland actually lay E by N of them, past Assegai Bush and thence north some 5 miles, thereafter to travel eastwards amongst the summits of the Rietberg, the name by which were later to be known the now unnamed hills in which Grahamstown lies. ⁽¹⁾ The first to describe this way was William Paterson who took it in 1779. It offered unobstructed rolling grassy hillcrests whereas the

1. (Barrow 1801 pp.120, 165, 226, 229.
 (Moodie 1838 III, 49, 50.
 (Mossop 1947b, p.230.
 (Cory 1910 pp.241, 245.

coastal plain, an easier route at first sight, is found to be seamed by transverse and deeply carved river valleys whose steep banks are densely clad in bush and forest. However, even if the guide told Beutler of the easy inland hilltop way to the east, he could not take it since his business was to examine the coast.

The Governor's birthday was celebrated on 21st May which was spent encamped by the Bushmans River at or near Rautenbachs Drift. The next day they made their way N.E. until, approaching the mid-course of the Buffelskloof River, they swung E.S.E. across two of its north-directed tributaries, and so came to the vicinity of Sidbury. They probably camped thereabouts on one of the several headwaters of the Komgha River, deeply incised south of this point. On the 23rd they proceeded S.E. along the flat grassy land between the Bushmans and Nazaar rivers. They seem to have camped where they crossed the latter just below the point where it changes direction from flowing S.E. to S.S.W. Wentzel mapped the Nazaar as tributary to the Komgha River (neither is named by him) instead of to the Bushmans, unaware of the long eastward-directed stretch of the latter 3 miles from their camp.

On 24th May their account of their journey states only that "the direction of march was first easterly with which we crossed grass-rich land, then ascended a mountain and came at noon to a kloof by a stream of clear running water where we camped, naming this the Gonaquas Kloof because here lives the Gonaqua tribe." The grassy land they first traversed was probably the wide watershed between the Bushmans and Assegai Bush rivers, and the easterly course followed by the waggons must have taken them towards the confluence of the latter with the Kariega. They must have lost height in doing so, if they were later to "ascend a mountain". No mountains exist anywhere in this region which is an uplifted wave-cut platform with deeply incised river valleys. These are often steep-sided or walled by krantzes, and so their ascent of a "mountain" can only refer to climbing out of a valley. Precise geomorphological terms were then unknown, and Haupt in writing the journal would describe as a mountain any feature which involved a long steep ascent. Thus it is, that on several subsequent occasions he describes as mountains the high steep banks of rivers, for example those of the Great Fish River on 3rd June.

To return, however, to the events of 24th May, inspection of the area suggests that in the vicinity of Spring Grove they became involved in the rough and bushed country S.W. of the

confluence of the Assegai Bush and Kariega rivers. Actually they could have found a way across both, either hereabouts or in many places upstream from this locality. Instead they turned abruptly south up the "mountain" as their map clearly shows. Since there seems to have been no topographical necessity which caused them to turn southwards thus, we can only assume that they may have been actuated by other considerations. It is true that since the waggons started early and averaged less than $7\frac{1}{2}$ miles per day of travel on the outward journey, there would often have been time for horsemen to reconnoitre the route and camp site of the following day. On a long day's journey such as this, however, or in difficult country, they would not always have been able to find the way now known to have been the easiest. They also relied at times upon incompetent or perhaps deliberately misleading guides. Considerations such as these may explain why they did not on this and other occasions take the route which now seems the obvious one.

Though the reason is obscure, there seems to be little doubt that they ascended from the vicinity of Spring Grove to the line of the present road to Southwell, and to have followed it down to somewhere not far from its crossing of the Kariega on the farm Waterford. The journal omits mention of this descent, but it is implicit in their account of finding a kloof with clear running water and also from its position on their map. This stream can only have been the Kariega and not far from the locality suggested. It appears subsequently from their journal of 29th May that they erred in calling this Gonaquas Kloof, and that it should have been Hoengeyquas Kloof.⁽¹⁾ Their journal of 24th May and their map retain the error, however, though the latter shows this kloof to have been in the territory of the Hoengeyquas, whilst the Gonaquas are shown east of the Great Fish River.

The actual distance covered this day cannot have been much less than 15 miles, all of it easy going save the last 2 or 3 miles, though they recorded it as 6 miles in a direct line and mapped it as about $7\frac{1}{2}$ miles by the route they followed. If this interpretation of their route be correct -- and indeed it appears far more acceptable than any of the alternatives considered and examined in the field --- it was on this and on the following day that most of the demonstrated west-east compression between

1. Maingard 1931 p.497.

the Bushmans and Fish rivers was effected. This adjustment is likely to have been made months later when the final version of their map was being drawn after their return to Cape Town.

On 25th May they must have travelled nearly 6 miles against a fraction over 4 miles mapped and recorded by them. First they had to "come out of these mountains" till they again reached flat country and camped by a spring, mapped on an east-flowing stream due east of their previous night's camp. Thus they must have climbed from the Kariega and emerged upon the plain by a route not far from that taken by the modern road between Waterford and Southwell. A mile or so N.E. of the latter they must have camped by a tributary of the Kowie River. From a height this day they saw the sea at a guessed distance of about 9 English miles, which was in fact almost exactly correct and is an additional confirmation of their position at this stage.

Progress directly east from their camp of the 25th was barred, they stated, by many kloofs and forests. This obstruction as we now know was the deep, steep and densely bushed trench of the Kowie River. Even 45 years later when the country was better known, John Barrow had considerable difficulty in taking his waggons east over the Kowie valley.⁽¹⁾ Beutler's decision not to cross it but to detour around its head does not necessarily mean that they could not have crossed it had no easier alternative existed. When there was no other way, they successfully undertook formidable crossings such as those of the Great Fish and the Kei river trenches. But these imposed upon their waggons and oxen big strains that were wisely avoided if a far easier and not too long detour existed. It is not unlikely that Beutler had such considerations in mind when he decided to traverse around the headwaters of the Kowie.

Accordingly on 26th May they travelled N.W. along the wide watershed between the Kariega and Kowie rivers till they came to the broad shallow valley between the farms Paardekraal to the south and Rosedale to the north. This is the Brak River, which they then followed down to its confluence with the headwaters of the Kowie, now identified as their Buffelsbosch River. Hereabouts at a distance of about 5 miles in a direct line S.E. of where Grahamstown now lies, they camped on 26th and 27th May. The distance covered this day must have been at least 15 miles whereas their mapped route measures only 12 miles. Reasons have been suggested above and will be dealt with more fully later why this and other north-south compressions of their route were effected.

1. Barrow 1801 p.181.

Down the Kowie valley they continued on the 28th, their map showing how they crossed its meanders several times, as does an old waggon track to this day.⁽¹⁾ Near Banana Grove they must have left the infant Kowie to climb due east to Manley Flats, and so over the low watershed to the Blaauwkrantz River by which they camped on the 28th half-a-mile above the gorge now spanned by a high railway bridge. This gorge must have discouraged any idea of crossing the river lower down and probably led to its being named the Klip Kranse River by them. Next day they went E.S.E. to cross the head of the Kaffir Kraal River and to camp by the Bush River 1½ miles south of Martindale railway station. Neither of these streams is referred to by them by any name.

On 30th May they set off E.S.E. along the watershed parallel to and S.W. of the Kap River. At a point about 5½ miles E.S.E. of Martindale railway station they were able to see for the first time, since they had hitherto been hidden by the W - E line of hills to the north in which Grahamstown now lies, the mountains to the N.N.E. called by them the Caffersberge or Cafferalandsberge. These are the summits between Stutterheim and Seymour and beyond as far west as the Great Fish River. This range whose western portion is now the Winterberge was called the Kafferlandsbergen by J. Schmacher⁽²⁾ in 1776, the Caffersberg by General Janssens⁽³⁾ in 1803 and the Bamboesberg by other travellers at this period.⁽⁴⁾ The mention in Sautler's journal of viewing these mountains for the first time on 30th May supports the identification of his position on that day.

In the eastern portion of this range the most distinctive summit is Gaikas Kop, 6459 ft., which from the vicinity of Martindale is almost a table mountain in appearance, but increases in resemblance to a truncated pyramid as it is viewed from progressively farther east. There is little doubt that this is their Cafferalandsberg described by them on 2nd June as a high prominent point, and one whose direction was indicated by them on several subsequent occasions. However, investigation of these bearings reveals that they cannot be taken as anything more than rough indications of the position of the mountain, and they were evidently not evaluated with care by a compass or corrected for magnetic variation. That which is recorded on 16th June from near Mount Coke as N.N.E. is obviously a mistake for N.N.W.

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| 1. Albany Division Map 1899. | 3. Molsbergen 1932 p.166. |
| 2. Hallens, plate 22. The centre eminence whose flat top slopes to the left or west is the Great Winterberg, 20 miles N.N.E. of Adelaide. | 4. (Molsbergen 1932 p.15. (Paterson p.89. (Dairymple 1783, p.37. (Kirby, 1953 pp.49, 54. |

(magnetic), a conclusion which is confirmed by a N.W. direction of the mountain being recorded only 4 days later. It is not known on what grounds Theal⁽¹⁾ identified their Cafferlandsberg as the Intaba-ka-Ndoda at Debe Nek, a relatively low summit which is only prominent when seen from nearby, whereas Gaikas Kop is immediately recognizable from distances of 60 or 70 miles, for example from near Grahamstown and from near Butterworth.

They camped on 30th May by the Kap River not far from the point where it is now crossed by the road from Trappes Valley to Kaffir Drift. Since they could easily have gone N.W. from Martindale over low hills to cross the Kap River there, their crossing of it further downstream apparently indicates that they wished to pursue a S.E. course. Perhaps, since it was one of their objects to investigate the coastline, they were attempting to approach it again after their detour inland to avoid the valley of the Kowie River. Thus they may have planned to cross the Great Fish River at or near the first drift above tidewater, now called Kaffir Drift. The descent to this drift is, however, so steep that reconnaissance may have decided them against attempting it since they may have been told of an easier crossing higher up. Or indeed, since the Great Fish River trench is here no more formidable than parts of the Kowie trench that they had seen, and since they probably had no idea of the length of the Great Fish River, they may well have believed that by detouring inland they would be able to cross its headwaters easily in the same way that they had crossed those of the Kowie. This expectation must have vanished on 2nd June when from the vicinity of Frasers Camp they gazed down upon the Great Fish River valley, here considerably deeper than where they had first encountered it.

On 31st May they had an easy journey to the N.W. along the watershed between the Kap and Koms rivers, camping that night probably by the latter, and named the Olyvenhoutsbosch River by them. Here they rested on 1st June and the next day struck easterly past Frasers Camp and descended with some difficulty into the valley of the Great Fish River by which they camped. That this was almost certainly about a mile above Trumpeters Drift is concluded partly from Wentzel's portrayal of the three tributaries of the Great Fish on its west bank and the two on its east bank encountered by them in the period 31st May to 3rd June. But equally important as an aid to identification is the break which here affords an ascent of only moderate difficulty for

1. Theal, 1910, III, p.89.

waggons through the steep and high eastern valleyside of the river to the rolling plains above. To this break in the valley-rim they must have been impelled by the same considerations that later led countless others this way which was to become one of the chief waggon-drifts across the Great Fish River.

Great Fish River to Nahoon River, 3rd to 22nd June.

On 3rd June they crossed the Great Fish River with some difficulty and then proceeded due east about 3 miles "to the mountains lying ahead at whose feet a small stream runs". These "mountains" are the high and steep valley sides, and the small stream is the Blue River. This they crossed and then climbed from the valley, probably along the crestline of a spur in preference to a densely bushed kloof or to an oblique, and hence less steep, ascent of a hillside whose diagonal direction would threaten to overturn their waggons. The journal makes no mention of this climb, probably indicating that it was nothing out of the ordinary, an inference which is supported by the moderate steepness of several of the spurs. At their summits they encountered "flat and grassy veld" which accurately describes the surroundings of Peddie, near which they probably camped by the Gnusha River on 3rd June. The distance travelled this day was thus closer to the $7\frac{1}{2}$ miles recorded in the journal than to the $5\frac{1}{2}$ miles given to it on Wentzel's map, so that here too he seems to have found it necessary to effect a west-east compression.

The next two days were easy going N.N.E. over the plains between the Great Fish and the Keiskama, which latter they reached and crossed near Line Drift. On 7th June they were at the Suchar River; on the 8th near Sittingbourne on their Kromanka (Chalumna) River; on the 11th about a mile W.S.W. of Tweou; and on the 12th and 13th apparently by the Imozani River, though north-south compression suspected here in both journal and map makes them some 3 or 4 miles north of this stream, if the distance be measured which they record as having travelled on 12th June. On the 14th they apparently crossed the two headstreams of the Kwani and camped near the mouth of the Chalunna. There the seashore was visited by the surveyors who reported that the estuary was blocked by a sandbank.

On the next stage of their journey, between this point and their crossing of the Buffalo River near King William's Town, uncertainties in distance are again introduced by compression in latitude as a study of their route reveals. On 15th June they camped higher up the Chalumba and crossed it there the next day. This crossing can be seen from their map to have been on a long stretch flowing almost due east, so that it can only have been in the vicinity of Chalumba village. On the 16th they continued in a generally northerly course⁽¹⁾ which took them twice over the Kogo River east of Welcomeswood, and camped N.E. of Mount Coke on the Unkangiso River, since this would probably have been the first east-flowing tributary of the Buffalo they encountered. On the 17th they camped on the east bank of the Buffalo River, probably between 1 and 2 miles below the present centre of King William's Town.

Here it was decided to visit the mouth of the Buffalo to see if it would make a good harbour. Their camp by that river they left on 19th June and travelling E.N.E. crossed two of its tributaries whose names they recorded as the Meehouw and the Dewana. The former was probably the Yellowwoods which they were to cross again higher up on their return journey on 25th July, giving its name then as the Camacha. It is not surprising that this hydrographical error and others of a similar nature were made in this unexplored country where the courses of the rivers must often have been hard to understand because of their intricate meanders and deeply incised character. Moreover, guides speaking different languages were employed at various times, who may have given different names to the same rivers. Their Dewana was probably the Ungwenvaan. Having crossed this they came to a height whence they could see the sea, and so reached a plain, the biggest they had seen in Kaffirland. On this plain Berlin now stands. Continuing east they came to a north-flowing stream they said was called the Korouw or Kisauwen, which from its position, direction and name can be none other than the Nkolo, tributary of the Nahoon. The journal states that they camped by the Korouw on the 19th. Though their map makes it appear that they camped by the Nahoon this seems unlikely since they describe it as "a small stream of brack water". However, the hydrography is much confused here by their having made the Korouw tributary to the Buffalo through their Guasa River, probably that which is now called the Wanza and which actually

1. The Fort Beaufort and Keimouth Sheets, 1 - Million Series, U.D.F. 1943 were the maps chiefly used in tracing the route from here to Butterworth and then west into Bedford Division.

joins the Nahoon. The direct distance between the start and finish of the journey of the 19th is given in their journal and map as the equivalent of about 6½ English statute miles; but a study of the route shows that this figure should have been at the very least 12 miles.

On the 20th they went in a generally E.S.E. direction between the Nahoon to the north and the watershed of the Buffalo catchment basin to the south of them, that crestline now followed by the road and railway to East London. Thus they must have crossed the Wanza, presumably their Guasa or Goasa River, and have given it a wrong direction of flow in subsequently mapping it. They had now reached the rapidly constricting watershed between the Buffalo and the Nahoon which confined their route to a narrow belt from which it is most unlikely that they would have diverged much because of the steepness of its bounding slopes.⁽¹⁾ On 20th June they probably camped a mile S.E. of Udanzani railway station by a stream flowing S.E. to join the Nahoon as their map shows. On the 21st they camped about half a mile S.E. of Wilsonia railway station on one of the headwaters of the Amalinda which flows S.E. as is shown on their map where, however, it is made tributary to the Nahoon instead of to the Buffalo.

From this point Beutler, Haupt and others took a ride of a good two hours to the seashore of which they reported nothing but its orientation. This is strange in view of the decision on 18th June to investigate the suitability of the Buffalo mouth as a harbour. The very wrong position assigned to the Buffalo mouth on their map confirms the impression given by their journal that they did not visit it. Perhaps they considered that the straight coastline they saw extending in either direction made a further search for harbour useless, since they may have felt certain that the river's mouth would be obstructed by a sandbar like all others on this coast. On this visit to the seashore they probably set off from near Wilsonia in the line of easiest travel over the relatively flat and unobstructed country to the east, and then swung southward to the coast. Had they tried to reach the Buffalo by going south from Wilsonia they would have encountered deeply dissected and heavily bushed country. The streams they mapped on this ride suggest that they crossed the Inlanza which they erroneously thought was the same stream by which they had camped the previous night. The Blind River also seems to be represented on their map,

1. Maps used for the vicinity of East London were:-
 Sheets 3227 DDD, 3227 DDC, 3228 CCC, 3327 BBA & BB B,
 1:25,000 Trig. Survey, 1940 - 42.

and it is therefore suggested that Boutler and his companions visited the coast between that river and Nahoon Point.

A map of 1838 by J.C. Chase⁽¹⁾ records that the Buffalo or Koncay River derives its name from the Hottentot word meaning 'to walk softly', whilst the Nahoon (he calls it Kahoon) is named after the Hottentot word meaning 'to fight'. These explanations should be compared with those given by Maingard.⁽²⁾

Next day, 22nd June, they were stopped by a height impracticable for the descent of waggons which was probably the west bank of the Nahoon above Abbotsford. They found a route to bypass this declivity, crossed the Magoeri (Nahoon) very near the present bridge at Abbotsford where the tidal limit is situated, and camped on its bank below this point since they remark upon its salinity. Wentzel's map shows a difference in longitude between their camp by the Buffalo on 17th June and by the Nahoon on the 22nd as 24' whereas the actual figure is about 31'. This is illustrated in the accompanying maps.

Nahoon River to Kei River. 23rd June to 1st July.

June 23rd was a rest day spent in camp by the mouth of the Nahoon, and the opportunity was taken to observe that the compass variation from true north was 21° west. Resuming their journey on the 24th they proceeded N.E. and crossed their Caninga or Elands River, easily identified from its position as the Kinigha (Hottentot for eland) in J.C. Chase's map and hence as the modern Quinera.⁽³⁾ They camped at the Goenoebe (Gonubie) River where "there was good water, but a musketshot lower it was salty". This establishes the position of their camp as somewhat less than a mile below the roadbridge. Their route on the 25th probably led out through where the brickfields are now situated on the east bank of the Gonubie. They crossed their Goadar River whose name they say means a morass, which is probably the stream flowing S.E. to join the Kwelegha on its south bank a mile from its mouth.

1. Chase 1838.
2. Maingard 1934 p.131.
3. See the two footnotes immediately preceding this.

They continued N.E. until they camped by their Goerecha or Alocs River (Kwelegha) near Hills Drift, to which there is a fairly easy descent from the S.W. and from which a long ramp leads up to the N.E. followed by the present road. Below this crossing krantzies and tidewater provide obstacles.

On the 26th they proceeded N.N.E. at much the same distance from the coast and crossed the shallow valleys of the Boerrachaaij (Bulera?) and Tinsa (Cintza) rivers without difficulty. Their camp was probably on the Kefani $2\frac{1}{2}$ miles from its mouth in a direct line. This stream seems to have been mapped erroneously by Wentzel as a tributary of the Cintza. On the 27th they went N.E. over the watershed between the Kefani and Kwenurha within a mile west of Freitag's Store and descended to their Quenoncha or Menschenoren River (Kwenurha) where they camped 3 or 4 miles in a direct line from the seacoast. Here they could find no crossing place; and moreover they suspected that they had been led by their Gonaqua Hottentot guides over this switchback route parallel to the coast at the instigation of the Kaffirs who wished to discourage the advance of the waggons. Accordingly they tied up their guides and threatened them with death if they did not find an easier way. This was effective, and on the 28th they proceeded inland along the watershed between the Kefani and Kwenurha rivers.

Though unnamed in their journal, the stream by which they camped on the 28th is shown on Wentzel's map to have been the Kwenurha, probably within two miles of Mooiplaats. This day's journal entry has two passages requiring comment, one of which records their passing the source of the Kwenurha, though the distances they give in these entries as well as the evidence of their map clearly show that this must have occurred on the following day, the 29th.

The other difficulty is the statement that on the 28th they came to the Goerecha River where the Kaffirs showed them the place where Hermanus Hubner and his companions had been killed in 1736. It seems most unlikely that this Goerecha River is the same as that previously identified with certainty as the Kwelegha, for their mapped route on the 28th took them nowhere near that stream or any of its tributaries, though it is perhaps not quite impossible that they could have done so. If this name has not been given by mistake, then it is much more probable that there was then another Goerecha, a western tributary of the Kwenurha, S.E. of Mooiplaats, in which locality the scene of the tragedy seems to be marked in Wentzel's map. Thus the latter solution seems the more satisfactory, namely that by this account Hubner and his companions met their death in or near the valley of the Kwenurha some 6 or 7 miles in a direct line from the seacoast. However, it is possible that Bontler was misinformed by the Kaffirs who might have concealed the true whereabouts of an event of this inauspicious character. If this was so,

then the account related by Theal⁽¹⁾ and given a precise locality by Soga⁽²⁾ (who does not cite his authority for his identification) could be more correct --- namely that Hubner died at the Tongwane River some 7 or 8 miles S.S.W. of Butterworth. Since the journal does not state whether Beutler was accompanied as a guide by a survivor of Hubner's party who would surely have known within a few miles where the tragedy had occurred, it cannot be said which statement as to the locality of the event is likely to be the more reliable. At least two of Hubner's companions were then alive, an unnamed man who was 95 when Colonel Collins met him in 1809,⁽³⁾ and Jan Bruyns whom Thunberg met in 1773. The latter's account of the tragedy,⁽⁴⁾ presumably obtained from Jan Bruyns, states that there were seven deaths, whilst Theal's figure is three. Perhaps the former includes Hottentot servants whilst the latter takes account only of the white colonists slain. Sparman's account does not mention the number killed.⁽⁵⁾

Their route on 29th June must have been close to that now taken by the National Road. They crossed the headwaters of the Kwenurha and camped by the first large tributary of the Kei that they encountered, and hence probably one of the feeders of the Chachaba, 5 miles in a S.E. direction from Kounga. Here they remained encamped on the 30th in order to enable their Hottentot guides to search for a route down which the waggons could reach the Kei River. In the journal it is called the IJ, meaning the Sand River. A much later writer, J. Centlivres Chase, however, translates it as "the river of pain".⁽⁶⁾

The very difficult descent of about 1,500 ft. into the great gorge of the Kei was negotiated on 1st July, probably by a route not far from that taken by the present road. Here there is a tributary valley whose slopes are a little gentler than those farther south, whilst farther north the walls of the gorge approach or reach verticality. Even so, the way down was by no means easy, nor was the ascent on the far side any less formidable. Anyone who has seen the Kei Gorge at this point will credit Beutler and his companions with great courage and energy in undertaking its passage at this stage in their fortunes, when an obstacle of this nature would have been an excellent reason for turning back all but the most resolute body of men.

1. Theal 1909 II, 496.	5. (Sparman 1766 II, 154, 254, 261. (Moodie 1838 V, 9. (Mossop 1947a, p.116.
2. Soga p.123.	
3. Moodie 1841 p.48.	
4. Thunberg 1795 I, 268 & II, 94.	6. (Chase 1838. (Maingard 1934 p.131.

Kei River to their turning point at Qora River, 2nd to 8th July.

The 2nd July was a rest day. On the 3rd they crossed the Kei at a point easily identifiable from their map as within a few hundred yards of the present road and railway bridges. Then they proceeded to a point about $5\frac{1}{2}$ miles upstream measured along the river, but about $4\frac{1}{2}$ miles on the route they took which is still followed by a waggon track. They camped at the northern end of the first loop encountered in the river's course. Their journey of the 4th they recorded as only $2\frac{1}{2}$ miles in a direct line at a bearing of 40° true. This short distance resulted from the steep ascent and descent involved. An old waggon trail still follows part of the way that they probably took which brought them to their Toleni River (still so spelt) near the railway bridge, where they crossed it and camped on the east bank.

On the 5th they may have travelled N.E. up the watershed parallel to and a mile east of the Ndabakazi River for a distance of some 5 miles, then descending for 2 or 3 miles to camp by one of the several headwaters of the Ceru River. On this day's journey after they had emerged from the Toleni valley they described seeing to the W.N.W. the Spekberg "the most distinctive mountain in Tamboegiesland" (Tambuland). The only mountains visible from this locality anywhere to the west are undistinguished and distant blue summits. Hence it is likely that the Spekberg was Moordenaars Kop, ⁽¹⁾ a most impressive and mountain-like great red krantz overlooking the Kei gorge. This identification is supported by a remark in the journal that it was so called because of the great quantity of hippopotamus bacon found there. Perhaps this information had been ascertained by some of the party who had found time to visit this spot on the 2nd July, a resting day when they were encamped by the Kei, or else it came from someone who had been there on an earlier hunting expedition. Against this identification are the facts that the journal states that the Spekberg was in Tamboegiesland, i.e. east of the Kei, whereas Moordenaars Kop is to the west of that stream. Again, its bearing is given as W.N.W. whereas the Spekberg must have lain south of west from their presumed viewpoint.

On 6th July they remained encamped and on the 7th swung west around and across the headstreams of the Ceru to strike out N.N.E. over the wide plains lying S.W. of the present position of

1. Holt p.49.

Butterworth. They probably crossed the Ceguana River (mapped but not named by them) and so came to their Gosa (Gouwa) River between 2 and 3 miles in a direct line north of Butterworth. At this point they spent the night of the 7th.

The 8th July was their last day of travel on their outward journey. Hence it is of particular interest to try to discover what route they followed that day, so as to determine their turning point which unfortunately is not described by them with precision. They crossed the Gouwa and "set off eastwards over high ridges". The actual bearing of the day's completed journey is given as 77° true. Gradients in this locality are nowhere particularly steep, so that no route suggests itself as more likely than others. Their journal gives the distance travelled as about 4 miles, the time occupied as 2 hours, and $46^{\circ} 56'$ east of the Peak of Teneriffe as the longitude of their turning point, which Wentzel mapped, however, as longitude $46^{\circ} 50'$ east. It is the longitude given in the journal that ^{agrees better} accords with the distance ^{of six to eight miles that} they must have travelled in a generally easterly direction from the Gouwa to reach a stream with a course similar to that mapped by Wentzel. This is unlikely to have been any stream other than the Qora, and here they pitched the camp that marked their turning point. The name they recorded for this stream is the Sakolka. It is perhaps possible that the first part of this word Sa is a corruption of the possessive concord, whilst the latter portion kolka is an attempt at rendering the click and following sound of the name now spelt Qora. (1)

If this interpretation of their movements is not far from the truth, their camp on the Qora was within two or three minutes of latitude $32^{\circ} 17\frac{1}{2}'$ which is the position assigned to it by the present writer. This therefore appears to be a remarkable confirmation of the accuracy of the "improved latitude" figure of $32^{\circ} 17'$ inserted in the journal, and presumably ascertained by Onderstuurman Clement by astronomical observation. But the latitude adopted in the journal and used in Wentzel's map is $31^{\circ} 39'$. The longitude of their turning point on their map is $46^{\circ} 50'$ east of Teneriffe or $8^{\circ} 50'$ east of Cape Town, whereas it is actually about $9^{\circ} 50'$ east of Cape Town. Hence their turning point was mapped about 60 miles west of its true position. As explained above, the position of their turning point in latitude and longitude as plotted on their map was probably adopted to conform with the outline of the

1. Explanation suggested by Mr. N.R. Kent, Senior Lecturer in Bantu Languages, Rhodes University, 1951.

South African coast then given in the standard atlases of the period. The adoption of Clement's "improved latitude" in conjunction with their estimated longitude would have put their turning point in relation to the coastline used in their map (and presumably taken from a standard atlas) some 10 miles out to sea due east of the mouth of the Gonubie River. The position in latitude and longitude of their turning point as reported in a letter to the Governor on 31st July does not make sense or agree with the figure adopted in their journal and map. This leads to the suspicion that the figures finally used in these documents were inserted after the return of the expedition to the Cape.

Return Journey, Gora River to Baviaans River, 9th July to 8th August.

The 9th July was spent in camp, and on the 10th their return journey began by much the same way that they had come. They turned back at their Sakolka River because of the cool reception they received everywhere from the Natives who refused to barter the animals they required for food and for replenishing their waggon teams. There was no game to be shot as this had been practically exterminated by the Natives. Man and beast alike the trekkers were weary of travel, having been over four months on their way. Moreover, they had not yet accomplished half their entire journey, since their written instructions provided for their return via the Koperbergen of Namaqualand which Simon van der Stel had visited in 1685. This entailed an east to west crossing of South Africa through country whose increasing aridity would impose difficulties of prohibitive severity upon Beutler's tired and weakened expedition. However, he probably did not realise this when he made an attempt to follow out these instructions.

Accordingly they diverged from their outward route near the place they had passed on 28th June, and on 17th July swung due west probably from the vicinity of Mooiplaats. This new route was to take them not far from the present positions of Macleantown and King William's Town, and so ^{to} skirt the foothills at the southern slopes of the Amatola and Winterbergen mountains where now are situated Alice, Fort Beaufort, Adelaide and Bedford. The route followed by Beutler lies half a dozen miles south of the road which now joins these towns. On this westward journey from Mooiplaats their movements cannot generally be followed with the same

confidence as before. They were now in the region of small streams which unite to form the rivers they had encountered on their outward trek. These latter usually retain to-day names recognizably similar to those recorded for them in 1752, whilst a lower proportion of the small feeder streams is now named as they were then. In the attempted reconstruction of the route that follows, the omission of a name of a stream given by the map or journal means that no worth-while suggestion can be made regarding its possible identity.

The position of their camp of 15th July is very uncertain. Wentzel mapped it on a tributary of the Kwanuza, but it is perhaps more likely that it was by the headwaters of the Kefani River. From 17th July until they emerged from the Gombie Valley on the 22nd they were in difficult country, hilly, seamed by deep valleys and often heavily bushed. They seem to have been badly guided, perhaps deliberately led into this tangled country on a route which took them some 3 miles north of Umhallas Kop, whereas had they followed a line passing 4 or 5 miles south of that mountain they would have encountered far easier going. Perhaps the physical difficulties of this stretch explain why it seems impossible to trace their route here with confidence, and why the distances and directions they recorded will not fit in with the topography as it actually is.

From the vicinity of Mociplaats their journey of the 17th took them somewhat north of west to camp by the Goerescha (Kwelegha) perhaps near Bluewater Bridge. On the 18th they went $7\frac{1}{2}$ miles west to camp by a small stream, dry but for waterholes, called by them the Anamo and mapped by Wentzel as tributary to the Gombie, but otherwise probably unidentifiable with certainty. The journal says that next day they followed the Anamo through the "mountains" though this is not shown on their map. Perhaps identifying it with the Kologha raises the fewest difficulties, though it does not dispose of all objections. Assuming then that on the 18th they camped near Musgrove, the following day they started off up the Kologha valley and then swung west to cross over into the valley of the Tanga, probably their Darka River. Then they had to ascend and descend with great difficulty "a high and steep mountain" until they reached their Pabagans, dry but for waterholes, and probably the modern Zabaka. Here the 20th was spent resting after three fatiguing marches. On the 21st the Gombie was reached, where the drift had to be made passable and a route chopped through the bush on the farther bank. This stream was crossed on the 22nd, and after much difficulty the plains bordering its valley on the west were reached, perhaps about 4 miles north of Macleantown. They camped that night by their Inconnombo, probably now the Cobongo River.

On 23rd July they rested, and on the 24th crossed their Nagozi (Nahoon) perhaps somewhere near Orange Grove, to camp in the vicinity of Lonsdale Bridge by their Camacha, now the Yellowwoods River. This identification appears on a map by Arrowsmith⁽¹⁾ which calls the stream the Kamaka or Yellowwood. It joins the Buffalo River direct and not as is shown on Wentzel's map through the Korouw (Nkolo) and Guasa (Wanza) rivers which actually flow into the Nahoon. Next day, the 25th they crossed their Camacha and went N.W. about 6 miles to camp at their Saleni River, perhaps that which rises in the Iseleni Location and is now called the Izeli. The following day they rested, and on the 27th doubled back on their track as far as a western tributary of the Yellowwoods. There they turned S.W. to cross the Kauka (Buffalo) about a mile north of Harrow by their Kokwe River. From a study of Wentzel's map this seems to have been the stream a mile west of the Buffalo of which it is a western tributary. A less likely alternative suggested by the similarity of names is that it could have been the stream recorded as the Gwokobi or Bush River a century later,⁽²⁾ as the Ngqokwebi⁽³⁾ in 1889 and to-day as the Ngqonwebi. The stream by which they camped on the 28th was probably the Umkasha and there is no doubt that their Tewe or Brak River which they reached on the 29th is the Debe. On the 30th they camped just below its junction with the Keiskama and across the latter in a position that can be assigned without hesitation, because their map shows their camp lying west of that short stretch of the Debe that flows northwards for a mile before the confluence.

On 1st August they crossed "the big and water-rich" Gama (Tyunie) and two of its tributaries flowing E.N.E., the Goeanger and the Gasocha or Tiger River as they recorded them. By the latter they camped, probably 1½ miles E.S.E. of Llangollen beacon. To the south of the eminence on which this beacon stands they passed next day, just as in the next two days they kept below the step-like Mount Pleasant and Mount Prospect which form outlying southern foothills to the mountains to the north. On their journey of the 2nd they came first to their Godecha described by them as fairly big. Study of their map suggests that this was the Barouka, since beyond it they crossed another tributary of the Kat, presumably the Umxela, and then turned sharply southwards. This turn was probably caused by the high ground east of Howes Poort, height 1994 ft., S.S.E. of which eminence they camped on the west bank of the Kat River that night. On the 3rd they crossed two

1. Arrowsmith, 1848.

2. *ibid.*

3. Kingwilliamstown Division Map 1899.

north-directed dry tributaries of the Kat, and then their dry D'Arvaga, presumably the watercourse directed south from Mount Pleasant beacon. They camped on the west bank of their Telloscoe, called Karoemo by H. Swellengrebel, Kurumo by T. Pringle⁽¹⁾ and now known as the Kroonie. Their position was near the southern exit of Krooniespoort.

On the 4th August their map and journal record that before they crossed and camped by the Koonap they crossed four watercourses, the third of which was the Kohakoeka or Ezels River, and hence was probably on either the farm Paardefontein or on Groenakloof. On the 5th they rested by their Gonna (Koonap) River, and on the 6th crossed it a second and a third time to camp near Waggon Drift. On the 7th they were at their Aga River, now spelt Kaga, both being attempts to render the Bushman word axa meaning Rietveld according to the journal.⁽²⁾ Their camp was probably some 12 miles downstream from Bedford. The journal of 8th August records that they re-crossed the Kaga this day though this is not shown on their map. Starting at 6 a.m. they travelled N.W. over a plain, then along high ridges, and at noon reached the big river Gorne, Gonce or Baviaans, still known by the latter name. According to their map and journal the distance covered this day in six hours over easy country was less than 9 miles. The actual distance covered between the Kaga and the Baviaans rivers cannot have been much less than double that distance. If it be objected that 18 miles could not have been covered in 6 hours by the waggons, this can be met by suggesting that in fact they may have taken longer to do so, but that the time recorded was subsequently reduced in proportion to the reduction in distance. By halving the distance covered in this day's north-westerly journey Wenzel was able simultaneously to compress his map both westward and southward. Elsewhere on the journey between Moolplaats and Cradock west-east and north-south compressions are noticeable on occasions when working out the details of daily distances travelled.

1. Pringle, 1835, frontispiece map.

2. (Maingard 1934 p.131.

(The word axa should properly be preceded by the sign denoting the alveolar click.

Baviaans River to beyond Cradock, 9th to 17th August.

The kloof in the mountains to the W.S.W. to which they ascended from the Baviaans River valley next day, 9th August, can hardly have been any other than Daggabcers Nek, and the valley into which they descended, that of the Kron.⁽¹⁾ They called it the Kawaha, Kawaha or Vrolyke River, and camped by it that night as well as on the 10th. On the 11th their journal relates that after having passed over flat and stony land they came to a mountain between which, and the Great Fish River, the waggons passed only with difficulty. This must have been at Blaauw Krantz, immediately north of which they camped. The next day they crossed their Tarka or Vrouwenrivier, still known by the former name, and camped some 2 miles further on near the east bank of the Great Fish River, thus just north of Lookop. On the 13th their journal says that they crossed the Great Fish River several times though this is not shown on their map; nor is it clear why they did so. However, it is certain that they had to gain the west bank of the Great Fish because their route on the east bank was obstructed by the cliffs bordering on the river some 7 miles S.E. of Cradock. Their map shows that they must have crossed over near the present Halesowen railway station and have camped probably within a mile of the centre of Cradock. On this day's march they mapped their Coesoesma River which from its position and name may be that which is now marked as the Marais Kloof watercourse, but part of which is shown as the Leeuw in the Divisional Map of Cradock, 1901. The latter half of Coesoesma is like ganka, the Hottentot word for a lion, from which the Dutch name for this watercourse, Leeuw, may have been derived. One stage further north, mapped by Wentzel as a distance of about 6 miles, brought them on 15th August to their turning point which on this evidence was on the west bank of the Great Fish River between the railway sidings of Marlow and Kaptein. Here they remained encamped on the 16th and 17th. The variation in the magnetic compass in this place was found to be 18^h west.

The particulars of the movements of the party and of the positions in latitude and longitude of their encampments given under date of 15th August are incomprehensible and cannot be reconciled with those of the dates immediately preceding and succeeding. The occurrence again of confusion at this, their second terminal point, suggests that here too this arose because of a conflict between

1. Graaff-Reinet Sheet, 1 - Million Series, U.D.F. 1943 was the map chiefly used in tracing the route from here to beyond Cradock.

observed and estimated positions in latitude, and between estimated longitudes and those necessitated by the decision to compress the map longitudinally. Perhaps Surveyor Wentzel realized that few if any of the Company directors and officials for whom the journal was intended would study closely his methods of position-finding, and so he gave figures to Haupt for the journal at these two critical terminal points which confuse rather than enlighten, trusting that they might never be used to investigate the claims of the conflicting methods which could have been employed for laying down their positions. The map, however, clearly records, probably with fair accuracy, their movements here, since any confusion in the marked route would have been immediately obvious even to the inexperienced eye.

Wentzel mapped the latitude of their turning point⁽¹⁾ as $31^{\circ} 36'$ whilst its actual value is apparently about $32^{\circ} 5'$. As has previously been explained, he probably put this latitude too far north because the coast on standard atlas maps of the period was drawn too far north. If he had used a figure near to the truth, which Onderstepurman Clement probably could have given him from solar observations, their journey inland would have appeared inconsiderable and its turning point would have been in conflict with all the earlier latitudes on the outward journey which were based presumably on a coastline drawn north of its true position. In an effort to reduce the discrepancy between the latitude value given by astronomical observation and a value that it was necessary to use to be consistent with the rest of the map, it is probable that the length of their journey north along the Great Fish was intentionally compressed. A camp site which is identifiable without doubt is that of 30th July at the confluence of the Keiakama and Debe rivers. Between this camp and their farthest north (beyond Cradock) the actual difference in latitude is about $50'$ whilst on Wentzel's map it is $44'$, a compression of $6'$ or 12%.

Comparing a modern map with Wentzel's, it is clear that his rendering of the journey between Moolplaats and Cradock has suffered a longitudinal compression of about $30'$. This is considerably greater than the compression of about $20'$ which has been applied to his rendering of their outward journey east of the Sundays River, their crossing-point of which is actually in much the same longitude as their turning-point near Cradock. Thus the latter point is shown on Wentzel's map, not almost due north ($6'$ longitude west actually) of the former as it should be,

1. Molsbergen 1922 pp. 327, 332, 368. Latitude given as $33^{\circ} 36'$ perhaps a transcription error.

but some 26' of longitude east of it. It follows as a further consequence of his having shortened his eastward journey here less than his westward, that all localities on the latter are displaced east of their true directions from places on the former. Thus also the west-east portion of the Great Fish River is mapped by Wentzel as much shorter than it is.

Craddock to Attaquas Kloof & Hagelkraal, 18th August to 30th September.

They turned back because their trek oxen were exhausted from lack of grazing, and none could be obtained in exchange as they were in country then inhabited only by Bushmen, referred to in the journal as d'Gaus or Kleyns Chineezen, who lived by hunting and gathering. There is no doubt that the decision was wise, for Beutler could never have brought his column of eleven waggons in safety to the Cape by travelling W.N.W. into the dry heart of the Karroo to reach the Koperbergen of Namaqualand. It was better to turn back before and not after being forced to abandon waggons for lack of oxen.

The journey southward seems to have begun in earnest on 18th August. From this time indications of distance and direction and of the positions of their camps in latitude and longitude are seldom given. The mapping of the route between the Baviaans and Bushmans rivers from 23rd to 30th August must have revealed the extent of the closing error in the huge traverse the expedition had made since it had crossed the Bushmans River outward bound on 20th May. Since a good deal of the error of closure was almost certainly applied by Wentzel to the route of 23rd to 30th August, it is likely that distances as well as directions travelled in this period are considerably altered.

Since he mapped the Baviaans River east of its true position in relation to points mapped in the eastward journey, it follows that the route between the Baviaans and Great Fish is swung clockwise from its true direction. Hence, whilst on his map this section has a bearing of 165° , its true bearing is likely to have been less than 145° ; and most of the adjustment of the closing error appears to have been applied in this section. On the next section of the route, from the Great Fish to the Bushmans River, where their course as mapped by him bears 225° , the same effect operates but apparently far less markedly, since its true bearing is not likely to have exceeded 230° . As the

closing error in direction was apparently applied mainly between the Baviaans and Great Fish rivers, it follows that the closing error in distance must have been adjusted mainly here too. Hence the Baviaans and Great Fish rivers as they encountered them on this part of their journey are placed 34 miles apart in a straight line on Wentzel's map, whereas this distance is really a little over 50 miles.

It has been shown above that the distance between the Kaga and the Baviaans rivers is greatly reduced, in fact almost halved, on Wentzel's map. It must therefore also distort other measurements in this locality, including the length of the journey performed on the 23rd between the Baviaans and their Cawa River "whose water was as white as milk". Largely because distances here are unreliable their Cawa and Noseneni rivers remain unidentified, (though they may be the Koba and Kom Kom respectively) and there is no certainty how far they travelled on the 23rd, or indeed whether the journey of at least 60 miles between the Baviaans and the Great Fish was really accomplished in 4 days. In spite of the easy going on this route, a daily average of 15 miles seems improbably high.

In the section of their route between the Great Fish and the Bushmans rivers where we have seen that the difference between the direction as shown on Wentzel's map and the true direction is small, the difference between his distance and the correct figure is also small and does not exceed a mile or two. These remarks on the bearings and distances depend largely upon acceptance of the interpretation of their route that is outlined in the following paragraphs.

Because of the lack of particulars in their journal we have only their map from which to attempt to follow their route between the Baviaans and Bushmans rivers; and because of the defects in their map that have been demonstrated above, it cannot be taken as a reliable guide. All that can be derived from what it shows south of the Baviaans River (here called Gornts or Gourits⁽¹⁾ in the journal) is that they travelled S.E. between the Great Fish River to the west and the Kaga-Koonap river system to the east; and that in the three days preceding their arrival at the Great Fish they crossed only tributaries of the Kaga-Koonap system.⁽²⁾ Hence on their journeys of 25th and 26th August they must have

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1. Molsbergen 1922 p.368. Gornts corrected to Gourits in list of errata.
 2. Their route between the Baviaans and Great Fish rivers was not investigated in the field by the present writer.

travelled near and north of the crest of the ridge called the Fish River Rand that runs E.S.E. from Witkyk to terminate in Douglas Heights. This ridge can never have been as densely bushed as are the kloofs flanking it, so that its openness as well as its comparatively level character made it the obvious line of approach to the Great Fish River from the N.W. This suggested route between the Bavians and Great Fish Rivers is similar to that mapped by Henry Hall⁽¹⁾ in 1856. It kept east and north of the crestline of the Fish River Rand because the gentler slopes are to be found here, whilst to the west and south the slopes towards the Great Fish are far steeper.

Their camps of the 24th and 25th may have been by the Laumenfontein and Soso rivers respectively. Where they descended from the Fish River Rand is uncertain, but of the various possibilities, that which seems open to the least objection is near longitude $26^{\circ} 28'$. They probably forded the Great Fish at Krantz Drift some 4 miles downstream from Piggotts Bridge. It seems to have been at Krantz Drift that the nights of the 26th and 27th were spent encamped. The best agreement between their map and the actual topography is attained by selecting this as their most likely crossing point. For had they crossed the Great Fish farther west, for example between Carlisle Bridge and Bookhurst, a route S.W. from anywhere on that stretch must have taken them across the east-flowing Gaitu River before reaching the New Years River. But nothing resembling the Gaitu appears on their map.

From this final crossing of the Great Fish River their best course was to get out of the bushed valleys and to make for the grassy rolling hilltops to the south. Accordingly on the 28th they went S.W. making for the rounded ridges that extend N.W. of Grahamstown, and on the following day along those similar elevations that stretch west of that city. On the 28th they probably passed through the farm Hounslow, some 5 miles S.W. of which they reached the watershed between the Great Fish and New Year River systems. It was probably from this elevated viewpoint, near the present mainroad between Grahamstown and Bedford, that they saw for the last time, as they record, their Cafferlandsberg (Gaike's Kop) which lay to the N.E. of them. They then followed down the stream that flows south from Glen Ambrose (now Brakdloof) to the New Years River by which they camped on the 28th near the confluence. This camp appears on their map by their Bosjeemans

1. Hall, Henry, Map of the E. Frontier of Cape Colony, London, 1856.

River, but this is now called the New Years River since it is an eastern tributary of the far longer stream known now as the Bushmans. The Bosjesmans Kloof mentioned and mapped on their journey of the 28th remains unidentified.

On the 29th August their course was set to avoid the lower courses, deep and bush-grown valleys, of the tributaries flowing northwards and westwards to the New Years and Bushmans rivers. Instead they crossed these near their heads as their map shows, on the rolling grassy uplands of the broad watershed between the New Years-Bushmans system to the N.W. and the Kariega-Assegai Bush system to the S.E. Perhaps their camp of the 29th was by the Spits Kop River 3 miles W.S.W. from the present Highlands railway station. Continuing thence S.W. the next day would have brought them to the upper parts of the Buffelskloof River after which another mile or so must have shown them, no doubt, the wheeltracks they had made over three months before, on 22nd May, when they were eastward bound. Here they closed their wide circuit, and on the night of 30th August they camped at their old outspan by the Bushmans River near Rautenbachs Drift.

The journal becomes very brief after they had regained their old track, from which they were to diverge three times on the homeward journey. The first of these was when they took the direct route between the Zwartkops and Van Stadens rivers on 6th and 7th September. The second diversion from their old route was also a short cut. On 11th September they reached the Gantoos River where a Hottentot guide was obtained to show them the direct route to Essanbosch, which they did not know because on their outward journey they had taken a wide circuit via the mouth of the Kabeljauws River. No exact directions or any distances are given in the journal, and the directions plotted on their map are clearly incorrect, for according to these they must have crossed north-directed tributaries of the Gantoos, whereas their journal and map agree that they crossed only south-directed streams, tributary to the Kabeljauws, Zeekoe and Krome rivers respectively.

On 12th September they rested, and on the 13th set off S.W. from the vicinity of Hankey. Their Donque River was probably the stream by which Zuurbron is situated, and their camp at Key that night by the Kabeljauws River may have been a mile or so below Honeyville. On the 14th they passed near "a high mountain" which was evidently one of the easternmost outliers of the Kouga Range, and then forded their Keyka or Witte River which they map as a tributary of the Zeekoe, and may have been the upper reaches of that stream. They camped by their

Leeuwerivier or Chama which was probably the Leeuwsch River near Buffelsvlei. They set off W by N on the 15th and forded a river Ou Chama or Vetwater and another called the Soma which the journal relates and their map shows, joins the Eerste River mentioned on their outward journey on 30th April and tentatively identified as the Diep. The Ou Chama was thus probably the stream flowing south to join the Diep on the farm Zeskoe, whilst the Soma was probably the Diep itself some 7 miles upstream from the point where they had crossed it outward bound. They reached their old camp site at Eesenbosch and passed it to spend the night of 15th September by the Kroona River. A fortnight later they crossed the Attaquas Kloof and on 30th September returned to Hagelkraal.

Side Trip into Outeniqualand.

The 1st October was spent at Hagelkraal, and then a journey of 4 days brought them on the 5th to the Soetenelke River some 7 miles east of Riverdale. Here the Governor's orders conveyed in a letter from the landdrost of Swellendam reached Beutler requiring him to search the coast in " 't Oude Niquasland" where it was thought that the French might have effected a landing to reconnoitre the site for a settlement.

The majority of the men and waggons continued to the Cape, whilst Beutler with a small party turned east again.⁽¹⁾ On this side trip distances and directions as well as latitudes and longitudes are carefully given once more, as they were now again in what was virtually unknown country. It is clear, however, that part of it had been visited by and reported upon by colonists who had given an account of it to the landdrost of Swellendam, which may be translated thus. "A certain bay about 30 miles⁽²⁾ east of Mossel Bay stretches into the Oude Niquasland and is called by our colonists the Two Vleis because two big rivers from the mountains and from the forest form two vleis on a spacious plain before flowing into the sea. Of this bay the

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1. (George Division Map, 1911 and the (Ouitshoorn Sheet, 1/4 - Million Series, U.D.F. 1943 were the maps chiefly used for tracing this part of the route.
 2. 30 Dutch miles are about 133 English.

colonists have much to say, and there is a strong presumption that that French lieutenant has been ashore there [from Le Necessaire] with his last boat."

On 9th October the detachment proceeding east camped at Hartenbosch 5 miles N.N.W. of Mossel Bay. On the 10th they crossed the Klein Brak River and their Conna, east bank tributary of the former as their map shows, and hence probably now the Moordkuil. They camped at a tributary of their Conna, called by them the Rheebockenfontijn which is now the farm Rheeboekfontein and is about 2 miles north of the railway station named Rheeboek. Their camp was near a feature now mapped as Botteliers Kop, of which J.W. Cloppenburg in 1768 remarked that it was named the Botteliers Mutsje from its resemblance to a butler's or steward's cap.⁽¹⁾ Very much later another opinion was recorded by Rogers and Schwarz in 1901 who wrote that its bottle-like appearance had led to its being called Bottels Kop.⁽²⁾ Whatever the origin of the present name of this feature, it was hereabouts that a local colonist joined them as guide, and on the following day, the 11th, he took them across the Great Brak and Klippendriften rivers to camp by the Gouras River. Of these three the first is still so named, whilst the identity of the two latter is aided by their map, which marks Buffels Drift though it is not mentioned in their journal. Their map shows that they crossed their Klippendriften some distance below Buffels Drift which appears on its west bank. The farm Buffels Drift is mapped to-day at the confluence of the Malgaten and Sand Drift rivers. Hence it is likely that their Klippendriften was the Malgaten which they crossed in the vicinity of the present bridge carrying the National Road. They map the Goura or Gouras as an east bank tributary of the Klippendriften, but it was encountered some 4 or 5 miles after crossing the latter. Hence it seems probable that their Goura, where they camped on the 11th, was the present Norga. The unnamed stream that their map shows they crossed early in their journey of the 12th was therefore probably the Malagas, and the two others the Schaapkops and Molen rivers respectively. No indication of any stream corresponding to the Zwart occurs in either their narrative or map. Their journey of a few degrees north of east this day must have lain between the present positions of George and Pacaltsdorp, and the given distance of about 9 miles brought

1. V.C. 96 p.18.

2. Rogers & Schwarz 1901, p.8.

then to their Keerom River, which is the Kaaimans.⁽¹⁾ Since its deep valley barred passage to waggons it had received the name Keerom or Turnabout.

From 13th October onwards no distances or directions of travel are given in their journal or shown on their map. On this day they left their waggons and crossed the Keerom or Kaaimans River near Pampoer Kraal where Francois le Vaillant was to camp 30 years later,⁽²⁾ and set off eastwards with packhorses. Their journal records their crossing of the Koesakanka and Gouringa rivers, probably the Silver and Touw respectively, though their map shows both, and not merely the former, as tributary to the Keerom (Kaaimans).

Near the Two Vleis they camped on 13th October; and the remainder of this day, as well as the 14th and presumably the 15th also, were spent in investigating their surroundings. The facts in their journal that point to the identity of the Two Vleis visited by them are these. Both were brack but had no apparent connection with the sea. The western was elongated and the eastern round in shape. They were fed by three particularly strong rivers from the mountains. There need be little hesitation in identifying the Two Vleis as the two Lange Vleis and Rondevlei because these are the first vleis encountered by a traveller from the west, are similar to the described shapes, and contain brack water. The two former were evidently then united by flooding just as they may be to-day after heavy rain. The eastern is now known locally as the Bovlei or Bo Lang Vlei to distinguish it from the western. These two and Rondevlei are fed principally by the Touw River and secondarily by the Duive. The third strong river mentioned by Beutler may have been some spruit such as the Klein Kour temporarily swollen.

It is disappointing, however, that the actual distances between and around these vleis do not tally with Beutler's estimates. He put the distance between the vleis at 1½ hours' ride, or not less than about 10 miles, and the distance around each of them singly at 5 hours' ride, or not less than about 30 miles each in circumference! Actually less than a mile separates Bo Langvlei and Rondevlei, whilst the distance around the two Lange Vleis is under 12 miles and around Rondevlei under 4 miles. In spite of these large discrepancies, the identifications of the Two Vleis made here are more likely to be correct than any alternatives that may be suggested. Why the journal should have

1. Lichtenstein 1928 p.233.

2. Le Vaillant 1790, I, 183.

exaggerated these distances so greatly we can only guess. However, it seems fairly certain that at least part of the explanation is that the party had lost keenness and the desire to be as accurate as possible. They cannot have felt anything but irritation and perhaps even resentment at having been made to turn in their tracks to report upon the Two Vleis. No doubt they were heartily sick of travel and only wanted to be back home again after a long and arduous absence. On 16th October they set off westwards once more.

The omission from their map of the Two Vleis is hard to explain. Perhaps they did not wish to commit themselves on paper any further than their somewhat inexplicit remarks in their journal. The landdrost's letter had told them that the Two Vleis lay about 135 miles east of Mossel Bay, whereas Beutler must have known that from there he had not in fact travelled eastwards even half that distance. He and Wentzel may have decided to omit from the map anything that could then have enabled this awkward fact to emerge.

It is perhaps open to doubt whether in fact Beutler visited the particular Two Vleis referred to in the letter he had received from the landdrost. This may never be satisfactorily settled, though in support of the supposition that he did so is the fact that his guide, Jacobus Botha, was a local man who was in the position to report the matter to the landdrost had Beutler's waning enthusiasm caused him to stop short of the locality to which he was being conducted. Against the supposition that he went as far as he should have done is the fact that if indeed the French had been ashore again, they would scarcely have sent their last boat to land on the exposed beach at Lange and Ronde vleis after they had lost a boat under similar conditions at Algoa Bay. Thus the question arises whether the colonists had observed the French ashore either at Knysna Harbour or at Plettenberg Bay. Examination of the logs of Le Necessaire and of her consorts may provide an answer to this question. ⁽¹⁾

1. Archives de France, Paris, Naval Collection No.6, JJ.78.

Conclusion.

It was no doubt with feelings of relief that Beutler concluded his brief reconnaissance in Outeniqualand and hastened westwards to overtake the main waggon column. At its head he returned to the castle at Cape Town on 6th November 1752 after an absence of over eight months. According to Thunberg, ⁽¹⁾ the expedition was then considered to have been unsuccessful in consequence of which Beutler was shortly afterwards sent away out of South Africa. He certainly is not known to have participated in any further travel here, and he seems to have returned to Europe in 1755. ⁽²⁾ To what extent his personal qualities and actions were responsible for what was accomplished may never be known; but his position as the leader of this notable expedition secures for him a permanent place in our historical geography.

If it be true that Beutler was personally discredited by events on the expedition, nevertheless it cannot be written off as a failure. Though certainly not one of its initial aims, it may well have been instrumental in dissuading the French from an attempt to colonise the S.E. coast. In the geographical field he replaced the vague reports of the eastern Cape carried by unlettered and secret hunters and traffickers, by definite facts embodied in Assistant Haupt's carefully maintained journal. In it are to be found not only a detailed statement of the route, but reports on the coast, mountains, rivers and the climate; on the grazing and the agricultural land, the timber, wild life, the native inhabitants and their customs and characteristics. The topographic results of the expedition are summed up in Wentzel's remarkable map, a route-traverse of extraordinary length delineated with great faithfulness. It seems certain that greater accuracy in his positions in latitude and longitude would have resulted had he felt free to draw the coastline as he had found it and not as it was shown in atlas maps drawn in Europe. It is a satisfactory act of justice to vindicate after the lapse of two centuries the observation of the "improved latitude", probably made by Onderstarman Clement, at the expedition's farthest point from home.

On or near the route pioneered two hundred years ago by that long waggon train of sturdy adventurers, their successors inherit the land and people its towns - Port Elizabeth, Grahamstown,

1. Thunberg 1795 II, p.107.
 2. Cape Archives, Leibbrandt's MSS Resolutions of Council Policy, 1742 - 1760, folio 63, resolution of 27

King William's Town, East London, Butterworth and Cradock.
The development of a region must be preceded by foreknowledge
of its potentialities. Amongst the many who laboured to this
end, Beutler and his men played a notable initiatory part.

CARL PETER THUNBERG.

1772 - 1775.

In April 1772, twenty years after Boutler's expedition into the eastern Cape, there arrived in Table Bay from Europe two Swedes, Carl Peter Thunberg and Anders Sparrman. Though acquainted in their native land, these two young investigators travelled independently in different ships, and it was apparently nothing but chance that brought them to these shores within a few days of each other.

Thunberg's travels in South Africa were considerably more extensive than Sparrman's and were completed before the latter's main journey began. Thus Thunberg was the first visitor with a scientific training to travel far into the interior and to publish a record of some length of his observations on those journeys. These volumes, however, only began to appear in 1788 and were completed by the publication of his Vol. IV in 1793, whilst Sparrman's work on his Cape travels was issued in 1783.

The order of publication of these works is thus the reverse of the chronology of the South African travels of their authors; for Thunberg had completed his and had already sailed for Java and Japan when three weeks later Sparrman returned to Table Bay in the Resolution, soon to begin his overland journey to the Great Fish River. Since their travels at the Cape followed so closely upon each other, their respective accounts will often be compared and contrasted here, just as they must have been when newly published. The past and present geographical significance of the South African sections of Thunberg's four volumes Travels in Europe, Africa & Asia is the theme of this chapter.

The Father of Cape Botany is the epithet accorded to Thunberg in a biographical sketch which pays the further tribute of asserting that "as long as in our paradise of flowers there wanders a single botanist, so long will the name of Thunberg be held in honoured remembrance."⁽¹⁾ This appreciation by a South African botanist, as well as similar evaluations by others,⁽²⁾

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1. (MacOwan, p. xxxvi.
(Verduyn den Boer, pp. 17 - 24.
 2. (Karsten 1939 & 1946. See also 1946 p. 183 footnote.
(Uggle, 1945.

leaves no doubt as to his importance as a botanist.

Investigation of his account of his travels also reveals the permanent interest of the geographical picture he described in spite of its manifest defects. It is unfortunately true that his writings are "not attractive owing to the abrupt manner in which he had thrown together information of various kinds."⁽¹⁾ He was well aware of this, however, and explained in his preface why this was so. In the interval of some ten years between the termination of his travels and the publication of his narrative in Swedish, he had been preoccupied with botanical teaching and writing. When he eventually yielded to the persuasion of his friends to publish an account of his travels, he had neither the time nor the inclination to work up his notes fully.⁽²⁾ Thus it came about, as he explained, that "I have likewise presented, in an artless unpremeditated order, the memorandums I had put down in my journal."⁽³⁾

These considerable portions of his volumes which consist in the main of his unaltered travel journals do not contain references to Sparmann's account of his travels at the Cape, since these were published five years after Thunberg's diaries closed. As will be stressed later, this is regrettable, since tactfully phrased corrections and supplements to Sparmann's views would have been valuable. Tactless and rude censure upon statements in the works of predecessors was common in writings of this period, but such lapses in behaviour are absent from Thunberg's books.

Thunberg had already obtained the degree of Doctor of Physic at the University of Uppsala before he went abroad. Visiting Amsterdam in 1771 on a travelling scholarship he met the Professor Burmann who suggested that in the furtherance of botanical science he should visit Japan whence no plants had then reached Europe. Only the Dutch were then permitted to visit Japan. Hence it was arranged for Thunberg to enter the service of the Dutch East India Company and to stay at the Cape whilst he mastered the Dutch language, at the same time collecting plants. He was 28 when he sailed as surgeon-extraordinary on the Dutch ship Schoonziigt, and reached the Cape on 16th April 1772, where he remained for nearly three years. Upon his return from Japan in April 1778 he stayed

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1. Theal, 1910 III, 392.
 2. Thunberg, I, vi.
 3. *ibid.* I, viii.

less than three weeks at the Cape, so that this chapter is concerned entirely with his long first visit.

His travels here were considerably more extensive than those of Sparrman. His first journey of 4 months, 7th September 1772 to 2nd January 1773, was made with the following companions: one of the Company's gardeners, Johann Andreas Auge;⁽¹⁾ Sergeant Christiaan Hector Leonhardi;⁽²⁾ and young Mr. Immelman, presumably the Daniel Ferdinand Immelman who was later to travel with Sparrman. They went to Saldanha Bay, Piquetberg, Tulbagh and down the Breede River to Swellendam. Thence they passed Mossel Bay and Knyana on their way to Plettenberg Bay, where they struck north through the mountains to the Lange Kloof, and proceeded east as far as the Gamtoos River. Thence they returned, keeping north of the Outeniqua Mountains and of the Langeberg to cross the latter at Plattekloof, near Heidelberg: thence via Caledon to the Cape.

On his second journey of 4½ months, 11th September 1773 to 26th January 1774, he was accompanied by Francis Masson, a gardener sent by the King of England to collect plants for Kew. Masson had already made one trip into the interior accompanied by F.F. Oldenburg, also a plant collector,⁽³⁾ but it is not known whether the latter accompanied Thunberg and Masson on the first long journey that they made together. They went first to Saldanha Bay, then to the Cold and Warm Bokkevels and thence down the Breede River's banks and eastwards to Mossel Bay. From there they went north through the Attaquas Pass, passed eastwards through the Lange Kloof, and so to the Swartkops salt pans and beyond to the Sundays River. They returned thence by much the same route Thunberg had taken when homeward bound on his first journey.

His third journey was of 3 months, 29th September to 29th December 1774, when he was again accompanied by Masson. A modern writer states that Oldenburg was with them on this trip.⁽⁴⁾ They travelled east of the Piquetberg, and passing the present position of Van Rynsdorp, reached the Hartas Berg, whence they returned by the Roggeveld, the Tanqua Karroo and the Hex River Pass. Thunberg sailed for Java on 2nd March 1775, three weeks before Sparrman returned to the Cape.

The routes of Thunberg's three inland journeys have already been traced elsewhere.⁽⁵⁾ There, however, part of his third

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1. Karsten 1951 p.129 etc.
 2. Moodie 1838 III, 14.
 3. Karsten, 1939 V, 21,136.
 4. Moritz 1938 p.282.
 5. Karsten 1939 V, pp.116,137,146.

journey seems to have been misinterpreted, so that the present writer, with more documentary evidence at his disposal than was available to Miss Karsten, has attempted below to ascertain the route that was probably taken there. ⁽¹⁾

This chapter will investigate the nature of the geographical information Thunberg presented, and to assess its value to his contemporaries as well as to the historical geographer of to-day. From his "collection of incomplete and unconnected paragraphs, whose juxtaposition is sometimes whimsical enough", ⁽²⁾ his accounts of the physical geography of the Cape will be assembled for scrutiny. Though the historian may declare that "his work contains little or nothing of any permanent value that is not to be found in Sparrman's or Le Vaillant's" books, ⁽³⁾ the geographer will discern much of lasting interest in his pages.

Geology.

He was the first traveller to publish any considerable number of references to the geology of South Africa. Mentions of this topic exceed three dozen and vary greatly in degree of detail. Most of them are but a few words describing the rocks he saw as he rode by, or curious stones he picked up, and cannot receive individual discussion. A few, however, merit investigation, particularly those which throw light on the development of geological ideas at that time.

In his account of his travels in France he outlined his theory of the formation of the chalk cliffs he saw at and near the mouth of the Seine. ⁽⁴⁾ He thought the alternate light and dark coloured layers had been formed by the deposition of sediment by the ebb tides because he observed this process in operation in the riverbed. Thus he inferred that the summits of the chalk cliffs must have been beneath the sea at some earlier time. He declared that "all this clearly shows the formation of mountains, as well as the decrease of the water." This suggests his acquaintance with the geological views of Buffon, published 1778, ⁽⁵⁾ who calculated the time necessary

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1. See below pp. 115 - 119.
 2. Barrow 1804 p.16.
 3. Theal, 1910 III, 392.
 4. Thunberg I, 62.
 5. (Von Zittel p.42.
(Geikie, p.90.
(Mather & Mason, p.66.

to form "a hill of clay 6,000 ft. high", assuming that two tides daily each deposited sediment of a sixth of a ligne. (A ligne is roughly one-tenth of an inch).

If Thunberg in this case based his ideas on current theory, he seems to have displayed complete originality in his suggestions as to the origin of the mountains at the Cape.⁽¹⁾ The starting-point of his theory was his observation of "the ridge of sand-hills below the Lion's Tail ----- which seems plainly to indicate the manner in which mountains were formerly produced, and their different strata formed." (This was near the present position of the New Somerset Hospital.)⁽²⁾ He noticed that these dunes were aligned parallel to the mountains near the Cape, and also to the direction of the N.W. and S.E. winds.

He believed that sand derived from the sea and driven by the wind, piled up in summer to form the dunes and was indurated by the winter rains. "Just as the sand is driven the strata are formed, and they lie here, as in the mountains, inclining obliquely towards the horizon ----- This ridge of sand is level and of a middling height; towards the south it goes off gradually with a long slope; to the northward it is steep, where the sand is carried far over the spot below, which is sheltered by the ridge from the wind. The wind can in the space of one day lay sand an inch deep upon its surface, which commonly does not fall equally, but here and there in spots. Stones and other things that lie in the way are bare on the southern side, but on the northern are covered with a ridge of sand running out in a point, just as the snow is disposed in the northern regions when it falls with a high wind. In the same manner the strata of mountains appear to have been formed by the winds and waves, and to have derived their origin from the same cause, viz, from the two predominant winds."

In this quotation his reference to the obliquity of the strata of the mountains needs explanation. The key to this remark seems to lie at the end of this excerpt as well as in subsequent passages that will be dealt with more fully later. There he states his belief that all the Cape ranges were huge indurated dunes. Under this hypothesis he expected those ranges to decline in height southwards with their strata sloping also in that direction as in his type dune. He

1. Thunberg I, 241.

2. Mentzel 1921 p.100.

observed a general decline in height from north to south in the mountains of the Peninsula, whilst he could see to the east across the Cape Flats the Hottentot Holland Mountains, also gradually diminishing in height southwards. He probably assumed that in both cases the strata also declined gently in that direction, though in a later passage he admitted that the mountains east of False Bay departed from the ideal of his hypothesis, presumably because of their abrupt rise almost from sea-level to the high summit of Hangklip at their southern termination.⁽¹⁾

If his first sentence can only be construed thus at some length, the meaning of the rest of the passage is clear enough, and is a good account of some of the factors in the formation of dunes. It is unfortunate, however, that these observations led him to suggest, as stated above, that considerable hills and even mountains might have originated in this manner. For example, he took for huge dunes the Blaauwberg Hills some 20 miles N. by E. of Cape Town,⁽²⁾ which exceed 750 ft. in height and actually are composed of rocks of the Malnesbury Series.

The theory is further developed in his statement that "all the ridges and chains of mountains, as well the greatest as the smallest, run between south-east and north-west, and thus take the same direction as the violent winds that prevail in this country."⁽³⁾ It is inconceivable how he could have made this incorrect observation, as he did, after his return from his first journey: but for the present that is beside the point. He used this faulty generalisation, however, to develop his theory that corresponding to the long gentle slope on the south side of his type dune, the ranges "towards the south-east, all of them except Hottentot Holland's mountain, terminate in a gentle declivity before they reach the sea shore".⁽⁴⁾ Amongst other examples cited of this are two observations concerning the Karreedouw Mountains,⁽⁵⁾ near Humansdorp, the orientation and appearance of whose seaward terminations he may have felt accorded well with his theory. Of the Riebeeck Kasteel he wrote that it was "observed to extend with a long tail much lower than the mountain itself, towards the south east."⁽⁶⁾

Before he had journeyed north to what is now the Van Rhynsdorp district he wrote thus. "Towards the north-west

1. Thunberg I, 258.

2. Thunberg II, 2.

3. Thunberg I, 257.

4. *ibid.* I, 258.

5. *ibid.* I, 202 & II, 61.

6. *ibid.* II, 104.

I have not had an opportunity of seeing their termination; they probably run that way as far as the sea, without leaving any path for walking on the shore."⁽¹⁾ In other words he expected the ranges, like his type dune, to terminate at the N.W. coast in high steep declivities. This hypothesis he apparently attempted to support with the following observation made later near the present position of Klaver. "The Bokkeveld mountain also ended near the sea-shore on the other side north of Olyfant's river; they are of considerable height and do not go off with a gradual slope."⁽²⁾ If this is not a misrepresentation of facts to fit his theory, it is an entirely erroneous observation which should not have been made without verification.

His account of the stratigraphy of Table Mountain, Devil's Peak and Lion's Head⁽³⁾ is not entirely consistent with the foregoing theory; but consistency was then not always a conspicuous characteristic of the nascent science of geology. Only their upper strata did he suggest were sandstone, yet even of this he was not certain, as we shall see below. These mountains he says "have their strata or layers in common with those of Europe. Their uppermost strata are quite horizontal, but the lower ones lie in an oblique position. At top the rock appears to be a kind of sandstone, or lava; the middle stratum trapp, and the lowermost slate," references respectively to the Table Mountain Series, pre-Cape granite and Malmesbury Series.

His uncertainty as to the nature of the first of these probably arose from the quartzitic character which the sandstone often presents. The indication is that by "trapp" he meant the granite and not the Lower Shale Band of the T.M.S., since when he encountered the latter on Lion's Head, he referred to it as "a loose red sand which crumbles away."⁽⁴⁾ Furthermore, he described as a kind of "trapp" the weathered boulders at the foot of the mountain,⁽⁵⁾ and these of course are never from the Lower Shale Band. It is true that "trapp" is defined as "an old Swedish name for igneous rocks neither coarsely crystalline like granite----- nor obviously volcanic."⁽⁶⁾ But it was a word then very loosely employed,⁽⁷⁾ so that it is not extraordinary that Thunberg uncritically applied this then very comprehensive and inexact term to the granite.

1. Thunberg I, 257.
2. *ibid* II, 150.
3. *ibid* I, 223.
4. *ibid* I, 235.

5. Thunberg I, 224.
6. Holmes, p.229.
7. Von Zittel p.122.

He remarks of these boulders of "trapp" that "these stones, as well the large as the small, have frequently pieces of quartz both in the inside of them and on their surface, which evidently shows that these latter have not been formed there, but were enclosed in them, as they are not concreted with the stony matrix, which is tolerably hard, but have a smooth and polished surface." This seems to indicate a confusion of felspar phenocrysts in the granite with the quartz pebbles common in the sandstone which he mentioned on several occasions, as though they were of similar composition and origin.

Of the Malmesbury Series he wrote that "the rock in the lowest strata of which the mountains are formed, is of a loose texture, of a dark colour, and may be scratched with a knife. It is sometimes of a lighter, or an ash colour. --- These lowermost beds of slate ----- sometimes constitute half the height of the mountain. And these beds run from south to north, not absolutely in a horizontal direction, but sunk to the westward and rising to the eastward, with mouldered and sharp-edged laminae, which are continued quite below the surface of the water, as is plainly seen by the rocks in the sea."

These beds do indeed constitute nearly half the height of the Devil's Peak, whilst it is the granite that underlies Table Mountain and Lion's Head. But his account of their attitude requires investigation, since far from being nearly horizontal they are more often nearly vertical. The beds he described as running north and south must have been the "sharp-edged laminae" "standing erect on their edge like a cock's comb crystal". He apparently thought that these laminae lay at right-angles to almost horizontal strata, whereas actually they are parallel to the almost vertical strata in which they lie. Perhaps it was his observation of these laminae that caused his earlier and contradictory statement that the lower strata "lie in an oblique position". If so, he had reached a correct conclusion through the misinterpretation of the evidence.

His belief in their approximate horizontality may have been due to a preconceived assumption that the three formations described underlay these mountains in conformable succession. He climbed Table Mountain on no less than fifteen occasions, ⁽¹⁾ and it is therefore likely that some of these ascents or descents had been made through Platteklip Gorge, then the most usual route.

1. Thunberg I, 222.

Hence it is not altogether improbable that in the Platteklip valley he had noticed the exposure of rocks of the Malmesbury Series.⁽¹⁾ Seen thus on the lower slopes of the mountain he may have assumed that they underlay the granite conformably. His belief in the slight westward dip of the "clayslates" may have been derived from some estimate of the elevation of the contact of these rocks with the granite, observed at two or more points.⁽²⁾ Whatever the true explanation of this difficult passage may be, it is clear that the hypothesis of a conformable succession was then the obvious one to adopt, since the true relations between these formations was then beyond the competence of science to explain.

It is remarkable to find that a century later there was still at least one supporter of this theory of a conformable succession, even after A.G. Bain and others had expounded their correct relationships. Writing in 1870, H.W. Piers supported the view of conformity in an article in which these words appear with reference to the Malmesbury Series at Cape Town. "The slate, wherever exposed to the action of the air or water is seen to be in parallel vertical ridges; but a careful examination of the various quarries, the excavations at the dock, and even the water-worn surfaces along the shore, distinctly show original horizontal stratification, so that the apparent vertical stratification and lamination must be ascribed to that well-known tendency of clayslate to assume a crystalline form, termed cleavage, which is one of its essential characteristics."⁽³⁾ This view is so similar to that of Thunberg that the suggestion cannot be entirely dismissed that he was in fact the source that inspired Piers' observations.

In the Cold Bokkeveld Thunberg mentioned that "pebble-stones were found inlaid in large clusters" in the rocks of the mountains.⁽⁴⁾ This is probably a reference to Table Mountain Sandstone, as is also the following observation made in the vicinity of Klaver, Van Rhynsdorp District. Here he found a "red sand stone interspersed with pebbles, that appeared to have been inclosed in the sand-stone before it had hardened into a rock, in like manner as their surface seemed to have been polished, before their inclosure, to the degree of smoothness they now exhibited, by the violent motion of the waves."⁽⁵⁾

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1. Haughton 1933, p.17.
 2. Rogers 1937 p.7.
 3. Piers.
 4. Thunberg II, 25.
 5. *ibid.* II, 149.

Since it is unlikely that he was attempting to describe the lithology of a formation, but had merely noted the appearance of a single exposure that attracted his attention, his reference to the red hue of the rock in a region where grey sandstones predominate, is not a statement that presents great difficulty.

In this general area, red sandstones of the T.M.S. are not unknown,⁽¹⁾ and one of these, precisely because it was rather unusual, may have occasioned his remark. Alternatively, he may have been describing a weathered surface stained with ferruginous matter; for we have no certainty that he wrote this observation for geologists, or indeed even knew that they are usually more interested in fresh than in old discoloured surfaces. The wave action to which he attributed the rounding of the pebbles was a conception probably derived from the views of such writers as De Maillet, Buffon and others who were termed Neptunists.⁽²⁾ They believed in a progressive diminution of the ocean through geological time, sometimes accompanied by phases of violent recession and swift currents, which carried down from surfaces exposed to their force, primitive materials which they comminuted and deposited on the sea floor to form stratified rocks. Hence he probably gave these descriptions to demonstrate that theories evolved from European phenomena were not incompatible with the composition of mountains in the southern hemisphere.

His purpose was certainly not an attempt to discriminate between different formations of "sandstone", since this was a task for which he had neither the training, the time nor the inclination. Hence if he happens to have mentioned "sandstones" which we tentatively identify as members of different Series, this was purely coincidental and did not arise from his recognition of any significant differences in their character or in their position in the geological succession. The examples which will be cited here do not cover all his references to sandstone and shales, but are sufficient to show how short and vague are even the most explicit of these observations.

In a brief preliminary account of the Cold Bokkeveld he wrote the following. "Here were likewise to be seen large hills consisting of sand-stone, which at the bottom was white as chalk and friable, and at the top yellow, with a mixture of red and yellow tints."⁽³⁾ This answers best to the Witteberg Series

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1. Rogers 1903 p.155.
 2. (Von Zittel pp.35, 43.
(Geikie, pp. 84, 93.
(Mather & Mason p.47.
 3. Thunberg II, 26.

which he would see in the Tafelberg and Tierberg as well as east of the Houtenbergs River.⁽¹⁾ The evidence that he travelled south up the valley of this river to the Gyde Pass, is his clearly recognizable description of the Tafelberg. He called it a very high mountain,⁽²⁾ so that it evidently was not one of the "large hills" mentioned. The quoted geological observation therefore more probably referred to the elevations east of the Houtenbergs River.

In the Bokkeveld Mountains, due west of Calvinia, there is a capping of T.M.S. above rocks of the Ibiquas Series which also underlie the plains west of the range.⁽³⁾ He describes the lithology of this range thus: "It consists of different strata; the uppermost of which is sand-stone, in many places interlarded with round pebbles. The sand-stone is for the most part laminate like slate and moulders away into places by rain."⁽⁴⁾ The first part of this sentence is probably a reference to the T.M.S. whilst the latter part is possibly a reference to argillaceous components of the Ibiquas Series.

One of his longest geological dissertations is of sufficient interest to quote in full for comparison with modern descriptions which it preceded by at least a century and a quarter.⁽⁵⁾ It is of the promontory known now as the Robberg at Plettenberg Bay. "The Robbeberg is a singular mountain and different from any other that I have seen in Africa. Its middlemost stratum is a very firm concretion of round and irregularly-shaped pebbles, and indurated lime, about four fathoms broad. It perfectly resembles a piece of masonry. The uppermost stratum appeared to me to be a brownish rock. The lowermost is sand-stone. On another side of the mountain there is a heap of indurated sand which the water has scooped holes into. In some places the sand has concreted with clay in a tubular form, and large masses of it had fallen down. The flat foot of the mountain towards the sea had various holes in it of different sizes, some of them as round as if they had been turned, and other oblong. On one side the lowest stratum was a whitish-grey quartz that was greasy to the touch. The mountain had, moreover, long clefts and crevices in which hung a number of thick stalactites covered with a fine down-like substance, which was sometimes quite green. The sand-stone

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1. Rogers & Schwarz 1900 pp.69 - 73.
 2. Thunberg II, 27.
 3. Rogers & Schwarz 1900 pp.25 - 29.
 4. Thunberg II, 155.
 5. (Schwarz 1899 p.60.
(Roussouw p.71.

was of a very fine grain."⁽¹⁾

The uppermost stratum of brownish rock which he seems to have viewed only from a distance consists of Enon quartzites and sandstones. His middlemost stratum is a bank of Enon conglomerate, but the pebbles are set in a siliceous matrix and not in limestone as he thought. His account of the lowermost stratum, at one point described by him as fine-grained sandstone, and elsewhere a greasy quartz, does not enable us to determine whether the former was T.M.S. or Enon; but the quartzite was probably that on the south of the promontory, described by Roussouw as hard and glassy and of Enon age. In this same locality dunerock occurs, which Thunberg described as waterworn indurated sand. The tubes of concreted sand he mentioned were probably those which originate around plant roots due to deposition there, not of clay as he thought, but of lime dissolved from shell fragments by percolating rainwater. The roots subsequently decay and disappear, and the tubes thus formed are sometimes later exposed by wind removing the surrounding sand.

He gave no indication of the size of the round and oblong holes he described, and provided no aid to the identification of the exact locality where he saw them. They may have been potholes worn by wave action. The long clefts and crevices he saw are probably the elevated wave-cut caverns on the south face of the promontory some 60 ft. above present sea level. In these caves stalactites occur, rough in external appearance, and their internal character cellular with traces of concentric structure. The lime of which they are formed may be brought by percolating rainwater which has dissolved this constituent from shell fragments in the blown sea sand upon the Robberg. The fine down-like substance, sometimes quite green, which he saw covering them was probably that which was identified in 1946 by Dr. M.A. Pocock of Rhodes University College, as a velvety growth of unicellular green and blue-green algae. Even at this elevation, salt received from spray causes the water which saturates the algae to be distinctly brackish.

His initial comment upon the singularity of the Robberg may have derived from several of the phenomena there witnessed. But he first referred to its middlemost stratum which perfectly resembled masonry, and it is not unlikely that it was this that most aroused his wonder. The conglomerate certainly does appear not unlike a wall built of pebbles and mortar, a type of masonry which is occasionally seen in Europe. Though he

1. Thunberg I, 191.

must have traversed on the route he had followed from the Cape, several areas where the Euron conglomerate occurs, it is probable that he noticed it here for the first time where it is so strikingly displayed in clean vertical sections.

Steeply inclined strata had been described in Europe by John Michell, Peter Pallas and other writers, though there was then no agreement as to how they had been formed.⁽¹⁾ The appearance of this phenomenon in South Africa would therefore cause Thunberg no surprise, and he here reported examples which must have interested the geologists of Europe and supported their theories of the worldwide uniformity of natural processes. In the vicinity of Karrooport, Ceres District, he recorded that "the strata in the mountains as they were seen in the vallies, inclined very much here, and were even singularly crooked."⁽²⁾

He made similar observations at Rodezand (Fulbagh Valley) where he saw "strata that stood up on their edge almost perpendicular, and only a little inclining to the south-east."⁽³⁾ By this he probably meant that the almost perpendicular beds leaned over slightly from the vertical towards the S.E., or as we should now say, dipped steeply to the N.W. Standard methods of describing dip and strike had not then been evolved, so that each author used his own terms to indicate them. Passing through this valley on another occasion he wrote that "the strata of the mountains were sometimes wreathed, and sometimes very much inclined."⁽⁴⁾ In one of the chains in the eastern parts of the Cold Bokkeveld he observed that "the strata lie obliquely, as if one side of the mountain had sunk down; the broader strata also were lower to the north-west than to the south-east end."⁽⁵⁾

Writing at Rodezand, he remarked that it appeared strange to him that he had not either there, or in any other mountains, met with "any lime stone, or calcareous hill, nor with any marble nor flint."⁽⁶⁾ His surprise at the absence of these calcareous rocks (for he thought flint was coagulated chalk)⁽⁷⁾ can probably be understood in the light of the ideas of Pallas whose volumes appeared in 1771 - 76.⁽⁸⁾ His work on the Urals had led him (Pallas) to think that throughout Russia, and perhaps as a universal phenomenon, the Primitive mountains

1. (Von Zittel p.50. (Mather & Mason p.85.	5. Thunberg II, 26.
2. Thunberg II, 181.	6. <i>ibid.</i> II, 33.
3. <i>ibid.</i> II, 33.	7. <i>ibid.</i> I, 62.
4. <i>ibid.</i> II, 183.	8. Geikie p.178.

which contained amongst other rocks, sandstones "in beds that are either nearly perpendicular or at least very steeply inclined,"⁽¹⁾ were either covered or flanked by steeply dipping limestone strata, his Secondary mountains. Thunberg's description of contorted sandstones unaccompanied by covering or flanking limestones did not disprove the theories of Pallas, but demonstrated that they were not invariably applicable.

He comments on the processes and results of denudation he observed in ranges of the Cold Bokkeveld which "seem to be greatly worn and consumed by the operation of the air upon them, and will probably in time undergo considerable alterations in their external appearance. The air destroys the cohesion of some parts and causes them to crumble away into small particles which are afterwards carried off by the rain." The effect of "cavities formed by the stagnation of the rain water on their surface" is that the rocks crack with moisture, and "getting loose, fall out and roll down in large pieces."⁽²⁾ He also describes similar effects on the summit of Table Mountain.⁽³⁾

Having noted these chemical and mechanical agents of denudation, he perceives that differential weathering must occur, since "these mountains differ greatly in the hardness of their rocky parts, and consequently they must differ in their dissolution." "Hence the mountains look as though they were torn asunder and themselves proclaim their own vast antiquity and decay." This is surely a clear recognition of the cumulative effects of small forces operating over immense periods of time to produce those results which less perspicacious observers often attributed to "mighty convulsions of nature."

Proceeding with his account of the distribution of the products of decay, he writes that "in the valleys and near the rivulets was found the finest sand, which must doubtless have been brought down from the mountains and their adjacent hills by the rain water." He does not, however, carry through these ideas to the conclusions reached by Buffon and others before him, that ultimately all mountains will be reduced to below sea-level.⁽⁴⁾

His geological observations were expressly designed to assist that science, for he says in his preface that he had "taken particular care to point out the appearance of the mountains, their extent, height, strata &c, the knowledge of

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1. Mather & Mason p.123.
 2. Thunberg II, 25.
 3. *ibid.* I, 223.
 4. Geikie pp.74, 95.

which is frequently of ----- great utility to the natural philosopher."⁽¹⁾ Men of his learning who travelled far were then comparatively rare, and he no doubt conceived it his duty to report as fully as possible the phenomena of the natural sciences which he had observed in remote lands. The natural philosophies were less clearly separated than they are now in this age of specialization. Hence he would have no qualms at venturing his opinion on geological matters, though these were not the chief field of his enquiry. These considerations must always be borne in mind. He cannot be judged by present-day standards. Much of our criticism falls away if we recollect the limitations of the age in which he lived, and that botany was in the forefront of his interests.

Relief & Topography.

His fairly frequent references to relief are honest and unexaggerated descriptive attempts, but are conspicuously deficient in several respects. They were probably written on the spot, on or shortly after the dates under which many of them appear, whilst the impressions were still vivid. They comprise some two dozen brief and usually entirely unrelated accounts of relief which can have conveyed but little to contemporary readers. They were only provided, as it were, with a number of unorientated scraps of undefined size of a topographical jigsaw puzzle, for the solution of which no key of the complete picture could be provided. This key is available to us in the modern map which enables us to recognize the features of the separate localities delineated, to shape them in accordance with reality, to orientate them and fit them into the known pattern. Unless this be fully realized at the outset, we shall incline towards an exaggerated estimate of the importance of the topographical value of his descriptions.

If his contemporaries had attempted to draw up a unified picture from his scattered scenic sketches, they must have failed because clear co-ordination between these descriptions is non-existent, the links of distance and direction being almost entirely lacking. Distances in the colony were then reckoned by hours of travel. The pace of an ox-waggon, according to Thunberg,

1. Thunberg II, vii.

"answers pretty exactly to a sea-league per hour",⁽¹⁾ though this was probably an exaggerated estimate.⁽²⁾ It is only occasionally that he tells us or gives us the data for calculating, how many days or hours were occupied in travel between points.⁽³⁾ Estimates of distance in linear measure in other connections are equally rare.⁽⁴⁾

His topographical descriptions frequently contain no mention of the compass points, whilst the directions of daily travel are never once mentioned. In fact even the general directions of his three journeys are not clearly stated in appropriate contexts, though they can be deduced from remarks appearing elsewhere.⁽⁵⁾ He does indeed once indicate that he travelled north to Saldanha Bay.⁽⁶⁾ But this as it stood can only have confused his readers, since he went there first on both his journeys to the east, and did not explain the subsequent change in direction involved in this route: whilst on his journey to the north he did not go there at all.

Numerous names of mountains, rivers, localities, farms and farmers are given which enable the outlines of his route to be traced on modern maps, but without a map they were practically worthless. When Thunberg's original volumes appeared in Swedish in 1786, Sparman's map⁽⁷⁾ was then the only one published which contained many of these names, and perhaps Thunberg hoped his readers would refer to it, though he himself made no mention of it. Even this would not have assisted the understanding of his journey to the Hantam (Calvinia) and Roggeveld, which localities are entirely absent from that map. Readers of the German translation (1792) of Thunberg and of the English editions (1st edn. 1795) could have consulted in addition Peterson's map (1789).⁽⁸⁾ Though in the main it was copied line for line from Sparman's, there are added a few vague indications of features and localities, particularly in the Roggeveld and north-westwards to the Orange River.

Sparman, in marked contrast with Thunberg, rarely mentioned the topography in his writings, possibly because of an entirely mistaken assumption that it was adequately treated in his map. Here is a field where these authors might have collaborated most fruitfully. Whatever else may have prevented this, it can scarcely have been distance, since a mere fifty miles, of trifling account to such hardened travellers as these,

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| 1. Thunberg I, 144. | 5. Thunberg I, 304-8 & II, v, 1, 133. |
| 2. See below p. 137. | 6. <i>ibid.</i> I, 306. |
| 3. Thunberg I, 143, 145. | 7. Mentzel 1944 has Sparman's map reproduced as end plate. |
| 4. <i>ibid.</i> I, 258 &
II, 44, 125, 153. | 8. See below p. 234. |

separated the respective residences of Thunberg at Uppsala and Sparman at Stockholm.⁽¹⁾ However, there is only one indication by Sparman that after his return to Sweden and before his book on his S. African travels was published he had communicated with or met Thunberg,⁽²⁾ whilst this is not so much as hinted at by the latter.

Sparman's cartography could have been considerably improved by consultation with Thunberg and by reference to the latter's numerous topographic accounts; whilst the map, in spite of its defects, might have aroused in Thunberg a sense of the inadequacy of his own descriptions of his routes and of the topography. If eighteenth century readers had attempted to reconcile the topography in Sparman's map with Thunberg's descriptions, they would often have been baffled. Neither contains a sufficient number of clear and corresponding details to enable their juxtaposition to produce an intelligible picture in the great majority of instances. And indeed, this is only to be expected from travellers in a virtually unmaped land of vast extent in which they had wandered but briefly, intent upon tasks other than cartography. But if this reflection enables us to understand why Thunberg could not portray the entire physiography accurately, it does not absolve him from the charge that with a little more care his local descriptions might have been greatly improved.

The most salient features of the country he traversed are the ranges of the Cape Fold Belt, but it is hard to derive from his pages any clear idea of their ~~description~~^{disposition}. Though he explicitly states at least twice that all the Cape ranges are aligned N.W. to S.E.,⁽³⁾ he contradicts this assertion on several occasions by quite correct accounts of other orientations of portions of the ranges of the Fold Belt. For example, he refers to the E.N.E. trend of the mountains near the present position of Uniondale.⁽⁴⁾ The west-east trend of the southern belt is mentioned on several occasions, his three most explicit statements having been made at the Attaquas Pass N.W. of Mossel Bay,⁽⁵⁾ near Humansdorp⁽⁶⁾ and from the Slypsteenberg W.S.W. of Willowmore.⁽⁷⁾ But these descriptions were largely vitiated by the difficulty the reader must then have experienced in ascertaining where these accounts had been written, and thus in visualising the alignments and relationships of the features named.

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| 1. Karsten 1946, XII, p.189. | 5. Thunberg I, 175. |
| 2. Sparman 1786 II, 165. | 6. <i>ibid.</i> I, 202. |
| 3. Thunberg I, 257, 264. | 7. <i>ibid.</i> II, 100. |
| 4. <i>ibid.</i> II, 54. | |

From these accounts the total length of the southern chains could only have been calculated laboriously and most inaccurately from very slender data by estimating the times taken, and hence the distances travelled, on his four journeys parallel to them. The breadth of the lowland between the mountains and the sea is never mentioned, though a single reference enables us to tell that at one point it exceeded 24 miles.⁽¹⁾

It is perhaps not inappropriate to remark here that the first recorded crossing of these mountains in the region between Flettenberg Bay in the south, and in the north the Lange Kloof near Avontuur, was made by Thunberg in November 1772.⁽²⁾ He went on horseback, having previously sent his waggon around through the Attaquas Pass.⁽³⁾ He set out from near the mouth of the Pisang River at Flettenberg Bay, and his account leaves no doubt that from the point near where De Vlugt is now situated, he went due north on a bridlepath over much the same route followed to-day by the Prince Alfred's Pass. This bridle-path was used by General Janssen in April 1803 and by De Mist and Lichtenstein in December of that year.⁽⁴⁾ In each case their waggons seem to have made a detour westward from Cloetes Kraal, now Knoetzkraal⁽⁵⁾ or Klutzkraal on the farm Vitvlugt,⁽⁶⁾ parallel to and south of the Keurbooms River up what was later to be called the Little Long Kloof to Speelaanskraal in the Lange Kloof.⁽⁷⁾ The road over the Prince Alfred's Pass was built by Thomas Bain and completed in 1867.⁽⁸⁾

Part of his return route on his first journey is not easy to follow even now that good maps are available, and must have been incomprehensible to his contemporary readers. This was when he diverged from the road he had followed outward bound, which was the standard road between the Cape and the eastern coastal districts. Returning westwards he apparently left the Lange Kloof through Ezelsjacht Poort, and crossing the Doorn River came to the Groot Doorn River which he may have followed down some distance before diverging northwards. For he records visiting Gert van Nimevagen, probably Gerrit van Nimevagen who then rented Welgevonden on the Olifants River some 4 miles S.W. of the present centre of Ouitshoorn.⁽⁹⁾ Thence he went S.W. to

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| 1. Thunberg II, 44. | 5. Ouitshoorn Sheet, 1 - Million Series, U.D.F. 1943. |
| 2. <i>ibid.</i> I, 197 - 8. | 6. Fourcade 1944 p.152. |
| 3. <i>ibid.</i> I, 175. | 7. Cape of Good Hope, <u>Report of Chief Inspector of Roads Ac.G.14/66, p.13</u> & end-map. |
| 4. (Nolsbergen 1932
(<i>pp.</i> 122,232.
(Lichtenstein, 1928, p.254.
(Theal, 1911, p.155. | 8. <i>ibid.</i> G21/68, p.23. |
| | 9. R.L.R. 19 p.93. |

the Slange River, an eastern tributary of the Olifants, crossed the Gouritz, and presumably also the Groot River, and so came successively to the three farms he mentions, Welgevonden, Waterval and Muiskraal. These are at the foot of the north slopes of the Langeberg in approximately longitudes $21^{\circ} 30'$, $21^{\circ} 25'$ and $21^{\circ} 13'$ respectively. He crossed the Langeberg at the Plattekloof in about longitude $21^{\circ} 3'$ and thus returned here to the route he had followed on his outward journey.

Turning now to the north-south ranges, their topography is also dealt with on several occasions, but with even less clarity than his observations on the east-west chains.⁽¹⁾ The following examples again reveal the lack of precision which typifies his topographical descriptions, even in these which are his most explicit statements on the north-south ranges. "From the Cape the horizon on the land side appears bounded by high mountains that stretch across the whole country."⁽²⁾ "The large and long range of mountains which extends from Cape Falso, near Hottentot's Holland, across the whole country."⁽³⁾ "Table Mountain, like all other mountains in this country, lies in a direction from N.W. to S.E."⁽⁴⁾ Elsewhere he says that at Drakenstein the ranges run north and south just as they do near Cape Town.⁽⁵⁾ However, not even by putting all his statements together can a clear impression be gained that his two journeys to Saldanha Bay and the first part of his trek to the Hantam were made parallel to these ranges. Moreover, as we have previously remarked, it is only from other contexts that the information can be derived that these journeys were in a northerly direction. Hence, even if his readers had managed to discover the directions of his three journeys, this knowledge would not have enabled them to decide with certainty upon the main trend of the ranges in this western region.

He gives a more than usually detailed description of the topography and relief of the Warm Bokkeveld⁽⁶⁾ in which Ceres now lies, but provides no indication of his direction of approach to it, of its approximate position or of its size. He omits mention of the names, directions and altitudes of the encircling ranges, and the situation of its outlet. Few of these omissions can be repaired by a careful study of his narrative, and then the clues are scattered and unsatisfactory.

1. Thunberg I, 152 & II, 101, 183.	4. Thunberg I, 264.
2. <i>ibid.</i> I, 135.	5. <i>ibid.</i> I, 254.
3. <i>ibid.</i> II, 144.	6. <i>ibid.</i> II, 29.

There are indeed two indications that Roodesand (Tulbagh basin) was not remote from the Warm Bokkeveld,⁽¹⁾ though there is nothing more definite than that. On his return from the Roggeveld he took 13 days from Hex River Kloof via Roodesand to Cape Town,⁽²⁾ though he does not explain that this trip of about 110 miles could have been done in half that time. Hence, the most that his 18th century readers could with difficulty have ascertained from his book, had they troubled to do so, was that one of the ways of reaching the Warm Bokkeveld was through Roodesand which lay in an entirely unspecified direction within a fortnight's journey by ox waggon from Cape Town.

Outward bound on his first journey in 1772⁽³⁾ and returning from his third journey in 1774⁽⁴⁾ he passed through the Roodesand Kloof by the waters of the Klein Berg River. This is the route through the Tulbagh Pass still followed by the road and now also by the railway. Thunberg's account shows that some time before 1772 the original pass had been superseded. Now called the Oukloof, it crossed over the mountains at a low point some 3 miles north of the present Tulbagh Pass.⁽⁵⁾

Though he does not mention the Oukloof (Oudekloof) he does state that at Jan de Toit's Kloof, now Du Toits Kloof some 30 miles to the south, there was already a track over these mountains practicable for horsemen.⁽⁶⁾ A waggon road here had apparently been mooted as early as 1699 by Simon van der Stel, who optimistically believed that the work over what was then known as Het Olifants Pad could be carried out in 3 months.⁽⁷⁾ Van Plettenberg's diarist remarked in 1778 that a waggon track was being constructed there,⁽⁸⁾ probably that which is said to have been in use in 1785.⁽⁹⁾ But if this were so, it certainly was reported as being out of use by D.G. van Reenen in 1803⁽¹⁰⁾ and by W. Burchell in 1811, though the latter states that shortly after his departure from the Cape a waggon-road was made there.⁽¹¹⁾ The modern motor road through Du Toits Kloof was completed in 1948.

One of Thunberg's paragraphs remarks somewhat inconsecutively that "Bokkeveld lies between the 30th and 31st degree South of the

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| 1. Thunberg I, 154 & II, 30. | 7. Botha 1924 p.19. |
| 2. <i>ibid.</i> II, 182 - 4. | 8. Molsbergen 1916 II, 62. |
| 3. <i>ibid.</i> I, 152. | 9. Leibbrandt, 1905 p.395. |
| 4. <i>ibid.</i> II, 183. | 10. Blommaert & Wiid p.256. |
| 5. (See below p. 181
(Mossop 1929 pp.43,53. | 11. (Burchell 1953 I, 66.
(Kotze, p.57 note 5. |
| 6. Thunberg II, 35. | |

Equator."⁽¹⁾ This seems to apply to the Bokkeveld Mountains, west of Calvinia. But if this were so, his readers then cannot have known it, as Bokkeveld was also used by him indiscriminately to describe the Cold and the Warm Bokkevelde taken together.⁽²⁾ The farthest north of these three localities lies south of 31° S. latitude, so that an exaggerated idea of its distance from Cape Town was given even if the most remote was considered; whilst the exaggeration became gross if applied to the nearest, the Warm Bokkeveld. The latitude of Cape Town he quoted from the Abbé de la Caille as $33^{\circ} 35'$ S.⁽³⁾

He did succeed, however, in conveying some idea of the successive plateau-steps encountered on proceeding inland. But it is typical of his lack of arrangement that this information must be derived from at least seven short and widely scattered paragraphs of which three are discussed below.⁽⁴⁾ "It is singular that when one goes from the town into the country, from south to north, and passes over a mountain, the country on the farther side is found to be more elevated; and if we traverse the mountains that we meet with farther on, the height of the country still increases."⁽⁵⁾ "After passing three or four ridges of mountains to the northward you arrive at a country something higher than the Cape shore, but lower than the vallies which lie between the ridges of mountains you have just left behind. This land is called Carrow, or Carrow-field. It seems to go like a broad belt over the whole of this angle of Africa, from the sea-side at the north-western end to the ocean on the south-eastern side. I do not suppose the breadth to be alike all over; but in some places it requires six whole days (or rather long nights) journies. ----- After crossing this extensive and very dry desert, which to the eye appears very nearly level, or at most rising a little and slowly to the northward, you encounter a very high mountain, the top of which it would take almost a whole day's journey to reach. This Roggeveld mountain has very little earth on it, exhibiting in most places the smooth and naked rock; neither does it slope off like other mountains, but it is for the most part level, and extends in this manner so far to the northward that the end of it is not known to the colonists."⁽⁶⁾ Elsewhere he said that the Roggeveld Mountains probably extend to join the Sneeuwberg⁽⁷⁾ which "is a tract of land which lies very high,

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| 1. Thunberg II, 154. | 5. Thunberg I, 258. |
| 2. <i>ibid.</i> I, 154 & II, 180. | 6. <i>ibid.</i> II, 204 - 5. |
| 3. <i>ibid.</i> I, 101. | 7. <i>ibid.</i> II, 101. |
| 4. <i>ibid.</i> I, 153, 198 &
II, 53, 95 are
those not discussed below. | |

and as it were on a mountain, with other elevated tracts lying near it."⁽¹⁾

He explained that the Roggeveld escarpment "compared to the Carrow-field below, was at least as high as Table Mountain is at the Cape."⁽²⁾ This just comparison has much to commend it, and it is regrettable that he did not on any other occasion employ the height of Table Mountain as a measure of the principal mountain ranges, to enable his readers to form some idea of the scale of the scenery he was describing. He erred in putting La Caille's computation of the height of Table Mountain at 3353 Swedish feet⁽³⁾ as is printed in the original, since this is not quite the same as 3353 Rhineland feet given by the Abbé.⁽⁴⁾ Nor does Thunberg's translator into English say that the figure quoted is in Swedish feet, so that the reader not unreasonably assumes that it is in English feet. However, these errors are of small account in the rough comparison of heights cited above.

Many of the defects we have noticed can probably be ascribed to the fact that in the main he simply printed his journal. He may have kept a daily record with the intention later of writing up an account of his experiences, but he cannot have contemplated publishing his notes in practically unaltered form. Thus it may have seemed unnecessary to him to record in it distances and directions with which he was then familiar. Had he fully remodelled his journal for publication, he would have been able to assemble his ideas on the topography and to have given them at least a measure of clarity and coherence. More than that he could not have done, for the memories of scenes he had left some ten years earlier could not have been reliable.

He was apparently quite unaware of the seriousness of these deficiencies, if we may judge from the ingenuous nature of his confidence expressed in the following statement. "This description of the extent, appearance and height of the mountains, together with the nature of the country, I hope may throw rather more light on the geography of this part of Africa than we had before."⁽⁵⁾ When he wrote of his journey to Hantamland (the Calvinia district) and the Roggeveld, he did indeed describe in his imperfect manner tracts on which previously practically nothing had been published except

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| 1. Thunberg II, 95. | 4. La Caille 1763, p.337. |
| 2. <i>ibid.</i> II, 177. | 5. Thunberg I, 260. |
| 3. <i>ibid.</i> I, 222. | |

Masson's short account.⁽¹⁾ But for the remainder of the topography it is doubtful whether he added much of material value which was not contained in Sparman's volumes and map.

His readers, however, cannot have been very critical or conscious of these deficiencies, judging from the numerous translations and editions in which the volumes appeared. They were more concerned with his adventures in a strange land than with knowing its topography and the details of his route. This attitude in an age when cartography was in its infancy and modern geographical science was yet unborn, is more comprehensible than it is to-day when travel books are still often read without any reference to a map. Then, as now, public demand for a travel book depended more upon its entertainment value than upon its significance as a contribution to geographical knowledge.

Climate and Weather.

Though he comments on the excellence of the climate near Cape Town,⁽²⁾ there is remarkably little direct support of the statement. Indeed, it is the imperfections that are more specifically treated, such as the summer heat which induced the general custom of the siesta,⁽³⁾ and the violent South-Easters which were the cause of embarrassment to strangers who "frequently exhibit ridiculous scenes, their hats, wigs or hair-bags being carried away by the wind the whole length of the streets."⁽⁴⁾ Sudden changes of temperature "are the cause that one is very liable to catch cold here, and that the inhabitants are in general subject to rheumatic pains."⁽⁵⁾ However, these were not sufficiently severe condemnations to reverse the impression he intended to convey of the favourable climate of the Peninsula and its environs, whose "winter is not more severe than it is in Sweden in the autumn."⁽⁶⁾

Indirect evidence as to the Cape climate is furnished by his accounts of plants that had been introduced. He records that the pineapple, which flourished at Batavia, could only be ripened at the Cape in a hothouse which the governor, Van Plettenberg had built for the purpose.⁽⁷⁾ The banana also did not

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| 1. Masson 1776, & below pp.113 ff. | 5. Thunberg I, 227. |
| 2. Thunberg I, 123,228. | 6. <i>ibid.</i> I, 104,112. |
| 3. <i>ibid.</i> I, 229. | 7. <i>ibid.</i> I, 282. |
| 4. <i>ibid.</i> I, 226. | |

thrive. Whilst many European plants grew to perfection, others again such as gooseberries and cherries were unsatisfactory.⁽¹⁾ These and other statements regarding exotics would bear out the impression suggested by the latitude of the Cape, that its climate generally partook of neither the degrees of cold nor of heat experienced respectively in Western Europe and the East Indies.

His description of the regime at the Cape with its Goede Mousson (Good Season or summer) and Quade Mousson (Bad Season or Winter) occupies over two pages but contains little that was then new.⁽²⁾ The behaviour of the clouds on the mountains of the Cape Peninsula associated with the S.E. and N.W. winds respectively is better described than by Sparrman.⁽³⁾ However, the latter deals with the much more important matter of temperatures at coastal and inland localities, giving useful figures illustrative of the contrasting seasons,⁽⁴⁾ whereas Thunberg published none. His sole reference to a specific temperature is that "the heat was without doubt several degrees above 100 by Fahrenheit's thermometer," on a January day in the Little Karroo.⁽⁵⁾ This remark suggests that he carried no thermometer, which impression is heightened by his omission of the temperatures of the hot springs he visited.

Wind directions in connection with daily weather on his travels appear but once.⁽⁶⁾ All other references to wind directions occur in brief general accounts of climates of various districts.⁽⁷⁾ Near Kognans Kloof (Ashton) he said that S.E. winds here brought the rain,⁽⁸⁾ quite contrary to that which is the case at the Cape. Though partly true, he was less correct in applying this generalisation to "the whole of the interior part of the country" then known. Near the present position of George he experienced deluging showers of rain in November. Apparently he did not realize, as Sparrman did,⁽⁹⁾ that this was usual in that locality which they had both visited, for he wrote that "though at this season they always have fine weather near the Cape, it appeared as if winter and the rainy season had not yet taken leave of this part of the country."⁽¹⁰⁾ In other words, he expected that with the

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| 1. Thunberg I, 310 & II, 199. | 6. Thunberg II, 177. |
| 2. <i>ibid.</i> I, 226 - 8. | 7. <i>ibid.</i> I, 122, 226. |
| 3. Sparrman 1786, I, 34. | 8. <i>ibid.</i> II, 37. |
| 4. See below pp. 160 - 1. | 9. See below p. 163. |
| 5. Thunberg II, 108. | 10. Thunberg I, 179. |

cessation of winter, the rains would end in the Outeniquas just as at the Cape, presumably because both were on the coast.

Of the eastern interior, however, it is a strange circumstance that he who had not visited that region was better informed than Sparrman who had.⁽¹⁾ Thunberg describes the rainfall regime in the interior thus: "It does not rain either at Roggeveld or at Camdebo in winter, but only in spring and summer: and the rain is then always accompanied with thunder storms."⁽²⁾ This must not be taken too literally, but should be regarded rather as a statement of the season of maximum precipitation. Accepted in this sense it is correct for Camdebo which receives 65% - 70% of its rainfall in summer. It is incorrect for the Roggeveld escarpment, however, which has 65% - 70% of its precipitation in winter.

Perhaps those farmers from whom Thunberg drew this information about the Roggeveld may have had little opportunity of judging the proportion of winter rainfall in this region, since by their account most of them were then obliged by frost and snow to forsake it with their flocks and herds for lower pastures in the Karroo.⁽³⁾ He tells how the winter rains so favour grazing there that "the sheep in these barren fields sometimes grow so fat that their flesh cannot be eaten."⁽⁴⁾ Since he was there in summer only, he depended on hearsay for this exaggerated statement that referred to the Van Rhynsdorp Karroo.

He does not mention in which season the rains fall in the Great Karroo, or enable us to infer it by stating that Camdebo (which he said had summer rainfall)⁽⁵⁾ is in the Karroo. Indeed, a careful search through his volumes would lead to the belief that the region throughout has winter maximum rainfall: for he states this of the area now called the Tanqua Karroo,⁽⁶⁾ which he does not separate from the Great Karroo, but says that it, the Karroo "seems to go like a broad belt over the whole of this angle of Africa, from the sea-side at the N.W. end, to the ocean on the S.E. side."⁽⁷⁾ When he describes the Tanqua Karroo and Koup as being in winter "plentifully supplied with water by showers of rain attended with

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| 1. See below p. 165. | 4. Thunberg II, 153. |
| 2. Thunberg, II, 169. | 5. <i>ibid.</i> II, 169. |
| 3. <i>ibid.</i> II, 22, 153, 168, 176. | 6. <i>ibid.</i> II, 22, 176. |
| | 7. <i>ibid.</i> II, 204. |

thunder", he gives an over-favourable impression of regions which at best receive an average of less than 12" annually.

His exaggerated account of the Roggeveld climate where "the cold is so intense that the ground in winter is for a long time covered with snow, hail and ice."⁽¹⁾ was most misleading and may have caused some of his readers to imagine that its severity rivalled that of Sweden. It must be remembered, however, that again he relied on local information for his statement, since he was not there in winter. Moreover, the snow he experienced there in midsummer must have rendered very credible the inhabitants' accounts of the degree of winter cold. It was indeed unusually severe weather for December when N. and N.W. winds brought frost, rain, hail and snow for the space of twenty-four hours. "There was ice upon the pools as thick as a crown piece" relates his companion, Masson,⁽²⁾ which supports and clarifies Thunberg's statement that "in the morning when we set out, the ice still lay on the summit of the mountain, as far as its very edges, of the thickness of a rix dollar."⁽³⁾ By "the summit of the mountain" he meant the edge of the escarpment from which they descended that morning to the Tanqua Karroo.

Similarly overdrawn is his account of the Sneeuwberg region, though again in extenuation it must be remembered that it depended upon hearsay. "Sometimes the snow lies there from one year to the other; and then the colonists are obliged to move from thence to the Lower-Lands, as it is called."⁽⁴⁾

Of the Lange Kloof (Uniondale Division) he says that he had been told that, "the cold in winter is very severe in this vale, and snow sometimes falls here which lies on the ground three or four days."⁽⁵⁾ It is indeed true that a snowfall as described is occasionally experienced on the valley-floor of the kloof⁽⁶⁾ which averages above 2000 ft. and exceeds 3000 ft. two miles west of Avontuur where he made this weather observation. But even at Joubertina that lies just below 2000 ft., snowfall has been reported of "about 9 inches on the valley-floor in July 1927."⁽⁷⁾ As to the reported degree of winter cold, this would certainly at times seem "very severe" by comparison with temperatures on the coastal plains, from which the colonists

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1. Thunberg II, 205.
 2. See below p. 125.
 3. Thunberg II, 177.
 4. *ibid.* II, 95.
 5. *ibid.* I, 200 & II, 55.
 6. Eastern Province Herald, Port Elizabeth, 22 May 1956 p.3.
 7. Information in letter to present writer, dated 23 May 1956 from J.G. Deyzel, Geography teacher, Joubertina High School.

in the Lange Kloof had migrated not more than 20 years earlier.

He explains how the farther one advances inland, the colder one always finds the climate, because of the increase in altitude.⁽¹⁾ This misleading generalization regarding effects which in fact are experienced mainly in winter, should have been qualified by information about conditions at different seasons and at various distances and heights above the sea. Brief reflection upon his own experiences might have convinced him of the errors of his generalization. For example, in the Little Karroo in January he recorded that "the weather was amazingly warm, warmer indeed than I have ever felt it before or since."⁽²⁾ His description of the Great Karroo is impossible to reconcile with his statement that "the whole southern coast ----- is always the warmest, and is for this reason the most populous and best inhabited part of the whole colony." This Karoo, he says, has a "burning hot climate where not a drop of rain falls for the space of eight months at least", and is so hot that "the eye is affected by a tremulous motion in the air, just as though one were looking at a flame."⁽³⁾ If such was the heat of the interior, then by his accounts the coast was even hotter, in spite of which it supported a denser population; an implicit contradiction, unless he believed that the greater rainfall at the coast was more than sufficient to offset the effects of its supposedly greater heat.

In support of his belief in the progressively cooler climate inland he tells us that "likewise in proportion as the cold increases in consequence of the elevation of the country, all vegetables are later produced. The difference I found here and in some other places to amount to as much as two months."⁽⁴⁾ Presumably the reference here is to the Cold Bokkeveld, as it is for certain in another chapter;⁽⁵⁾ whilst a third allusion records this phenomenon in the kloof between the Witzenberg Pass and the Warm Bokkeveld.⁽⁶⁾ This latter area, he correctly states, lies four times higher than the valley at Roodezand (Tulbagh) but since the elevation of the latter is omitted, the value of the observation is nullified. However, his information about the late harvests in this part of the Cape is supported by a letter received in 1946 by the present writer from Mr. J. Claassens, Town Engineer, Worcester, Cape, in reply to a query addressed to

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| 1. Thunberg I, 259. | 4. (Masson 1776 p.282 & Lichtenstein 1930 p.203 make similar observations. |
| 2. <i>ibid.</i> II, 108. | |
| 3. <i>ibid.</i> II, 102 - 3. | 5. Thunberg I, 259 & II, 27. |
| | 6. <i>ibid.</i> I, 154. |

him by the present writer. He states, "I got in touch with a Mr. Hugo of Elaniefontein, on top of the Gydo Pass, about the highest point in the Cold Bokkeveld, and he tells me that they are probably 4 to 5 weeks later than the coastal area. He reckons that it is quite possible that at that time the harvest would have been two months later, but due to improved seeds and cultural methods, the difference has now been reduced."

Thunberg's account of the relationship between aspect, insolation and relief at Drakenstein is marred by the initial statement that the north-south direction of the ranges "is the cause that the farms that are situated in valleys between two mountains have their day and night at different times."⁽¹⁾ The concluding phrase is correctly translated, so that the wrong impression it conveys is due to his uncritical choice of language and not to any deliberate exaggeration, as his subsequent remarks make clear. These are only at fault in apparently attributing importance to hail (more probably snow) in assisting the effects described. "Those who live under the mountains on the western side have daylight first, as the sun having reached the top of the mountains, which are frequently covered with hail, and thence appear white, in an instant illuminates the whole western side; while on the other hand, those who live on the eastern side of the valley see the sun longer in the evenings, the other side at the same time appearing to them enveloped in darkness and a light-blue mist, while they themselves continue to enjoy the most delightful sunshine." Elsewhere he describes how the shadow of Table Mountain causes similar effects to west and east of it respectively.⁽²⁾ His interest in this phenomenon would seem to indicate that he had been brought up in a region of low relief. To one familiar with mountains it would scarcely have seemed worthy of notice.

1. Thunberg I, 254.

2. *ibid.* I, 265.

Hydrography.

Whilst he mentions by name the scores of rivers he crossed, there is only one case in which he gives even an indication of the general direction of flow of a stream.⁽¹⁾ Thus he made no contribution whatsoever to the understanding of the drainage pattern of the colony. His description and explanation of the floods of the Gouritz River,⁽²⁾ which he calls the Goud's, is inferior to that of Sparrman.⁽³⁾

Thunberg visited four hot springs now in the districts of Worcester,⁽⁴⁾ Caledon,⁽⁵⁾ Glanwilliam⁽⁶⁾ and Uniondale⁽⁷⁾ respectively, and devotes about a page to the description of each. He obviously entertained the idea that they might be associated with volcanic activity, for he wrote of the two latter that "no one hitherto has ever seen either smoking or in a state of eruption; neither can one say with any certainty that this promontory was ever shaken by an earthquake."⁽⁸⁾ The smoke he described at Brandvlei, Worcester, he must have known was condensed water vapour, since he said it was "seen to rise as it were out of a pot boiling over the fire." Only at Caledon did he find any evidence in support of the volcanic theory, where he described the hillock from which the springs rise as being "of an iron ore or a ferruginous lava; and is heavy black, shining, of a very close texture, and strikes fire with steel." A similar opinion was expressed by Sparrman and is commented upon below.⁽⁹⁾

Thunberg does not record any water temperatures except in general terms, as for example that the springs at Brandvlei (145°F) were "boiling hot, so as even to be fit for scalding animals in." Of the spring near Towerwater Poort, Uniondale, he remarks that "the water is very warm, but not boiling hot, so that one may sit in it at its source." This is confirmed by the most recent temperature given for this spring as 112°F⁽¹⁰⁾ but not by an earlier figure of 120°F which is presumably wrong.⁽¹¹⁾ He also reports that "the water never receives any increase from rain or drought, though, as the farmers testified, it does from thunder." If this is indeed so, then it is probably a result of the reduction in atmospheric pressure accompanying a storm. The effects of barometric pressure upon the flow of springs has

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| 1. Thunberg II, 143. | 7. Thunberg II, 98. |
| 2. <i>ibid.</i> II, 51. | 8. <i>ibid.</i> II, vii. |
| 3. See below p. 158. | 9. See below p. 160. |
| 4. Thunberg I, 160. | 10. Kent, p.12. |
| 5. <i>ibid.</i> I, 215. | 11. <i>Ibid.</i> , p. 544. |
| 6. <i>ibid.</i> II, 18. | |

recently been noted elsewhere in South Africa.⁽¹⁾

To the Toverwater Poort spring as well as that at Caledon he correctly ascribed chalybeate properties, since samples from both turned black when mixed with powder of Peruvian bark, whilst the former water also turned blue when infused with tea. At Brandvlei and at the springs near the Olifants River, Clanwilliam, the waters did not change the colour of blue cloth or blue paper, a sign that they contained no acid: and thus indeed are they classed as "indifferent waters" by Rindl.⁽²⁾ Thunberg tested the springs at Caledon with blue vitriol (copper sulphate) and sugar of lead (lead acetate), when the former gave a black positive reaction indicating sulphur whilst the latter negatived its presence. Confronted by this contradiction he could only assert that the water tasted "by no means sulphureous", a view confirmed by modern analysis. At Brandvlei his test for sulphur was negative, and for iron slightly positive, the former being correct but the latter an incorrect indication.

He recorded the existence of three salt pans near the Zwartkops River at Algoa Bay, and described one of them in detail.⁽³⁾ Their presence he accounted for thus; "The whole of the soil of this country is entirely salt. The rain-water which dissolves this, runs down from adjacent heights, and is collected in this basin, where it remains and gradually evaporates". This idea had already been advanced by Kolb and La Caille, and was subjected to the heavy sarcasm of Mentzel in his work published the year before Thunberg's Swedish original.⁽⁴⁾

Amongst other references to saline waters⁽⁵⁾ in the Carnarvon, he mentions how he found "considerable rivers which had still brackish waters in them."⁽⁶⁾ He leaves his readers to discover for themselves from another page that the reason he would probably have advanced to account for this was that "the soil consists of clay impregnated with iron ochre and a great quantity of sea-salt."⁽⁷⁾ He attempts no explanation of this salt on the inland plains, but he may have thought it had been left there by the general retreat of the ocean which, as explained above, was then a view commonly held under the Neptunian hypothesis.

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| 1. Young, p.96. | 5. Thunberg I, 212 & II, 152. |
| 2. Kent p.11 & Rindl p.534. | 6. <i>ibid.</i> II, 164. |
| 3. Thunberg II, 89. | 7. <i>ibid.</i> II, 205. |
| 4. Mentzel 1944 pp.19 - 20. | |

Natural Vegetation.

His descriptions of the general appearance and character of the natural vegetation were vitiated by such the same defects that we have noticed in his topographical accounts. His readers were given little idea of the whereabouts of the localities described, and no indication of what proportion of the whole country was covered with each of the various plant assemblages. Botanists were then chiefly interested in the collection, description and systematic arrangement of new species, and were little concerned with those ecological aspects of their science upon which the geographer now draws in his attempts to discern relationships between natural environment and vegetation. Indeed, more than a century was to elapse between the publication of Thunberg's books and those of Von Humboldt who initiated studies investigating regional "interconnections of different categories of phenomena i.e. of plants of different kinds with each other, and with the differences in climate, relief and soil ----"(1) Hence one cannot expect to find Thunberg speculating upon the relationships between physical environment and plant assemblages.

This aspect of interdependence being almost entirely absent, it is not surprising that his pages exhibit some striking and quite unexplained contrasts in the vegetation of adjacent regions. For example, he mentions the rich pastures and valleys abounding in wood and water on the southern slopes of the Outeniquas, (2) whilst to their north in the Lange Kloof the land is "bare, without shrubs or bushes, but abounds much in grass." (3) No suggestions are made to account for this contrast, and there is not even a statement of the view then common that forests attract rainfall. In the environs of Van Stadens River were the finest woods he saw in the whole country, (4) yet hereabouts they found themselves "approaching nearer and nearer to a country which would soon be changed to a perfect desert." (5) This was the region between Algoa Bay and Candebe: but he gave no clue to a possible explanation of this sudden deterioration in conditions by stating that this desert lay inland behind mountains which were between it and the fertile coastal regions he was traversing. However,

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1. Hartshorne, p.76.
 2. Thunberg I, 177.
 3. *ibid.* II, 55.
 4. *ibid.* II, 96.
 5. *ibid.* II, 93.

even if he had said so, it is extremely doubtful whether his statement would then have been of any value. At that time the effects of only the more obvious climatic determinants, latitude and altitude, were generally recognized. Much work had yet to be done before the climatic significance was fully appreciated of such factors as distance from the sea, disposition of orography and directions of prevalent winds.

Not only these abrupt local contrasts, but also broad distinctions are mentioned, as appears in the following. "Beautiful as the country is to the eastward, fertile, abounding in grass and well peopled, it is equally dry, barren, uncultivated and uninhabited to the northward of the Cape, and the farther you proceed, the more barren and desert-like it grows."⁽¹⁾ Some of his accounts of the eastern districts have been cited earlier. Others are of the country near Swellendam which he described as grass-covered, with some wood in the clefts of the mountains."⁽²⁾ Farther east he recorded that the Caffres "inhabit the most delightful meadows that can be imagined."⁽³⁾

He frequently gave short non-technical descriptions of individual plant species found near Cape Town and elsewhere, but his only account of the general nature of the assemblage of natural vegetation near the town is slight. "The summer in Europe has a much more agreeable appearance, with its leaf-bedecked woods and flowery meads ----- than ----- here where no meadows are seen; and the woods are full of prickles, and of a melancholy aspect."⁽⁴⁾ This might accurately represent the reactions of a visitor from Europe to the typically grey-green hue of the Cape vegetation, contrasted with the vivid foliage of his homeland. An equally unfavourable comparison follows between the carpet-like turf of Europe and the Cape grass whose stalks are "at a considerable distance from each other, and exhibit in the intervals between them the bare and sandy ground." Mention of the absence of forests near the town and the consequent shortage of firewood completes his brief and uncomplimentary account of the general character of the vegetation in this locality.

He describes how north of Cape Town dwarf bushes cover low sandy plains which are, however, adorned with flowers for a short season in spring and early summer.⁽⁵⁾ Similar terms

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1. Thunberg II, 204.
 2. *ibid.* II, 40.
 3. *ibid.* I, 205.
 4. *ibid.* I, 232.
 5. *ibid.* II, 10, 135.

are employed to describe the country as far as the Olifants River (near Klaver)⁽¹⁾ after which Garrow-land, "a dry and barren desert", is encountered till the Bokkeveld Mountains are reached.⁽²⁾ These having been ascended, however, the air is cooler and the plain at their summits abound in grass.⁽³⁾ In the Roggeveld "the whole country is destitute of wood, and has only a few small shrubs and bushes."⁽⁴⁾

He describes the Garrow Plains as "very dry, steril and bare of grass, being covered with a great number of succulent plants only, and bushes."⁽⁵⁾ "The great want of water here for the space of eight months, during which time not a drop of rain falls, together with the aridity of the soil is the cause that this desert produces nothing but a few herbs and bushes with thick fleshy leaves."⁽⁶⁾ The preceding and one other paragraph⁽⁷⁾ are the only references in these books which may be taken to indicate a connection between the climate and the type of natural vegetation. Cultivated plants, however, he says thrive at the Cape⁽⁸⁾ due to the excellence of the climate, and not to the soil whose fertility he declares is "intrinsically meagre."⁽⁹⁾ He gives the misleading impression that agriculture at the Cape can not succeed without irrigation,⁽¹⁰⁾ though this is nowhere definitely stated.

The information on the distribution of the natural vegetation that can be derived from his pages may be summed up as slight and unsatisfactory. The vegetation stands in unexplained relationship to the climate, a defect due to the state of contemporary science. Nevertheless, with what he had seen on his three journeys he could have shown some connection between climate and vegetative types, and have indicated their extent and location more clearly than he did. Systematic botany was the chief beneficiary from his travels which gave little, if any, assistance towards germinating that then unknown geographical conception, the natural region.

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| 1. Thunberg II, 145. | 5. Thunberg I, 163. |
| 2. <i>ibid.</i> II, 150. | 6. <i>ibid.</i> II, 204. |
| 3. <i>ibid.</i> II, 154. | 7. <i>ibid.</i> II, 103. |
| 4. <i>ibid.</i> II, 168. | 8. <i>ibid.</i> I, 231 & II, 199. |
| | 9. <i>ibid.</i> I, 123. |
| | 10. <i>ibid.</i> I, 103, 122, 125, 210. |

Conclusion.

Thunberg was exceptionally well-educated for his day, and combined his learning with an admirable enthusiasm, hardihood and perseverance without which his travels here could scarcely have been accomplished. His zeal for the acquisition and diffusion of knowledge has given us a scholar's impression of regions extending as far as some of the outposts of the pioneer fringe.

The chief merit of his volumes is their honesty and freedom from exaggeration. His respect for the truth is well illustrated by his reaction to a statement by a farmer that his wheat yielded as many ^{as} eighty ears from one seed. Thunberg thereupon undertook to count them himself in the field, when he found that no single grain of wheat had produced more than forty-one ears. ⁽¹⁾

The great defect in his writings is the lack of order in his presentation of matter. Had he but given more care and time to the task, he could have supplied more satisfactorily those desiderata of travel-books which he himself declared were, that they should "clear up the obscurities of ancient authors, or throw a new light on geography." ⁽²⁾

His translator cannot be blamed for his arid and objective style which reflects so little of the author's personality. Pleasures, hardships and dangers are all alike described in the severely moderated language of a textbook. A rare gleam of humour emerges at the conclusion of his account of an attack made by a savage old buffalo upon him and his companions, the gardener Auge, and Sergeant Leonhardi. "Not discovering any traces of them in the whole field of battle, I began to call out after them; when I discovered these magnanimous heroes sitting fast, like two cats, on the trunk of a tree, with their guns on their backs, loaded with fine shot, and unable to utter a single word." ⁽³⁾

He tells us that he had deliberately "chosen to use a sober and serious, rather than a too lively style" in order that truth might not suffer distortion. ⁽⁴⁾ If his chapters on the Cape were found dull, he said that this must be attributed less to their author than "to the country itself and

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1. Thunberg I. 173.
 2. *ibid.* I. v.
 3. *ibid.* I. 186.
 4. *ibid.* II. x.

the natives, that could not possibly present more materials to an attentive traveller than they actually possessed."⁽¹⁾ There were, he admitted, "several spots in it already resembling an earthly paradise," and he was not without hopes for its future development. But for the rest he represented it as lacking in both natural and civilized amenities which he enumerates in a gloomy catalogue that now appears almost ludicrous.⁽²⁾

"This country has no lakes, no navigable rivers, no other fisheries than those that are near the shores of the ocean or the mouths of the rivers; no woods of any consequence or real utility, not even one pleasant grove; no verdant nor flowery meadows; no chalk hills; no metals worth the labour of extracting them from the ore; no looms nor manufactures; no universities nor schools; no post; no post-houses nor inns; nay, in so extensive a country as this there are still in many places, wanting both judges and courts of judicature, both clergy and churches, both rain from the heavens and springs from the earth, with many useful and indispensably necessary institutions, which both now and hereafter may merit the consideration and care of a well-informed and prudent government." Many of these deficiencies have now been remedied, others have been or will be mitigated or entirely overcome; and though we still cannot conjure rain from the heavens, we of this land where Thunberg once wandered, persist in an optimistic conviction appropriate to its name of happy omen, the Cape of Good Hope.

1. Thunberg I, xii.

2. *ibid.* II, xiv.

FRANCIS MASSON.1772 - 1774 & 1786 - 1795.

Francis Masson was the first to publish in English a personal account of extensive travel in South Africa, and was probably the first Briton to journey any considerable distance into the interior. Hence a double priority attaches to his narrative, whose fifty pages in the Philosophical Transactions of the Royal Society, 1776, now seem disappointingly meagre. Earlier works on the Cape were written mainly by men who had touched there but briefly and told of the interior only at second hand. One such was Francois Valentyn, whose Vol.V, 1726,⁽¹⁾ was enriched, however, by accounts of authentic travel narratives; those of Van der Stel to Namaqualand in 1685 and of Starrenburg's journey north to the Olifants River in 1705. Of those authors who had resided at the Cape, Peter Kolb (pub.1719) provides no evidence that he had travelled beyond Caledon and Manre; whilst the Abbé de la Caille (pub. 1763) probably went no further than the vicinity of St. Helena Bay. The account of Rep's journey beyond the Orange River in 1761 - 62 only appeared in print two years after Masson's narrative was published.⁽²⁾

Masson's career has been sketched by Britten and others from whose accounts⁽³⁾ some of the following biographical particulars are taken. Born at Aberdeen in August 1741, he became a gardener in the Royal Gardens at Kew, which were then the private estate of King George III. On the suggestion of Sir Joseph Banks, the King sent Masson to the Cape to collect seeds and living plants. He was given a passage in Capt. Cook's vessel, the Resolution, and reached Cape Town on 30th October, 1772. Shortly after his arrival he set out on his first journey in December 1772 and January 1773. He was accompanied by a Swedish ex-soldier and plant collector, Franz Pehr Oldenburg, who acted as interpreter and companion.⁽⁴⁾ From Thunberg we learn that Masson was "well equipped with a large and strong waggon tilted with sail-cloth, which was driven by an European servant upon whom he could depend."⁽⁵⁾ He went through Paarl, Fransch Hoek, Stellenbosch and Caledon to Swellendam, and returning

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1. Valentyn.
 2. Allsmand & Klockner.
 3. (Britten 1884a & 1884b. (Note that G. Forster on p.120 was (not the naturalist but a servant of the English E.India Co.)
(Britten 1920 (with portrait of Masson)
(White & Sloane p.82. (with portrait of Masson)
 4. Karsten 1939 p. 21 ~~136~~ p.136.
 5. Thunberg I, 316.

by much the same route reached Cape Town towards the end of January 1773.

Towards the beginning of that month, the celebrated Swedish botanist, C.P. Thunberg, had returned to Cape Town from his first long journey inland, and these two arranged to undertake together what was for both of them their second journey. Masson was then aged 32 and Thunberg 29. This trip lasted from September 1773 to January 1774, and was to Saldanha Bay, then through the Cold and Warm Bokkevelds, Roodesand (Tulbagh Valley), Swellendam, Mossel Bay, the Lange Kloof to Algoa Bay and beyond to the Sundays River. Thence they returned to Cape Town by the direct route. From September to December 1774 they made a second journey together which was for each his third long trip inland. They went via Piquetberg and Heerenlogement to the Calvinia district, and returned by way of the Roggeveld and the Hex River valley. It is not mentioned by either of them whether they were accompanied by Oldenburg on one or both of these expeditions, though it has recently been stated that he was with them on their third trip.⁽¹⁾

Shortly after the conclusion of these journeys Masson returned to England. During an absence of over two years his expenses were £583, and he received in addition from the King a salary or "recompence" of £300 for the period. He was not to remain long in England, however, for in 1776 he set out again at the instance of the same patrons and visited the Azores,⁽²⁾ Madeira, Teneriffe and the West Indies, whence he returned in 1782. During 1783 - 85 he collected plants in Spain, Portugal and Tangier.

In January 1786 he came to the Cape for the second time, again as a plant collector, and after a stay of over nine years, departed in March 1795, shortly before the First British Occupation. The full story of the circumstances surrounding his second sojourn has yet to be written, for what is known of it contains contradictory elements that remain to be reconciled. Governor van de Graaff only permitted Masson to carry out his collecting on condition that he nowhere approached within three hours' journey of the coasts, or ascended mountains overlooking them.⁽³⁾ This was because the English traveller, Paterson, at the Cape 1777 - 79, had been

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1. Moritz, 1938 p.202.
 2. Masson, 1779.
 3. (Leibbrandt 1906 pp.788, 795.
(Muir 1933b.

suspected of spying upon the fortifications and anchorages.⁽¹⁾ But whilst the Governor's decree kept Masson from the coast, he was enjoined to stay there by his instructions from Sir Joseph Banks, who assigned particularly as collecting grounds the shores of False and Hout bays, saying that described species from these coasts were to be sought rather than new species from the interior.⁽²⁾

In a letter to Banks written 1786 or 1787, Masson confessed that he had, in fact, made two long journeys into the interior.⁽³⁾ Banks expostulated at this infringement, since, as he wrote, "your instructions are very absolute on this subject". He was only prepared to concede that Masson might later propose excursions inland.⁽⁴⁾ MacOwan confessed himself perplexed by these instructions, but their purpose may be in some measure explained by information that has now emerged. In a letter dated March 1793, Masson wrote thus to Thunberg. "The sole intention of my second visit to the Cape being to furnish the Royal Garden at Kew with living plants, and as the mountains in the southern parts abound more with beautiful Frutices than the dry parched mountains of the interior parts, I had orders to confine my investigation chiefly to them".⁽⁵⁾ It remains undiscovered whether Masson continued to be prohibited from collecting near the coast, and if so how he managed to reconcile Banks's orders with the Governor's stipulations. Both these are readily comprehensible if Muir's suggestion be accepted that Masson's chief mission was one of espionage upon the shores where, so shortly after his departure, General Craig's army was to land.⁽⁶⁾

In letters Masson wrote to Thunberg in March and May 1793, he said that he had visited in two different journeys (a) the Kamiesberg, and (b) the Klein Roggeveld and Zwarteberg. He also stated (c) that he contemplated visiting the Kamiesberg again.⁽⁷⁾ Evidence will be presented below to suggest that he performed these three journeys in 1790, 1792 and 1793 respectively, which were therefore additional to the two he reported in 1786 or 1787 as having been made by him.

The following information has been derived from notes in Masson's own hand on the reverse of some of his botanical drawings examined by the present writer at the British Museum

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| 1. | (Britten 1884a, pp.119, 120.
(MacOwan p.xl.
(Muir, 1933a, p.15.
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V, 173. |
| 2. | MacOwan p.xli. | 5. | Karsten 1939, p.23. |
| 3. | Britten 1884a, p.121. | 6. | Muir 1933b, p.69. |
| | | 7. | Karsten 1939 pp.23,25. |

of Natural History. ⁽¹⁾ Journey (a) to the Kamiesberg may have been made in 1790, for Drawings 133 and 116 were made in that year beyond Picquetberg and near the Olifants River respectively. Journey (b) was probably in 1792, for Drawing No.115 was made in August of that year in the Bokkeveld which is on the road to the Klein Roggeveld. Journey (c) is represented first by Nos.93 and 105 which are of specimens found in July 1793, when he was presumably outward bound, at "Rhinceros Pountain beyond Lang Valley", probably that which is now mapped 13 miles W.S.W. of Clanwilliam. ⁽²⁾ No.131 was found also that July at Zeekoe Valley, shown on the Gordon Map 3, and situated 9 miles W.N.W. of Clanwilliam. No.128 was collected in September 1793 at Meerhofs Casteel, also mapped thus in the Gordon Map 3, but now figuring as Mierhooft 8 miles S.W. of Bitterfontein. ⁽³⁾ No.111 is of a plant found on the top of the Kamiesberg in 1793, no month stated. No.37 shows that in August he visited the Groen River N.W. of the Kamiesberg. No.128 indicates his return to Meerhofs Casteel in September and No.117 that he visited the Olifants River in October 1793.

It has been suggested by MacOwan ⁽⁴⁾ that Masson's artist was the Swedish soldier P.P. Oldenburg. ⁽⁵⁾ Dyer's disagreement with this view ⁽⁶⁾ seems to be supported by the fact that the collection of Masson's drawings referred to above is preserved in a cover on which it is stated that (with named exceptions) they were made by him: and No.115 is inscribed in Masson's handwriting, "F. Masson pinxt". Not only were these drawings made long after Oldenburg's death in 1774, but also they show that Masson was capable of making his own illustrations. This does not, however, dispose of the suggestion made below that some of the drawings in his collection could have been executed by Johannes Schumacher. ⁽⁷⁾

There is little evidence as to what companions Masson may have had on these journeys during his second stay. His name appears on the Gordon Map 3 in Botanist F. Masson's River near where Van Rhynedorp now stands and is the present Tree-Tree River according to Mossop. ⁽⁸⁾ It is known that Masson made a short journey with Gordon in 1773 when they

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1. "Drawings by Fr. Masson" Original watercolours in Botany Library.
 2. Map of S.W. Cape Province, 1:400,000, Irrigation Dept. 1934.
 3. Mossop 1931 p.109; 1935 p.296; 1947a p.67; 1948 p.18.
 4. MacOwan p.xli.
 5. See p.102, note 4.
 6. Dyer p.48.
 7. See below p. 334.
 8. Mossop 1938 p.21.

first met.⁽¹⁾ The naming of the stream after Masson may indicate that he travelled again with Gordon, this time into Namaqualand. Unconnected with Masson, however, is the Massenbergs (near Langebaan) also on the Map 3 and still bearing this name, which probably dates from before 1752 when it was applied to a loan-place.⁽²⁾

Masson is stated to have taken several short trips with Colonel R.J. Gordon and two Austrians, Franz Boos and Georg Scholl, in 1786. These two plant-collectors from Schönbrunn reached the Cape on 1st June 1786 and in the course of the following 9 months made not only the small trips referred to above, "but also longer journeys on which they were away from Cape Town sometimes for weeks and sometimes for months".⁽³⁾ On 18th February 1787 Boos sailed for Mauritius and Reunion, whence he returned to Table Bay on 20th January 1788 and sailed thence for Europe a fortnight later on 5th February 1788. Scholl, however, only returned eventually to Europe in 1799, so that he spent a period of 14 years at the Cape. Of these, no less than 10 coincided with Masson's stay, so that there was ample time for travelling together.

The extent of the journeys made by Boos and Scholl in their 9 months together at the Cape in 1786, or by Scholl alone or with other companions in the succeeding 13 years, may be indicated with some degree of probability by plants in his collections, though these could have been obtained for him by other persons. Certain Euphorbiae⁽⁴⁾ and a cycad, formerly Encephalartos brachyphyllus,⁽⁵⁾ do not range nearer to Cape Town than the present districts of Albany (Grahamstown) and Uitenhage respectively, whilst the Fockea⁽⁶⁾ is not found west of Mossel Bay. Other botanical evidence has been used to show that Boos and/or Scholl must have reached north of the Kamiesberg.⁽⁷⁾ Another indication that Scholl may have visited parts of the frontier such as the Hantam, the Roggeveld or the Sneeuwberg areas, is provided by his discussion of the cruelties that he alleged were practised upon the Bushmen by the colonists.⁽⁸⁾

To return, however, to Masson; though his second residence at the Cape no doubt considerably enriched botanical collections in England, it seems to have been productive of no other publication than his series of botanical plates, Stapeilias Novae, which appeared in 1796. Sent once more as a plant collector, he arrived in New York in 1797, and in 1805 died at Montreal

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| 1. See below p. 273. | 5. Kronfeld p.101. |
| 2. (R.L.R. 9 p.733 &
R.L.R. 76 p.44. | 6. <i>ibid.</i> p.142. |
| 3. (Kronfeld p.91.
Boos manuscript. | 7. Garside p.211. |
| 4. White, Dyer & Sloane pp.237,509. | 8. Kronfeld p.91. |

aged sixty-four.

Whatever Masson's natural gifts may have been, he had never the opportunity of developing them fully, since his education cannot have been comparable with that enjoyed by his illustrious contemporaries, Thunberg and Sparman. However, there is more than a suggestion that he eventually overcame this handicap to a considerable degree, and in years of devotion to his science, attained a position where he was held in esteem, and probably in friendship, by men of learning who had been more fortunate in birth and education than he.

When he first embarked upon his travels, however, he gained no such opinions from Georg Forster, the naturalist, who asserted that Masson was "under Dr. Thunberg's kind guidance, who pointed out to him what was worthy of notice", so that he was thus able to make an ample collection.⁽¹⁾

Writing later at Cassel an introduction to the German edition (1784) of Sparman's Voyage to the Cape, etc., Forster mentions that when he and his father were in Captain Cook's Resolution on its way to the Cape in 1772, also aboard was "a Scots garden-hand named Masson." Forster's estimate of his educational attainments is shown by his assertion that Masson's travel report had been cleansed of its errors in spelling and grammar before publication by his patrons. Credence can be given to this statement after a perusal of those of Masson's letters that survive in print. Forster also says that the report was practically valueless, as attested by the fact that he had not seen a translation into German, though there were then publishers falling over each other in their eagerness to print almost anything.⁽²⁾ He does grudgingly admit, however, that "only for the natural philosopher does it contain a few useful indications, in so far as one can rely on the honesty of the author in things which are not above his comprehension."

In contrast with this derogatory dictum is the somewhat fulsome praise of Paterson, who wrote that as Masson "has described the country about the Cape, it is unnecessary for me to enter into a geographical description."⁽³⁾ As will emerge later, this is an overstatement of the value of the account. Between these extremes of criticism and commendation lies a true appraisal of the worth of Masson's narrative. It was

1. Forster I, 82, footnote.
2. Mentzel 1944 p.243, line 24. An abridged translation of Masson's account appeared in 1779 in the German edition of Allmann & Klockner's Nieuwste en Beknopte Beschryving &c. (Mendelssohn I, 166).
3. Paterson p.4.

considered of sufficient significance to receive frequent mention by writers on South Africa during the succeeding half-century, thereby arousing curiosity to-day as to its contents. Since the volume in which it appears is rare, this curiosity is difficult to satisfy. Accordingly, it is hoped that this discussion will serve a useful purpose in making its contents more widely known, particularly those of geographical concern. Written, MacOwan, Hutchinson⁽¹⁾ and others have paid tribute to Masson's services to botany, but apparently the geographical aspects of his work have never been commented upon at any length in print. Hence an attempt will be made here to assess in the light of modern knowledge the geographical value of Masson's article at the time of its publication.

Topography.

Masson's journeys in South Africa were nowhere beyond parts known to the colonists on the frontiers, and thus were not new explorations. Their importance lay in their being recorded, thus making available in print for the first time reliable information regarding large tracts of the colony which were then almost if not entirely unknown in Europe. Earlier writers told of little more than the immediate surroundings of the Cape, as far as the present Caledon and Worcester; and of the west coast belt northward to the copper ores of Namaqualand. To this Masson added a broad but faithful picture, more than doubling the area of the colony hitherto known to the outside world. Moreover, he revealed that several-fold the area of the previously-known favourable tracts was also endowed with an equally good climate, namely the south coast region extending far to the east of Mossel Bay, beyond which he could not have been traced on any maps that had then been published. Of the interior regions he was the first to print an eye-witness account of the Warm Bokkeveld and Cold Bokkeveld; the Hartas region and Roggeveld; and of the Tanqua Karroo and Little Karroo.

It was not, however, on any such geographical errand that Masson was despatched by his royal master, and the geographical information that resulted was thus purely incidental to his

1. Hutchinson pp. 571, 617.

task. Sent expressly as a collector of botanical specimens, he was under no obligation to record his route accurately, and whatever inclination he may have felt to do so, was limited by the lack of good maps and also probably by his ignorance of even rough survey methods. The best he could do, therefore, was to name places in the order in which he passed through them. Many of these names of natural features, of farms and of their owners were probably omitted in the printed account which was written up from his journal, now lost. It is not known whether his journal invariably contained estimates of directions and distances covered between points: but in the narrative such estimates are omitted more often than not, and when given are frequently erroneous.

The reason for these mistakes is easily appreciated. Directions between remote points are difficult to judge unless a route traverse has been maintained. Exaggeration of distances can be understood in the light of the slow and arduous progress made in many sections of his journeys. Though these errors and omissions would not have prevented later travellers from following in his footsteps, they made it impossible for contemporary readers to judge where he had been.

They could have obtained but little assistance from maps, since those then published featured few of the names he mentioned. Kolb's grotesque cartography in his German original of 1719 as well as in his Dutch edition of 1727 shows no places visited by Masson beyond Olifants River in the north and Mossel Bay on the east, whilst the few indicated within these limits are often in fantastically distorted positions. Kolb's 1727 maps derive from Valentyn's volume of 1726.⁽¹⁾ The latter's sources are not always clear, though he certainly inserted some of the places mentioned in the itineraries of Van der Stel 1685 and of Starrenburg 1705 that he printed in his text. The Abbé de la Caille's much more accurate map appeared first in the Memoires de l'Academie Royale de Sciences, 1751 (pub.1755) and was reprinted in his book, posthumously published in 1763. This map covered only the area enclosed roughly on the north by lat. 32° 30' and on the east by the north-south Cape ranges.⁽²⁾

Other maps of the whole or the southern parts of Africa published before 1776 were on far smaller scales, and represented various inevitably unsuccessful attempts to reconcile the coastal

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1. Valentyn, V, part II at p.3. The western portion of this map is reproduced in Molsbergen 1916 II, 48.
 2. Mentzel 1944. Reproduced at p.78.

features of 17th century cartographers with the information concerning the interior depicted by Kolb. His exaggerations in the distances from Cape Town of the various geographical features represented, including the haunts of certain Hottentot hordes, were still further aggravated by copyists, so that the native inhabitants of districts adjacent to Cape Town were sometimes shown to occupy the entire extremity of Africa south of latitudes 25° or 30° . The ultimate in exaggeration was the insertion in several maps of the Zonder End River a hundred miles and more to the N.E. of Algoa Bay!

These small-scale maps showed at most but three places on the south coast which Masson visited. These were Mossel,⁽¹⁾ St. Francis and Algoa bays. The two latter, however, were not mentioned by him. He wrote of the Zeekoe River,⁽²⁾ but probably he, and certainly his readers, did not know that this was at St. Francis Bay. Similarly, it is unlikely that he or they could have known that the Zwartkops saltpan and Sundays River were at Algoa Bay. In fact, at this time the settlers here, who had come overland from the Cape to the shores of these bays, did not know how they were named by mariners. A considerable time was to elapse before identical names for the features of those then remote and unfrequented coasts would be used by both colonists and navigators. There was no communication between them, and the frontier farmers had neither maps nor charts. Masson therefore probably could not have learnt that he had reached what seamen called St. Francis Bay. Even less likely is it that he could have known that he had reached what is now called Algoa Bay, since there was then no agreement upon the bay to which this name properly applied.⁽³⁾ Thus on his journey along the south coast, his readers could not have followed his route after he left Mossel Bay.

One example will suffice of the confusion caused to his contemporaries by his inexact account. Swallendam he put at 150 miles N.E. of Cape Town,⁽⁴⁾ instead of about 120 miles East. Thereafter, on his journey to Sundays River no consecutive directions or distances of travel are mentioned, though as will appear below, he gave the impression that they journeyed N.E. Near where Humansdorp now stands, Masson and Thunberg visited

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1. Masson 1776 p.286.
 2. *ibid.* p.291.
 3. Pettus p.58, & see below pp. 140, 426.
 4. Masson 1776 pp. 275, 286.

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the farms of Jacob Kock (or Kok) and of Jacob van Reenen, the latter being "the last Dutch place in this part of the country."⁽¹⁾ Mentzel, who acknowledged that Masson's narrative was the source of some of his geographical facts, was hard put to it to decide the locality where Kock and Van Reenen lived, and seems to have concluded eventually that it lay at a distance of 120 German miles (about 560 English statute miles) from Cape Town in a N.E. direction, which is in the region where Kuruman is now situated.⁽²⁾

Since the greater part of his routes could not have been traced on maps when his account first appeared, most of his topographical descriptions could not be identified with their correct localities. Of a total of less than a dozen brief descriptions, that of the valley at whose northern extremity Tulbagh now stands is one of the most explicit; yet it lacks much in the amount and accuracy of the information supplied. "Good Land is a fine level country, surrounded on all sides by lofty mountains except on the East, where the valley continues for several days journey inclosed by mountains on each side. Those on the northern side continue for several hundred miles in an oblique direction and terminate on the Eastern coast."⁽³⁾

His next reference to these ranges is at Kafferkuils River (Riversdale) where he says that "upon our left, a few miles distant, we had a chain of mountains before mentioned, which here take a N.E. direction."⁽⁴⁾ This N.E. trend would not unnaturally be taken to clarify the "oblique direction" of his previous mention and to support the statement that these ranges terminate on the ^eEast coast. Hence the impression was given that from Tulbagh the ranges run north-eastwards to reach the sea in the region of his Terra de Natal.⁽⁵⁾ In his account of his third journey, the same cryptic reference to "an oblique direction" is all the information vouchsafed regarding the orientation of the Roggeveld escarpment.⁽⁶⁾

His sole reference to maps is in connection with Saldanha Bay which he observed "is laid down wrong in all the maps that I have seen, except that of the Abbé de la Caille; they have given it a right East direction, whereas it has nearly a south direction almost parallel to the sea coast, and, I suppose,

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1. Thunberg II, 79, 92. Van Reenen seems to have been absent then. Thunberg and Masson met another colonist and his family further east at the Kuka (Coega) River, Algoa Bay.
 2. Mentzel 1921 p.71 & 1944 pp.4, 71, 212.
 3. Masson 1776 p.285.
 4. *ibid.* p. 287.
 5. Masson 1776 p.296.
 6. *ibid.* p.313.

almost twenty miles in length. The entrance of the bay is difficult, having several small islands in it.⁽¹⁾

Though this faulty orientation had become common in maps of this period, it had been correctly orientated at least as early as 1635 by Blaeu.⁽²⁾ Moreover, a French survey of the bay in 1666 is recorded,⁽³⁾ the results of which may have been used in at least one of their published maps which correctly shows the bay extending S.E. parallel to the coast.⁽⁴⁾ La Caille's correct representation of the bay's bearings was thus not new, but the situation had become sufficiently confused for Masson's editors to consider that his testimony would not be superfluous in support of the cartography of the French savant.

Details of Route, September to December 1774.

Only on the third journey is any considerable portion of the route followed by these travellers hard to identify to-day. Whilst no claim is made that the following attempt has succeeded in avoiding all the pitfalls that beset the task of identifying a route purely from maps and books, and though there are sections where their movements remain uncertain, the overall picture of their journey seems to emerge fairly clearly from this study.

After crossing the Olifants River near Vredendal, Masson's account of their route becomes extremely vague, whilst Thunberg's is insufficient to give a clear picture of where they went. Moreover, on occasions both travellers' compass directions become incomprehensible.⁽⁵⁾ However, a combination of their narratives yields the following indications. They passed west of the Windhoek and Matsikamma mountains and reached the farm Trutru near where Van Rhynsdorp now stands by the Tree-Tree River.

From Trutru they seem to have taken three days for the journey of about 48 miles northwards to the Doorn River, though Thunberg's dates only allow two days for its accomplishment. The first night they found water at their Single Doornboom River, identified in 1947 as the present Half Pad Rivier 13 miles N.E. of Van Rhynsdorp by Mr. C.E. Oliver of that town.⁽⁶⁾

1. Masson 1776 p.277.

2. Blaeu

3. Theal, 1909 II, 165.

4. Pictorial History, p.85.

5. Masson 1776 p.311.

6. Letter to the present writer from Mr.C.E.Oliver, resident of Van Rhynsdorp for 45 years.

The second day and night they found no water. On the third day they passed their Leeuwedans or Leeuwejagt. According to Mr. Oliver, this somewhat unusual name of Leeuwedans applies to-day to a feature in a position that makes it possible that it is the same spot recorded by Thunberg. It is a small perpetual spring or oozing at the foot of the escarpment situated on the farm Engelspunt Extension, south of Engelspunt. Leeuwedans is also shown hereabouts in the Gordon Map 3 some 8 miles south of a track which ascends the Bokkeveldberg near or at the place now called Die Hel, where according to Mr. Oliver, there is still a path used by graziers and their flocks. On the Gordon Map 3 this track emerges on the summit at Swellingrebel's Fontein, the farm of the Widow Rijk,⁽¹⁾ and called Swellingrebel in the Map of Calvinia Division, 1900. It seems to have been down this track from Widow Rijk that W. Paterson came in 1778 to outspan at ^{his} Lion's Dance.⁽²⁾ Leeuwedans is also shown hereabouts by Wyld in his map illustrating the travels of Backhouse who passed through it in 1839, after he had come from Grasberg, Bokkefontein and Kookfontein on the summit, and had descended the escarpment in the vicinity of Die Hel.⁽³⁾ The name Leeuwedans thus seems to have applied then, as it does now, to a place about 10 miles north of the route between Trutru and Van Rhyns Pass, so that it is unlikely that they ascended near to the latter as suggested by Mossop.⁽⁴⁾ Instead it is probable that they continued north from Leeuwedans to reach at the northern termination of the Bokkeveldberg the Doorn River, mentioned by this name by Thunberg⁽⁵⁾ and now called the Doorn or Zwart Doorn. Here they found "a small rivulet of fresh water" on the evening of their third day from Trutru.

Next day, 2nd November, according to both travellers, they climbed the Bokkeveldberg to the elevated region referred to a little later as the Ouder Bokkeveld⁽⁶⁾ presumably to distinguish it from the Cold and the Warm Bokkeveld much nearer the Cape. They may have ascended the Bokkeveldberg up the gentler slopes that look east over the Zwart Doorn River. Here they could have ascended southwards near the line of the road shown on the farm Swellingrebel in the Divisional Map. Alternatively, they may have retraced their steps some 8 or 9 miles south from the

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1. R.L.R. II p.251.
 2. Paterson pp. 72, 73.
 3. Backhouse,
 4. Mossop 1938 p.23.
 5. Thunberg II 153. (Further quotations from this author dealing with this journey occur in his pages 163 - 180.)
 6. Theal, 1911 pp.382 - 386, 391.

Zwart Doorn River to climb the escarpment frontally near its northern termination in the vicinity of Die Hel which was, and still is, a practicable though very difficult line of ascent and descent for waggons. This seems the more probable route because of Thunberg's statement that the mountain was "so steep that several Hottentots were obliged to hold the waggons fast with cords to prevent them oversetting."

In the following paragraphs which discuss the route to and around the Hartansberg as far as Downes, the invaluable aid of the late Dr. E.E. Mossop is gratefully acknowledged. He brought to bear on the problems not only his personal acquaintance with the area but also much research into the history of the landownership and the genealogy of the inhabitants.

On 3rd and 4th November Thunberg and Masson evidently travelled S by E along the summit of the Bokkeveldberg in spite of Masson's remark that they had on their "right hand or south side the precipice which is inaccessible". Both travellers give such manifestly incorrect bearings whilst on these mountains that it seems probable that their compass had become damaged or affected by dolerite intrusions. On 4th November they came to the place of Klaas Losper, at Groenrivier on which farm Nieuwoudtville is now situated.⁽¹⁾ There is no certainty that our travellers went south of Nieuwoudtville to visit Oorlogskloof on the river now called by that name, for Lichtenstein's account does not expressly say that it was there that Thunberg had cured a dangerously ill youth.⁽²⁾

On 6th November they left Klaas Losper and must have journeyed in an easterly direction in spite of perplexing indications by both authors that they went northwards from here to the Hartansberg. This stage evidently involved no considerable descents and ascents into and out of major valleys, since Thunberg said of this portion that "the country inclined gradually and gently towards it", the Hartansberg. Thus their route probably was at first parallel to and somewhat north of the watershed between affluents of the Hartans River on the north and the Oorlogs Kloof River on the south, though they may have had to obtain water at the latter.

Absence of adequate information in the writings of both authors upon dates, distances and directions travelled, and the omission of names of topographic features encountered, render the names they mention of farmers and of their farms as practically the only clues to their movements in these parts.

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1. R.L.R. 31 pp. 17, 19.
 2. Lichtenstein 1928 p.106.

In the following interpretation of their route clockwise round the Hantamsberg, it is well to recollect that by no means all the land had then been taken up in this frontier district; so that the farmers' places that our travellers record having passed were simply those that then lay closest to their route. Between it and those farms the then unoccupied land is now parcelled out as shown in the Divisional Map, from which a wrong impression of the route may be formed unless this caution be borne in mind. The use of landgrant records to trace an itinerary therefore may not indicate more than the general directions of travel.

They record having "passed van Rhen's grazing farm near Riet-fontein". This probably refers to the farm that still bears this name and was then rented by one of the Van Reenen family.⁽¹⁾ It lies some 20 miles N.W. by W. of Calvinia, and upon it the hamlet of Hantam now stands by the Klein Toren River, earlier known as the Naressie River.⁽²⁾ It is less likely to have been at Vaderlandsche Rietvalleij⁽³⁾ now Rietvlei by the Hantam River 21 miles N.W. of Calvinia. Hendrik Louw, mentioned next, then had the grazing rights of Groot Vlakte⁽⁴⁾ which lies some 5 miles east of their probable route and 13 miles N by W of Calvinia. Our travellers may not have seen the houses on these farms, if indeed any had been built on them then, and Thunberg's remarks may merely indicate whose grazing-lands they had passed through.

On 10th November they came to "the last Dutch habitation of this side of the country" where they had excellent bread, good mutton, butter and milk, and which Thunberg says was the home of Abraham van Wyk, "a lusty fat man". This was Uitvlugt⁽⁵⁾ on the south bank of the Hantams River just above its confluence with the Teroenje which joins it from the north.

Earlier Thunberg says that in the Hantamsberg there is "a cut or open cleft through which we rode", though this must have been shortly after leaving, and not long before reaching, Uitvlugt, as the position of this remark in the text suggests.

From Uitvlugt, according to Masson, they went S.E., whilst Thunberg writes that they left there on 13th November. They seem to have gone at first E by S to Theefontein and thence S.E. through the kloof (Thunberg's "cut or open cleft") between the

1. Kaapsche Geschiedenis IV, 45.

2. Theal 1911 p.382.

3. R.L.R. 18 p.273, & Divisional Map.

4. R.L.R. 24 p.291.

5. R.L.R. 18 p.215.

Agter Hantamsberg and the Ramhoeksberg.⁽¹⁾ From this they emerged that day at the house of Christiaan Bok, mentioned by both authors; but they do not say that this was on the farm Welbedagt,⁽²⁾ still so called, at the head of the Hantams or Krantass River. Next day, 14th November, they both record their arrival at the Rhinoceros River, now known as the Renosterhoek River, a tributary of the Fish River.

In spite of some confusing indications discussed below⁽³⁾ it seems fairly certain that Christiaan Bok was not at the present Renosterhoek River when visited by Thunberg and Masson. Nor was he at Akkerendian (3 miles north of Calvinia) at that time, as shown on Burchell's map, though he may then have had the grazing rights on that farm also.

Our travellers probably crossed the Renosterhoek River near Louwsdrift, and then on 15th November continued southwards through their Dauris (Downes), De onwetende fontein aan den Dauris Kloof as it is called by Lichtenstein.⁽⁴⁾ Onwetensfontein and Onder Downes are now mapped separately, both within 2 miles of Downes railway siding and from it S.W. and S respectively.⁽⁵⁾ From Downes that day they must have continued southwards up the Oorlogs Kloof River till they reached its right-bank tributary, the Drooge, up whose valley Thunberg says they rode, and which is now followed by the main road from Calvinia to Sutherland. Thunberg describes this route in the misleading words, "we travelled along the foot of the Roggeveld mountains", thus giving the impression that their route was below and to the west of the escarpment.⁽⁶⁾

The identification of their route in the Roggeveld is assisted by the Gordon Map 3 of which these parts were presumably drawn by Gordon during his journey in December 1778.⁽⁷⁾ Lichtenstein's map and text are also useful, as well as Burchell's map. As Burchell did not travel here, he took the farm names with those of their owners shown in the Roggeveld from Thunberg and from Lichtenstein.⁽⁸⁾ The latter travelled there first in

1. Thompson I, 409 - 411 & II, map. (This was apparently the route followed by Thompson in 1824.)
2. R.L.R. 22 p.47.
3. See below p. 247.
4. Lichtenstein 1928 p.117.
5. Calvinia Sheet, 4 - Million Series, U.D.F. 1943.
6. Hutchinson p.620. "They returned along the foot of the Roggeveld Mountains."
7. See below pp. 300-2
8. Burchell 1822 p.577. (Note that Lichtenstein's map is not the one in Van Riebeeck Soc. Vol.11, which is Barrow's map from his Voyage to CochinChina p.360, to illustrate the journey of Truter and Smerville to Leetakoo. Lichtenstein's map is reproduced in Kocman 1952b.)

1905, twenty-nine years after Thunberg and Masson, so that it cannot be entirely safe to assume that the farms they mention had not changed names or owners in that period. Nevertheless, the sequence of names in their accounts and in the text and map of Lichtenstein is sufficiently similar to induce the belief that in most cases farms had remained in the same families: and if this be allowed it seems that Lichtenstein followed much the same route as Thunberg and Masson and also as Gordon.

At the head of the Drooge River lies Elandsfontein where dwelt Wilhelm Steenkamp when they reached on 16th November. On the 18th they came to Jacob Louw at Knechts Banken,⁽¹⁾ a name that remains unaltered to this day. On the 20th they lodged with Adriaan Louw who lived at Hartebeestfontein,⁽²⁾ still so called, and at the head of the Kookfontein River, then mapped by Gordon as the Hartebeest River. On the 21st they reached Gert van Wyk at Matjesfontein whose position relative to Klavervlei 2 miles to the N.E. (near the head of the Muisekraal River) is shown on the Gordon Map 3 just as it is mapped to-day.

On the 23rd they passed Thomas Nel's at Kuil, probably the present Kuilwater by the Muisekraal River, and reached Adrian van Wyk's "near the edge of the top of the mountain, where a tremendously deep valley extends down to Carrow" i.e. to the Karroc. This is probably a reference to the track mapped by Gordon as the Gannagans Wagenpad down the route now called Ganaga Kloof and followed by a modern road. Hence Adrian van Wyk may have dwelt near Cyferwater in the vicinity of the S.E. corner of the farm Zoekop as shown in the Divisional Map.

On the 24th they came to a spring in the open veld where they encamped for the night, possibly that which appears on the Gordon Map 3 as Klipfontein. This same name is shown here on the Sutherland Division Map where a spring and outspan are marked by the track.

"On the 25th we crossed the mountain to Paul Kerste's near Kruisfontein", records Thunberg of their journey through the Drooge Bergen, shown as the Aape Bergen on the Gordon Map 3. Kruisfontein is Kruisfontein on the farm of this name where Meintjiesplaas is now situated beside the Kruis River on the eastern slopes of the Drooge Bergen. Next day they proceeded to

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1. R.L.R. 23 p.307.
 2. Lichtenstein 1928 p.120.

Cornelius Kutse at the now well-known Koornlands Kloof by the Fish River.

In their passage through the Drooge Bergen they seem to have followed the road shown on the Gordon Map 3 past Klipfontein, and then later to have gone a mile or two east of Malans Gat as marked on the Divisional Map. These mountains, then the Aape or Aapen Bergen, were at that time considered to be the boundary between the Middle and the Lower Roggeveld, the latter lying north of the mountains.⁽¹⁾ The term Lower referred not to the altitude of the region but to its greater distance from Cape Town, from which one journeyed down and to which one travelled up.

The Roggeveld is usually supposed to have been named after a wild grass resembling rye that grows there. It has, however, been suggested recently that the name derives from Cupido Roggenveldt, a Bastard Hottentot,⁽²⁾ though it would seem more likely that he took his name from the region where he had once dwelt.

On the 29th Thunberg and Maason passed by Olivier's, probably Gerrit Hendrik Olivier, Gerrits, who then dwelt at Kruis River⁽³⁾ by the Fish River 8 miles upstream from Koornlands Kloof. They spent the night at Jacobus Theron's who then lived some 6 miles farther south at Keerom, still so called, by the Fish River⁽⁴⁾ though this is now mapped as a tributary, the Canaries River.

On 1st December they reached Esterhuysen's farm which on the Gordon Map 3 is shown as Uijt Kijk at the head of a track leading down the escarpment to what is now known as the Tanqua Marroc. Uijt Kijk is mapped by Gordon a short distance S.W. of the midpoint of a line joining his Knolle Valeij and Hottentotsfontein. The latter name is now unchanged but the former has become Knollefontein (by the Fish River), and both are shown on modern maps. Thus Gordon's position of Uijt Kijk corresponds tolerably with the present Klipfontein, below which Mauritius Gat appears on some modern maps, which also show a road between these two farms descending the escarpment at this point.⁽⁵⁾ Here then must have been the dangerously steep track which Thunberg and Maason descended on 3rd December and described by the former

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| 1. (Theal 1911 p.368.
(Thunberg II, 175. | 4. R.L.R. 22 p.269 & R.L.R.25p229. |
| 2. Cloete. | 5. (Sutherland Division Map 1900,
(840 rods = 1 inch.
(Sutherland Sheet, $\frac{1}{2}$ - Million
(Imperial Series (Intelligence
Dept.) |
| 3. R.L.R. 25 p. 239. | |

thus. "The uppermost declivity was the steepest and called Ujtkijk ----- the other was called Maurice's Heights". The point on the summit from which their descent began is about 12 miles west of the top of the Verlaten Kloof Pass.

At the foot of the escarpment they came to Meyburg's farm, shown hereabouts on Burchell's map in the valley of the Tangua River. It was evidently in such a position that from it a not unduly long journey on the following day, the 4th, enabled them to reach Goudbloem's (Gousbloem) Kloof. They must have taken the line of the modern road from Sutherland to Ceres up the Uriaesgat River, and have crossed the Koedoesbergen over heights described by Burchell⁽¹⁾ as "Goudsbloem's Hoogte (Marygold Heights)" which are on the boundary of the farms Bloemfontein and Thys Kraal as shown on the Divisional Map. The modern road over the Gousbloem-hoogte has been built since Mossop wrote that "no car to-day may climb the Marygold Heights".⁽²⁾ South of these heights at Thys Kraal was undoubtedly the place referred to by Thunberg as Goudbloem's Kloof.

In correspondence with the present writer Dr. Mossop pointed out that the Windheuvel of Lichtenstein⁽³⁾ and Burchell is not, apparently, that which on the Sutherland Sheet, $\frac{1}{4}$ - Million Series 1943 is thus named with a height of 3246 ft., but is the unnamed eminence 6 miles to the west with a height of 3423 ft. Dr. Mossop also drew attention to an error in his own map⁽⁴⁾ where the Juks River has been applied to the Brak River instead of showing it as a short north tributary of the Ongeluks, namely the watercourse at Jaachtfontein (i.e. Jukfontein) on the Sutherland $\frac{1}{4}$ - Million Sheet.⁽⁵⁾

Our travellers left Gousbloem Kloof on the 5th, and crossing the Ongeluks River reached the Paardeberg on the 7th. Their route on this section can be studied on the maps of Lichtenstein and Burchell, and this "forgotten highway" has been fully discussed by Mossop. No further difficulty is experienced in following Thunberg and Masson to the Cape past Verkeerde Vlei, the Hex River Pass and Tulbagh.

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1. Burchell 1953 I, 163.
 2. Mossop 1929 p.200.
 3. (Lichtenstein 1930 p.211.
(Wolsbergen 1916 II p.194.
 4. Mossop 1929 p.168.
 5. Modern maps used to trace route in above section were:-
Divisional Maps of Van Rhynsdorp 1931, Calvinia 1900,
Sutherland 1900.
Sheet 9, $\frac{1}{2}$ - Million Series, Irrigation Dept. 1937.
Calvinia, Williston & Sutherland Sheets, $\frac{1}{4}$ - Million Series,
U.D.F. 1943.

REGIONAL DESCRIPTIONS.

South Coastal Districts.

We have noted the reasons why his topographic accounts, besides being inaccurate, did not enable their positions in the colony to be identified by his readers. But apart from this difficulty, in the space at his disposal, he gave a very fair idea of the general geographical conditions which obtained in the tracts he visited. His climatic accounts were never particularly explicit; yet these, taken with his indications as to the general nature of the vegetation, provided a guide to the broad climatic characteristics of the various regions. More than this was not possible to the transient visitor. Of the climate he could learn only by hearsay or by inference, and add his own corroborative observations on the weather and plants.

The regional geography of those parts upon which he was the first to publish an account of a personal visit will now be presented from his narrative. First both in economic potentialities and in the chronology of his travels was the south coast region. Winter maximum rainfall is indicated at the Breede River which he was able to ford in summer, but which he said was only passable by ferry in winter.⁽¹⁾ The amount of this precipitation was clearly sufficient to support flourishing tree-growth, since he visited on the mountain slopes near Zoetenelkvalley⁽²⁾ and Buffeljagts River,⁽³⁾ woods of unspecified extent, but of such density and sequestered gloom that they filled him with a mixture of horror and admiration.⁽⁴⁾ Favourable conditions continued beyond the Duivenhoks River, where they encountered between the mountains and the sea "an extensive country, to appearance low; but when one travels across it, it presents a continued series of hills and dales. The hills are quite smooth and easy of ascent, and covered with long coarse grass which cattle seldom eat."⁽⁵⁾

Conditions deteriorated at the valley of the Gourits, where he noted that "on each side of this river lies an extraordinary track of land, which in the Hottentot language is

1. Masson 1776 p.275.
2. *ibid.* p.274.
3. *ibid.* p.286.

4. Masson 1776 p.275.
5. *ibid.* p.287.

called Carro. It is a dry, burning soil, of a reddish colour, intermixed with rotten rock, and intirely divested of grass, but enriched with an infinite number of evergreen shrubs."⁽¹⁾ He did not state that this vegetation was due to lower rainfall, though he probably realised this later after his experiences in true Karroo country.

He reported that beyond "Mossel-Baay lies a woody country, called Houtniquas Land, whose woods, intercepted by rivers and precipices, are so large that their extent is not perfectly known. These woods are a great treasure to the Dutch -----"⁽²⁾

Leaving the coast and crossing the mountains to the north he found, inexplicable perhaps to both Masson and his readers, "a rugged country, which the new inhabitants name Canaan's Land; though it might rather be called the Land of Sorrow, for no land could exhibit a more wasteful prospect."⁽³⁾ This was the Little Karroo, of which Sparrman was later to agree that the Land of Affliction would be a name well suited to its character, but explained that Masson had been at fault in stating that its inhabitants had given it the inappropriate title of Canaan, Land of Promise.⁽⁴⁾ They had in fact, said Sparrman, called it Cana Land, after the Hottentot name of a plant which abounds there, a species of Salsola.⁽⁵⁾ Mentzel said that this was a mistake which Masson had made because "as an Englishman he had misunderstood the Dutch meaning of the name."⁽⁶⁾ Last in chronological order wrote Thunberg, who gave no evidence of having read either Masson or Mentzel, but tells of a "country called Cana Land, by some Canaan's land."⁽⁷⁾ So perhaps there were indeed those amongst the colonists who used this inappropriate Biblical alternative corrupted from the Hottentot term.

Passing eastwards into the Lange Kloof, "a narrow valley not exceeding two miles at the broadest, and in length about 100," he described the seven or eight families of colonists who inhabited it, as wealthy graziers who dwelt in very mean houses "without walls, consisting only of poles stuck in the ground, meeting at the top and thatched over with reeds."⁽⁸⁾ At Zeekoe River, St. Francis Bay, they found excellent lodging with Jacob Kock who had built a handsome house and surrounded it with gardens and vineyards.⁽⁹⁾ Here, Masson noted, "the

1. Masson 1776 p.267.

6. Mentzel 1944 p.91.

2. *ibid.* p.288.

7. Thunberg II, 53.

3. *ibid.* p.289.

8. Masson 1776 p.290.

4. Sparrman 1786 I, 296.

9. See below p. 217.

5. (Grevenbroek p.264.
(Thunberg II 98.

face of the country changes greatly, being open, plain and covered with verdure extending many miles along the sea coast."⁽¹⁾

Continuing eastwards they "travelled through a rugged, hilly country, covered with thick coppices of evergreen trees," and near Van Stadens River reached "pleasant country, diversified with smooth green hills, interspersed with evergreens" and well-stocked with game "which, together with the fine disposition of the woods and groves, could not but charm us."⁽²⁾ This was on approaching from the west the present position of Port Elizabeth; but beyond, the transition was inexplicably abrupt to the contrasting scenery on the banks of the Sundays River, where they found "a miserable parched country, covered with shrubs and succulent plants of various kinds, but the grass was entirely burnt up by the heat of the sun."⁽³⁾ This is, of course, another tract where a sudden decrease in average rainfall is probably an accompaniment of the disposition of the relief.

The climate in the vicinity of Algoa Bay, he wrote "differs much from that of the Cape. They have no S.E. wind, which is so troublesome there; their strongest wind is from the S.W. They seldom have rain in summer, though often thunder and lightning; the clouds being attracted by the lofty mountains are spent in showers before they reach the plain."⁽⁴⁾ There is a measure of truth in these rough observations which he must have derived mainly from the colonists. The S.E. wind is certainly more in evidence at Cape Town than at Algoa Bay, where winds blow more frequently and with greater velocity from the S.W. than from any other quarter. But he is confusing in implying that another difference between the Cape and Algoa Bay is that at the latter "they seldom have rain in summer." This would be a point of similarity, not of difference, were it true: but it is erroneous, for around Algoa Bay there is normally much the same amount of rainfall in summer as in winter.

It is easy to see, however, how he (if not the colonists) could have made this mistake, through visiting Algoa Bay in one of its common summer dry spells, as seems likely from his account of the shrivelled grass near the Sundays River. The continued

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1. Masson 1776 p.291.
 2. *ibid.* p.294.
 3. *ibid.* p.297.
 4. *ibid.* p.296.

dry weather he experienced here would induce the belief that it had a normal duration similar to the summer drought at the Cape. His description of rain-showers being attracted by the mountains and becoming spent before they reached the plain is more appropriate to the Sundays River, where he visited it near its mouth, than to the Van Stadens River in whose vicinity he recorded this weather note.

Northern and North Eastern Districts.

The Cold Bokkeveld is described concisely and graphically as a small elevated barren tract, encompassed by high mountains, where stock rearing was the sole support of the colonists, the bleak climate being inimical to agriculture. On the whole it had "a most melancholy effect on the mind."⁽¹⁾ Thence they "descended by a very steep path into another small country called Warm Bokke Veld, encompassed also on all sides with horrid mountains, but not nearly so barren." Here they were delighted with the luxuriance of the meadows, where the grass reached to their horses' bellies, and was enriched with great variety of flowers.

Of the coastal regions north of the Cape he wrote little that was not already available in print. He was fortunate, however, in visiting Saldanha Bay in early spring, where he exclaimed with delight at the whole country "being enamelled with the greatest number of flowers I ever saw, of exquisite beauty and fragrance."⁽²⁾ Unfortunately this remark stands here in unexplained contradiction to his earlier observation that this country is "little better than a sandy desert, and the water brackish."⁽³⁾ Only much later in the account of another journey does a hint appear as to the cause and duration of this abundance of flowers.⁽⁴⁾

Besides describing the situation and barren nature of which is now sometimes called the Van Rynsdorp Karroo, he added interesting particulars of its economic utilisation by

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1. Maason 1776 p.265.
 2. *ibid.* p.276.
 3. *ibid.* p.277.
 4. *ibid.* p.306.

transhumance. "It is uninhabitable in summer, but in winter, or during the rainy season, the Bockland people [Bokkeveldberg] come down with their herds, which by feeding upon succulent shrubs that are very salt, in a short time grow remarkably fat."⁽¹⁾ Masson and his companion ascended the Bokkeveldberg, "a chain of flat mountains", and found their summits "pretty level but very rocky". There they enjoyed a decrease in temperature consequent upon increase in altitude. He explained that here, every seven or eight years, the peasants were obliged to guard their corn fields night and day from the migratory herds of springboks. "Flocks of many hundred thousands come out of the interior parts of Africa, spreading over the whole country, and not leaving a blade of grass or a shrub."⁽²⁾ This correct estimate of their numbers probably caused incredulity in other of his contemporaries besides Mentzel, who described it as an exaggeration obviously due to a mistake in the translation of Masson's account into German.⁽³⁾ Thunberg's estimate, published after Mentzel's book had appeared, seems to have numbered the springboks in millions.⁽⁴⁾

The Hantam region was tersely depicted by Masson as parched and barren, the rivers quite dry in summer, the soil consisting of nothing but rotten rock, and the hills all of a conical figure entirely covered with broken stone.⁽⁵⁾ Travelling southwards along the Roggeveld, he described it as extending along the summit of a high flat chain of mountains, arid, treeless and with hard brack ochreous soil.⁽⁶⁾ Here the habitations were all in the valleys, where some corn was grown in the winter rains, and sheep and cattle reared. However, due to inclement winters, the inhabitants left the corn to fend for itself after they had sown it in May, and trekked down to the Tanqua Karroo. There they found water and green shrubs for their stock during the winter, at whose termination in October they ascended to the Roggeveld again.

It was here, on the rim of the escarpment at a height of over 4,500 ft., that Masson experienced weather in mid-summer that must have convinced him fully of the truth of the descriptions he had received of the winter rigours of those elevated tracts.⁽⁷⁾ On a December night "it blew a

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| 1. Masson 1776 p.309. | 5. Masson 1776 p.312. |
| 2. <i>ibid.</i> p.310. | 6. <i>ibid.</i> p.313. |
| 3. (Mentzel 1944 p.243.
(See above p.107,n.2. | 7. See above p.92. |
| 4. Thunberg II, 171. | |

violent storm and was extremely cold. The next morning the ground was white with frost, and there was ice upon the pools as thick as a crown piece."⁽¹⁾ Though such weather in summer was unusual it was not unique, for Sutherland experienced "a white Christmas" in 1920.

Though these brief sketches were partly or wholly lacking in details regarding area, shape, altitude, orientation and position, they nevertheless afforded valuable glimpses of districts, some of which were then virtually unknown, even to the majority of the colonists.⁽²⁾ Of these districts he faithfully drew the first outlines on a canvas where many hands had yet to work before a clearly detailed picture would begin to appear to the outside world.

Geology.

To compress his narrative within the compass available in the Transactions, he must have rejected much that he thought of minor significance. Because of the nature of his mission, as well as of his education, he made few references to geology. One only is of importance, that which concerns the exposures of granite in the hills immediately west of Paarl, of which he wrote; "I saw nothing here so worthy of observation as two large solid rocks of a roundish figure, each of which, I may positively say, is more than a mile about at the base and upwards of two hundred feet high above the ground. Their surfaces are nearly smooth, without chink or fissures, and they are found to be a species of saxum or granite, different from that which comprises the neighbouring mountains."⁽³⁾

He thought these granitic masses so interesting that in 1776 he asked Dr. William Anderson, before the latter left England in the Resolution on Cook's third voyage, to take the opportunity of visiting them. Anderson followed this suggestion, and his observations were printed.⁽⁴⁾ Thus Masson seems to have been responsible for directing attention to a geological feature that not only evoked comment from subsequent travellers such as Anderson, Barrow,⁽⁵⁾ and Lichtenstein,⁽⁶⁾ but also drew

1. Masson 1776 p.315.

2. Sparrman 1786 I, 115 &
II, 310.

3. Masson 1776 p.270.

4. Anderson p.102.

5. See below p. 401.

6. Lichtenstein 1930 p.123.

an expression of opinion as to its origin from the distinguished geologist, Playfair.⁽¹⁾ Controversy centred upon whether the rounded granitic summits were giant boulders flung to the hilltop from afar by volcanic agency, as was the opinion of Sir William Hamilton,⁽²⁾ or whether the granite had formed in that position and constituted the entire hill. Its resemblance to the Paarl rocks probably caused him to mention, six miles north of Saldanha Bay, the "Witte Klip, being a white granite stone of an enormous size."⁽³⁾

For the rest his geological observations are of little significance. He noted the presence of horizontal strata in the Great Winterhoek, north of Tulbagh.⁽⁴⁾ At the summit of the Hottentots Holland Pass⁽⁵⁾ he graphically described the characteristic erosion of the Table Mountain Sandstone as "an infinite number of large fragments of rocks, visibly decayed by the force of the S.E. wind -----, Some of these rocks appeared like the ruins of church-steeple, and were worn so thin with wind and rain that the softer parts of them were perforated in many places. They are formed of the cos quadrus of Linnaeus."⁽⁶⁾ This is defined as a hard sandstone that will break into rectangular blocks and hence it is good for building.⁽⁷⁾

Hereabouts at an earlier date Willen van Putten had noted that one of the rocks had been worn into the resemblance of the statue of Erasmus in Rotterdam,⁽⁸⁾ whilst by a strange coincidence Peter Kolb about the same time (1710) thought that a rock on the Steenberg in the Peninsula looked like this same statue.⁽⁹⁾

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1. Playfair p.399.
 2. Cook 1784 I, 44.
 3. Masson 1776 p.278.
 4. *ibid.* p.285.
 5. Re-named Sir Lowry's Pass after alterations in July 1850.
 6. Masson 1776 p.273.
 7. Linnaeus, Vol. 35 p.538.
 8. Botha 1924 p.92.
 9. Kolb p.161.

Hydrography.

By this date two hot springs at the Cape, those of Caledon and Brandvlei, Worcester, had been described by several authors. These were also mentioned by Masson; but in addition he published the first account of two more, those by the Olifants River, Clanwilliam,⁽¹⁾ and near Toverwater Poort, Uniondale.⁽²⁾ The former he described as "nearly boiling hot at the place it issued out of the rock; and the people who used it affirmed that it was hot enough to boil a piece of meat". He evidently did not put this to the test, and it seems likely that he did not even feel the water at the orifices of the springs, for their actual temperature is only about 109° F, which Thunberg more accurately described as lukewarm.⁽³⁾ The bath at Toverwater Poort, Masson said was "very hot and tastes strongly of iron", the truth of which is attested by its present recognition as a chalybeate spring of 112° F.⁽⁴⁾ Both these baths were then used by the colonists, as Masson records.

He was also the first to publish a description of the Zwartkops saltpan (Algoa Bay) which aroused his curiosity because of its unusual degree of salinity and to the fact that this could scarcely be attributed directly to the sea. This is implied in the opening sentence of his account, that "this Salt-pan is a lake several miles distant from the sea, and on an eminence."⁽⁵⁾ He ascribed its salinity to the inflow of rainwater impregnated with salt dissolved from the surrounding catchment, but did not hazard an opinion as to the origin of that salt. His account of the pan and explanation of its salinity is similar to that of Thunberg,⁽⁶⁾ with whom he no doubt discussed the matter, and by whose opinions, because of his superior learning, he was probably considerably influenced. Their surmises regarding the origin of the salt, initiated discussions that were continued in the works of several of their successors.⁽⁷⁾

His remarks upon rivers barely require comment since he said little of them save as helps or hindrances to travel. They appear more frequently in the former role, as the goal of

1. Masson 1776 p.280.

2. *ibid.* p.298.

3. Thunberg II, 18.

4. Kent p.12.

5. Masson 1776 p.297.

6. Thunberg II, 91.

7. See below p. 416.

thirsting men and beasts alike, when even a penurious stream of fresh water yielded them no small comfort.⁽¹⁾ Less often did streams in spate call a halt, or deep rivers require a ferry. Unpotably brack water in rivers and vleis on several occasions mocked their urgent needs. He warned against camping by night in dry watercourses which sometimes are swiftly flooded by heavy rains falling at a distance upstream.⁽²⁾

Conclusion.

There is no need to discuss his accounts of the districts close to Cape Town which had already been treated by previous authors. These parts he represents in general as favoured and fruitful, except, and surprisingly enough, Fransch Hoek, which he calls "but a poor settlement, being a cold moorish soil".⁽³⁾ However, a similar opinion had been expressed about 1700 by W.A. van der Stel who referred to the adjacent Drakenstein settlement as being on "alegt en waterig land".⁽⁴⁾

Masson records nothing but kindness and courteousness from the Europeans he encountered, whether rich or poor, near or far from the Cape. Native customs of the Gonaquas,⁽⁵⁾ Hottentots⁽⁶⁾ and Bushmen⁽⁷⁾ are touched upon; whilst the wild life of the veld and hunting stories find an occasional place in his text. Its presentation to the Royal Society attests that the value of the information it contained was then recognized.

Besides its significance as a contribution to contemporary geographical knowledge, his account illuminates for us certain facets of his character. He was clearly an appreciative traveller with an eye for beauty, who exclaimed at the admirable effect of rugged peaks,⁽⁸⁾ and of cataracts inconceivably wild and romantic;⁽⁹⁾ and who likened the Red Bishop birds poised upon the reeds to so many scarlet lilies.⁽¹⁰⁾ The frequent appearance of a picturesquely archaic phrase enhances the charm of the narrative to-day. In an age when calculated understatement as a method of emphasizing one's hardihood had not yet

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| 1. Masson 1776 p.309. | 5. Masson 1776 p.295. |
| 2. ibid. p.308. | 6. ibid. p.275. |
| 3. ibid. p.271. | 7. ibid. p.314. |
| 4. Van der Merwe p.54. | 8. ibid. p.287. |
| | 9. ibid. p.283. |
| | 10. ibid. p.278. |

become fashionable, he employed restrained language in his accounts of thirst and exhaustion that at times must have been considerable. (1)

There is little other direct evidence of his character afforded by his own writings or by those of his contemporaries: but it is clear that besides being intelligent, trustworthy and pertinacious, he was devoted to his vocation and a born traveller. From the time of his first setting out in 1772 until his death in 1805, he spent at most five years in Britain and at least twenty-eight voluntarily abroad. Though these years of conscientious labour in many lands redounded chiefly to the advantage of botany, his travels here have secured for him a significant place in the annals of the history of South African geography.

1. Masson 1776 pp.300, 308.

ANDERS SPARRMAN.
1772 & 1775 - 1776.

The two volumes published in Swedish in 1763 by Anders Sparrman M.D. entitled A Voyage to the Cape of Good Hope do contain the first full-length personal account of travels in the far interior of Southern Africa. Their only rival in point of length was Peter Kolb's bulky treatise, Caput Bonae Spei Hodiernum, published first in German in 1719. But Kolb had only travelled 75 miles at most from Table Bay into the country. Furthermore, he recounted much on hearsay, apparently without endeavouring to check the truth of what he had been told. Thus his work is marred by a mass of inaccuracies. In great contrast to this often unreliable source, Sparrman's volumes are the lucidly stated experiences, observations and opinions of an honest, keen and accurate observer. He travelled, moreover, to the very frontier of colonisation on the Great Fish River near the present Cookhouse. The quality of his book was quickly recognized, for in 1764 it was translated into German, whilst in 1765 the first of four editions in English appeared.⁽¹⁾ Dutch and French versions were published in 1767.⁽²⁾

Born in 1748,⁽³⁾ Sparrman had already whilst still a boy voyaged in 1765 - 66 as far as Canton⁽⁴⁾ with his kinsman, the Chevalier C.G. Ekeberg,⁽⁵⁾ who was a member of the Swedish Academy of Sciences.⁽⁶⁾ This sea captain charted Table and False bays⁽⁷⁾ and took observations in 1770 and 1774 on the declination of the magnetic needle at the Cape.⁽⁸⁾ Upon his return from China, Sparrman studied medicine at the University of Uppsala where Thunberg was one of his friends. In the translator's preface to Sparrman's first English edition we are told that as a student "his attention was principally engrossed by the science of botany which he pursued with the

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1. In this chapter only, footnotes referring to the 2nd English edition of Sparrman's two volumes on the Cape will be given without their publication date; whilst references to his volume on his voyage with Captain Cook will be distinguished by its publication date, 1944.
 2. Robinson.
 3. Karsten 1957.
 4. Sparrman I, vii, xii.
 5. Sparrman I, 311.
 6. (Karsten 1939 p.111, footnote.
(Wallenberg pp.39, 75, footnotes.
(Karsten 1957, p.52, bibliog.
 7. Sparrman I, 348.
 8. Beattie & Morrison pp. 2, 3.

greatest ardour under its celebrated restorer Linnaeus and became one of his favourite disciples."⁽¹⁾ This enthusiasm seems to have given place to a zeal for zoology which is in the forefront of his interest in his South African volumes.

It was Linnaeus and Ekeberg who arranged for him to visit the Cape in the furtherance of science, though the ostensible purpose of his stay was to tutor the children of J.P. Kirsten, the Resident at False Bay.⁽²⁾ He was twenty-four when he arrived in The Castle of Stockholm on ~~13~~¹³th April 1772 "at a time of life the best adapted to an enterprize of this nature."⁽³⁾ His first stay on these shores lasted but 7 months, of which the winter months were spent with the Kirstens at Simonstown and most of the remainder with them at Alphen, Constantia,⁽⁴⁾ though it was at this time (October) that he made a short excursion to Paarl. It was during this first stay at the Cape that he briefly met his friend Dr. C.F. Thunberg who had arrived there shortly after him.⁽⁵⁾ He paid a farewell visit to Thunberg⁽⁶⁾ before the latter set out on his first journey into the interior of the Cape on 7th September 1772.

Not long afterwards, Sparrman had the unexpected good fortune of being invited to sail in the Resolution with Captain Cook, as assistant to two German naturalists on the expedition, Johann Reinhold Forster and his son Georg.⁽⁷⁾ He left the Cape on 22nd November 1772, and in a voyage of 28 months visited New Zealand, Tahiti, Easter Island, Tierra del Fuego and thrice penetrated beyond the Antarctic Circle. At his return to Cape Town the Resolution made history in completing the first eastward voyage ever made around the globe,⁽⁸⁾ so that there it became necessary for the first time for circumnavigators to repeat a day, in this case Tuesday 21st March, 1775. It has been stated that Sparrman left the Resolution now because of the difficult temper of J.R. Forster; and indeed the latter is known to have been of a quarrelsome nature.⁽⁹⁾ Though Sparrman's volumes on

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| 1. Sparrman I, vii. | 5. Sparrman I, 卅.16 |
| 2. (Degrandpré p.108.
(Schmidt-Preteris p.132. | 6. <i>ibid.</i> I, 卅.37. |
| 3. Sparrman I, viii. | 7. (Cook, I, 18.
(Forster, I, 67. |
| 4. Hoge 1946, loose sheets of
Corrections & Additions, p.4
under HEMM, states that
Moritz 1938 p.280 errs in
saying that Sparrman stayed
with the Hemmings at Alphen. | 8. Sparrman I, 102.
9. Forbes 1952a, p.14. |

South Africa devote only a dozen pages to this voyage of 50,000 miles in the Resolution, his full narrative of the circumnavigation has recently appeared in English for the first time.⁽¹⁾

After his return to the Cape he remained there four months preparing for his inland journey which lasted from July 1775 to April 1776. He raised funds for the expedition by practising physic and surgery, and by selling for sixty ducats (about £27.) an English translation that he had made of a Swedish treatise on the Diseases of Children. In addition, his "travelling purse was farther fortified by a lucky speculation in commerce".⁽²⁾ From another source we know that during his travels he sold his watch, presumably because of financial stringency.⁽³⁾ The purchaser was Dirk Yves⁽⁴⁾ or Uys who lived on the site of the present village of Blanco.⁽⁵⁾ Sparrman's travelling companion was a young man named Imelman, a resident of Cape Town, presumably the same who accompanied Thunberg on his first journey.⁽⁶⁾ Imelman's relatives were persuaded into consenting since he had very weak lungs, and it was argued that "the best remedy for him would be to take a long journey on horseback, especially as he had the advantage of being accompanied by a physician".

They stayed at the Warm Bath (Caledon) a month, and then passing through Swellendam crossed the Great Brak River beyond Mossel Bay. Retracing their footsteps a short distance, they went through the Attaquas Pass and made their way eastwards beneath the northern slopes of the Outeniquas Mountains, and down the Lange Kloof to Leeuwenbosch (near Humansdorp). Thence they passed by the Swartkops saltpan, the Sundays and New Years rivers to the outpost district of Agter Brountjies Hoogte (Somerset East) on the Little Fish River.⁽⁷⁾ The route followed seems to have been that which was then in general use to these frontier districts for it is similar to that taken by Feber and Nantz in 1770.⁽⁸⁾

The farthest point reached by Sparrman and his companion was the Great Fish River in the vicinity of Cookhouse, and thence they returned to the Cape by much the same route as that by which they had come. On 14th December 1775, when he was at

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| 1. Sparrman, 1944. | 5. (Nolebergen 1932 p.58.
(R.L.R. 25 p.129. |
| 2. <i>ibid.</i> I, 114. | 6. (Thunberg, I, 141.
(Moritz 1936, p.261.
(Karsten 1957, p.48. |
| 3. <i>Sample</i> p. 152. | 7. See below p. 202. |
| 4. Sparrman I, 286. | 8. See below p. 200. |

Assegai Bush, ⁽¹⁾ some 18 miles W.S.W. of Grahamstown, there was bestowed upon him in absentia the degree of Doctor of Physic (Medicine) at the University of Uppsala. ⁽²⁾ Additional particulars regarding his route can be obtained by referring to the remarks below in the chapter on Swellengrebel that deal with those portions of their respective itineraries that were the same. The Tables of Itinerary Comparisons that appear as an appendix should also be consulted.

On his return to Sweden he was made a member of the Royal Academy at Stockholm, whilst he was invested with the honorary dignity of professorship by King Gustav III. ⁽³⁾ By the latter he was sent in 1787 to Senegal, West Africa, to examine the possibility of establishing a Swedish settlement there. ⁽⁴⁾ The following year he returned safely home, but not before a report of his death in West Africa had been published in 1787 in the preface to two French editions of his book on the Cape. ⁽⁵⁾ He died in 1820 at the age of 73 in Stockholm. ⁽⁶⁾

It is interesting to investigate Sparrman's volumes in the light of present knowledge in an attempt to assess their value as guides to the geography of the colony. This will enable a picture to be formed of the geographical information upon South Africa that was available in print towards the end of the eighteenth century. When his book was published in 1783 information on this subject available to overseas readers was still very limited. Printed accounts of the Cape up to this time were largely those of visitors who had touched comparatively briefly at the Tavern of the Seas. Their wanderings ashore had scarcely led them out of sight of Table Mountain, so that they depended upon hearsay for their accounts of all but the immediate surroundings of the peninsula.

Peter Kolb's two great volumes (published 1719) were similarly derived, for in spite of eight years' residence at the Cape, he had probably not been much further afield than Caledon and Maare. ⁽⁷⁾ The Abbé de la Caille visited the Cape in 1751 - 53 to make a sidereal chart of the southern skies

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1. Named after Curtisia facinea, a valuable timber tree, of which a few small specimens survive to-day in kloofs in this locality.
 2. Sparrman II, 76.
 3. Sparrman I, ix.
 4. Sparrman 1944, p.14.
 5. Robinson pp.46 - 8. Printed in F1 & F3, but not in F2.
 6. Mendelssohn II, 415.
 7. Mentzel, 1944 pp.76 - 7.

and to measure an arc of meridian. These activities permitted him to travel no further than the vicinity of St. Helena Bay, so that his accounts (published 1755 & 1763) were subject to much the same limitations as those of his predecessors. Masson's short account of about 50 pages of his travels with Thunberg lay buried in the Philosophical Transactions of the Royal Society for 1776.

Brink's journal of Hop's expedition northward in 1761 - 62 across what was later to be called the Orange River appeared in 1778 in a compilation entitled Nieuwste en Bekropte Beschrijving van de Kaap der Goede-Hope, but described only the arid western wastes.⁽¹⁾ Indeed, published accounts of South Africa failed to describe considerable portions of the settled areas which by this time had extended to Agter Bruintjes Hoogte (Somerset East) in the east, and beyond the Kamiesberg in the west, whilst expeditions had penetrated far beyond these limits. Even in Cape Town, according to Sparrman, most of the information about all but the vicinity was confused and perplexed, various accounts being often contradictory, and still more frequently clashing with probability itself.⁽²⁾

This was an age of investigation and discovery. Science was busy systematizing and cataloguing, while explorers sailed uncharted coasts and traversed unmapped lands. Hence the time was ripe for knowledge of the interior of Southern Africa to be spread to the outside world; and Sparrman made an important contribution to knowledge by being the first to publish a long and reliable personal account of observations and experiences during an extensive journey in those parts of the colony most favourable to human occupation.

The eagerness with which these volumes were received is evidenced by their translation from the original Swedish into German, English, Dutch and French; and this widespread reception reflects the interests of the age. Their permanent value is attested by Theal,⁽³⁾ who considered them "the most interesting and trustworthy account of the Cape Colony and the various races of people then residing in it, that was published before the beginning of the present century" (i.e. the 19th).

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1. (Allanand & Klockner.
(Moseop 1947a.
 2. Sparrman I, 115 & II, 43, 310.
 3. Theal, 1910, III, 393.

Though in no sense was he an explorer, since his travels were entirely within the boundaries of settlement, the importance of his journey lay in the first-hand and veracious accounts he wrote of all he saw in regions which had hitherto been a veritable terra incognita to the outside world. The greater part of his two volumes consists of a journal of these travels, with a diary of events forming the main thread of the narrative. Frequently inserted are very lengthy digressions on subjects zoological, ethnological, medical or botanical; or on other topics suggested by events: but always he returns sooner or later to the tale of his travels. Whilst this form was logical for a travel diary, it is unsuited to a concise presentation of the geographical scene which he portrayed, since the views expressed on individual subjects are widely scattered. These will accordingly be grouped here under those headings now in common use in systematic geographical works.

Cartography.

His map was the first to be published which attempted to show in any detail most of the area of contemporary settlement. The size is 20½" X 12½" and the latitude scale is approximately 44 miles to the inch, but no meridians are shown. Having explained the difficulty of constructing it, he remarks that "the reader therefore must not expect a perfect geometrical accuracy in my map, it being laid down only from my own observations with a compass, and the accounts obtained from others. In the mean time, however, it is the only one that exists, and may probably be of no small assistance in the framing of others that may be made hereafter."⁽¹⁾

This then was a courageous and laudable undertaking which commands respect and admiration though the manner of its execution leaves much to be desired. The assistance he acknowledged which he received from the inhabitants of the colony is manifest in his portrayal of many features which he did not visit. He also probably consulted earlier small-scale maps of Africa as well as those showing only the south-western part of the colony, and sea-charts of the coasts of southern

1. Sparrman I, 132.

Africa. These sources of information as well as the published narrations of travellers seem to have been freely drawn upon.

One of these latter was almost certainly the account written by C.F. Brink of Hendrik Hop's journey in 1761 - 62 into Namaqualand and across the Grootte Rivier (Orange). This was first published in Dutch, as mentioned above, but it is the French translation to which Sparrman refers on several occasions,⁽¹⁾ ascribing the journal to Hop instead of to the expedition's surveyor, Brink. Sparrman tells us that he inserted the Grootte Rivier in his map on the authority of Hop,⁽²⁾ and the evidence is strong that the string of names between the Cliphants and Grootte rivers was similarly derived. These names all appear in the account of Hop's northward journey and are mapped by Sparrman in rough agreement with Brink's latitudes.⁽³⁾ Moreover, in no other account of travel along this route are all these names mentioned. He has not, however, inserted all the places recorded by Brink on the northward journey. This is particularly so beyond the Grootte Rivier where only the Warme Baad is mapped, but in latitude $28^{\circ} 15'$ which does not agree with Brink's $28^{\circ} 5'$ (actually $28^{\circ} 27'$). The greatest ascertainable error in Brink's latitudes is $23'$ or about 26 English miles at Koperberg (Springbok). Sparrman, however, made errors of more than 4° in the N.E. parts of his map where he had only his own observations, or lack of them to rely upon; whilst its N.W. portions, which rest on Brink's work are of considerably greater accuracy.⁽⁴⁾

It is in the N.E. regions that the most pronounced distortions of scale and direction occur. Admittedly a high order of accuracy could not be expected in reckoning distances on his compass traverse from times taken by ox waggon over ground of varying difficulty. Even so, he should have achieved greater accuracy than he did, if he had paid proper attention to this work. There is good reason to suspect, however, that he did not maintain a traverse, except perhaps one of a most rudimentary character.

He avoided any direct estimate of the average distance travelled in an hour, the uur, which he discussed without committing

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1. Sparrman II, 131, 152, 214.
 2. *ibid.* II, 152.
 3. Molebergen 1916 II, 24 - 50.
 4. Forbes 1949b.

himself to any figure. His remarks upon the schoft, or distance travelled in a day, ⁽¹⁾ are complicated by a faulty translation into English. In the sentence which reads, "Four such hours with a horse, or with eight oxen, are reckoned to make one schoft," the words "with eight" have been transposed.

When an attempt is made to arrive at a figure for the uur, confusion arises from apparently widely differing estimates. For in one place the English translation states that in 7 hours his waggon covered about 4 Swedish or 24 English miles, ⁽²⁾ whilst elsewhere he is represented as stating that in 8 hours a waggon averages above 45 miles. ⁽³⁾

The latter speed, almost double that of the former, is without doubt due to a misunderstanding on the part of the translator, for the Swedish original puts the distance at 8 miles. The Swedish word mil, however, can mean either mile or league. The translator evidently thought that the units of length employed were Swedish miles which he converted to English geographical miles (and not statute) by multiplying by 5.764, thus arriving at the result that in 8 hours the distance covered would be above 45 miles. But it is clear that Sparman meant the sea-league of approximately 3.45 English statute miles as will appear in the following paragraph.

In the first instance quoted above, when he believed that he had covered about 4 Swedish or 24 English miles in 7 hours this speed works out at approximately a sea-league of 3.45 English statute miles per hour, which Thunberg too thought was a fair average pace. ⁽⁴⁾ This is the speed also adopted for the scale on Map 12 of the Gordon Collection which is given as "Schaal van 9,000 Nijlandse Roeden of Ses Uuren gaans", ⁽⁵⁾ since the Rhineland mile of 2000 roods equals 4.605 English statute miles.

The present writer believes that this estimate is somewhat high as an average for travel by ox waggon. However, Sparman seems to have taken this speed as the average over a long journey, for he put the distance between Zeekoe River (Humansdorp) and Agter Bruintjes Hoogte via New Years Drift (Alicedale) at 100 uurs ⁽⁶⁾ with a waggon, or 100 leagues. ⁽⁷⁾ He evidently used the sea-league in these estimates, for he

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| 1. Mentzel 1944 p.147. | 5. See below p. 328. |
| 2. Sparman I, 131, 132. | 6. Sparman I, 361. |
| 3. <i>ibid.</i> II, 146. | 7. <i>ibid.</i> I, 351. |
| 4. Thunberg I, 144. | |

remarked elsewhere that 20 leagues equalled 1° of latitude.⁽¹⁾ Hence 100 leagues is 345 English statute miles, an excessive estimate of the distance which is at most 200 miles. As an estimate of time, however, it is probably fairly correct, since it would involve a rate of 2 m.p.h. which in the opinion of the present writer is a reasonable average figure for the umf.⁽²⁾

Sparman's estimated distance of 345 miles for this journey is far from agreeing with its length of 450 miles given by using his latitude scale for calculation. It is likely that he was unaware of this inconsistency, and simply fixed the position of Agter Brountjes Hoogte and the Little Fish River by using one of those early maps of Africa which showed the mouth of the Great Fish River (Rio do Infante?) in lat. 30° instead of in $35^{\circ} 30'$. This is suggested by his mention on three occasions⁽³⁾ of old maps or charts which he believed gave a fair idea of the coast. If this is not the explanation, it is hard to account for his placing Agter Brountjes Hoogte in lat. $28^{\circ} 30'$, about 4° or 275 miles north of its true position. But however the error arose, it does not seem to be a deliberate attempt to exaggerate the extent of his travels, for his claims in this respect are restrained.

His statement can scarcely be credited that he had taken observations on and laid down on his map "a long tract of the coast between Sitsicama and Zondags-rivier".⁽⁴⁾ The route he followed here lay at a distance from the sea that renders it unlikely that he paid sufficiently frequent visits to the coast for surveying it. This conclusion is borne out, moreover, by the highly inaccurate north-easterly trend of this part of his coast line. Its form here also bears little relation to actuality, as for example, where the Gautoos River is made to enter the sea at the apex of a cape. The inference then is inescapable that his coastline beyond the Krome River (as indeed everywhere else in the map) was mainly copied from earlier maps or drawn according to descriptions of the colonists

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1. Sparman I, 342.
 2. Compare with other opinions of the length of the umf in:-
Carter & Van Reenen pp.140, 168.
Lichtenstein, 1928 pp.18, 420.
Mentzel 1944, pp. 70, 212.
Barrow 1801 pp. 55, 86.
Burchell 1953 I, 204 & II, 244.
 3. Sparman I, 262, 348 & II, 316.
 4. *ibid.* I, 347.

or of navigators: and one of these explanations particularly applies east of Sundays River where he struck inland.

Whilst he nowhere explicitly states that he copied from other maps, he thrice indirectly acknowledges their aid as stated above. Of them, however, he correctly writes "that all the maps and charts of the eastern coast of Africa hitherto known are faulty in making the extent of it to the eastward much less than it really is",⁽¹⁾ and that Captain Cook, amongst others, had noticed this. (It was the southern coast thus referred to, but Sparrman called it the eastern since it lay east of the starting point of his journey).

Whilst these observations may have served to make navigators wary, or have stimulated attempts to investigate the position and rectify it if in error, he himself did nothing to clear it up. He evaded committing himself by omitting the meridians, which cannot be calculated even approximately from the latitude scale since there is no information as to the map-projection used. Indeed, it is unlikely that he employed one, but simply drew a free-hand sketch within an outline of the coast copied from a chart, so that Barrow was provoked to the comment that "he must certainly have constructed it in his closet from recollection".⁽²⁾

It was a heavy responsibility that Sparrman unwittingly incurred in omitting the longitude of the point where the coastline changes its trend to a N.E. direction, which he put at Point Ekeberg, the southern extremity of his Baay Contant. Without this information navigators had no means of identifying this bay on a coast which presents several confusing similarities of conformation. He showed it as that into which the Krome River flows (St. Francis Bay) and followed the charts of his day in making the angular change in the coastline to the N.E. as considerably more abrupt than it actually is.

He further increased this danger by representing Point Ekeberg as having a small island at its extremity. Thus eastbound navigators using his map would have thought that they were at Point Ekeberg when they saw Cape Seal (Robberg) at Plettenberg Bay, since "its peculiar formation gives it from many points of view the appearance of an island".⁽³⁾ This faulty identification would have led them to think that it was then safe to bear off to the N.E., a course that in thick weather or by night might have led to disaster.

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1. Sparrman I, 348.
 2. Barrow 1804, p.15.
 3. Africa Pilot. III, 107.

Because of the difficulty then experienced in accurately ascertaining longitude, and because of the general agreement in latitude and shape of the south coast bays, the nomenclature of those without settlements was liable to be confused. ⁽¹⁾ He had read that the west point of Algoa Bay lay in latitude $35^{\circ} 55'$, ⁽²⁾ but placed it in $35^{\circ} 40'$ in his map. This is clearly the present Plettenberg Bay, referred to in a contemporary document as Angola Bay. ⁽³⁾ Baai Content was another earlier name for it, so that he also erred in calling Baay Content that into which the Krome River flows, actually St. Francis Bay. His remarks on this are worth quoting in full. "The little island which I have placed near Point Ekeberg, I have in fact never seen myself, but thought it right at all events to lay it down on that spot, as Captain Burts was induced by an old Portuguese chart that gives a tolerable idea of the coast, to conclude that the bay in it called Bay Content where there is a little island near the point, is the same inlet that I have laid down near the Krome-rivier; so that, being on shore, I possibly might not be situated so as to see the island distinct from the continent." ⁽⁴⁾ Actually there is no island at Point Ekeberg (Cape St. Francis) though as explained above, Cape Seal (Robberg) at Plettenberg Bay can easily be mistaken for one when viewed from the sea.

Had he known these facts he would have realized his misapplication of the name Baay Content. Paterson whose map published in 1789 is almost identical with Sparrman's, copied these errors. Le Vaillant's map of 1795 in its southern and eastern portions obviously relied considerably upon Sparrman's work and followed these particulars, but omitted the island at Point Ekeberg.

Sparrman knew that the wreck of the Doddington had occurred ⁽⁵⁾ near the mouth of the Sundays River, and recollected having read that her captain had put the latitude at $35\frac{1}{2}^{\circ}$ or $32\frac{1}{2}^{\circ}$. ⁽⁶⁾ Either of these figures would have been far preferable to the latitude of $30^{\circ} 45'$ adopted by him in mapping this locality. He put Krakekama Bay, now Algoa Bay, at 200 uurs from Cape Town, ⁽⁷⁾ which would make the distance 690 miles at the figure he apparently assumed for the uur i.e. 3.45 miles.

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| 1. (Molsbergen 1922 p.vi.
(Pettman pp.58, 149.
(See below p. 426. | 3. Jeffreys, 1926 p.264. |
| 2. Sparrman I, 262. | 4. Sparrman I, 348. |
| | 5. <u>Shipwrecks & Disasters</u> , II, 322. |
| | 6. Sparrman I, 349. |
| | 7. <u>ibid.</u> I, 264. |

The actual distance by the route then used was about 540 miles, so that to cover it in 200 hours a rate of 2.7 m.p.h. would have been necessary. As stated above, 2 m.p.h. was probably closer to the average rate over a long journey, so that here he underestimated the time necessary, yet gave the impression of a distance considerably in excess of the actual.

The native name of the Great Fish River figures wrongly in Sparrman's map as t'kam t'Kay, but is given more correctly in his text as t'kau t'Kay.⁽¹⁾ However, his vocabulary says that t'kau means buffalo, and that t'sau means fish.⁽²⁾ The former agrees with Beutler's statement that the Kaffirs called the Buffalo River (at East London) the Kuka.⁽³⁾ The names for buffalo and fish apparently sounded sufficiently similar to give rise to confusion in their spelling. The t'kam t'Kay of Sparrman's map resembles the name recorded in his text for the White Kei, t'kansi t'Kay.⁽⁴⁾

It is fruitless, however, to comment further upon his errors which seem to have arisen mainly from an artless unconcern with the problems of precise cartography. His chief interests lay in zoology, anthropology and medicine, to which he devoted scores of pages. References to his map scarcely received as many lines.⁽⁵⁾ The only survey instrument that he mentioned was a pocket compass.⁽⁶⁾ The intention that actuated him in compiling his map was admirable, and it is regrettable that his achievement was incommensurate with his design.

If he was a careless cartographer, as seems clear from the preceding as well as the following evidence, he can certainly be credited with honesty. The features he recorded were either those with which he was personally acquainted, or had been visited by other travellers, or were then familiar locally to the colonists or the natives. This is attested to by the fact that of the 244 place-names on his map, at least 152 appear in modern maps in identical, similar or recognizable forms. Of the 92 that remain, 58 can be traced in old maps, in books of travel and in modern works dealing with place-names; whilst suggestions of varying degrees of probability can be made as to

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| 1. Sparrman II, 146, 190. | 5. Sparrman I, 8, 132, 222, 223, 257, 261, 282, 348 & II, 152, 160, 268, 316. |
| 2. <i>ibid.</i> II, 352. | 6. <i>ibid.</i> I, 132, 257 & II, 35. |
| 3. Molsbergen 1922 p.300. | |
| 4. Sparrman II, 146. | |

the identities of 31 more. For only 5 names on his map can no suggestions be offered. Two of these, Kokardi and the Geelhoutboom River in the Outeniquas region, he did not visit but learnt of them from a farmer. The third is the 5 Dwers Valley in the Kromme River valley.

The place-names used by Sparrman fall into two main categories, namely (a) those used also by other writers and cartographers in identical or recognizable forms and (b) those that so far as can be ascertained are peculiar to his map and/or text.

Most of the names in category (b) do not seem to have been investigated previously and will therefore be dealt with in the following paragraphs. However, in discussing them, names of collateral significance will not be excluded, especially where they have a bearing not only upon nomenclature, but also upon cartography.

First to be discussed will be those names which appear on his map. He depicts the rivers of the Great Karroo on hearsay, in the order in which they were crossed by travellers between the Cape and Camdeboo.⁽¹⁾ A mistaken conception of that route and of the latitude of Camdeboo was no doubt responsible for the extraordinary northerly displacement of the affluents of the Gourits River. The magnitude of the errors here renders it difficult to recognize the rivers immediately, though all but one, the Debenka, appear under similar or somewhat similar names in modern maps. Hence a discussion of their true positions will clarify the situation. His Traaka, Kuga and Leery Fountain are most misplaced, the true position of the latter (Loriefontein) is about lat. $33^{\circ} 11'$ ⁽²⁾ being some 300 miles south of where he depicted it. His Traaka (Traka) flows eastwards in the same latitude, whilst the Kuga (Kouka) is its northern tributary. These combined streams pass southward through the Groot Swartberg at Toverwater Poort to join the Olifants River. His Canka (Genka) shown as a small tributary of the Olifants, has affluents which actually head further north than any of the other watercourses of this system. His Taux is the modern Tows, whilst the Straat is its tributary flowing from the valley of that name.

His Debenka is almost certainly the Dvyka which Swellengrebel in 1776 called the Brakke Rivier, but said that it was also known as the Dwinka, the Hottentot word for salty.⁽³⁾

1. Sparrman II, 160.

2. See below p. 186.

3. See below p. 185.

Van Plettenberg in 1778 called it the Deepka or Brakke Rivier.⁽¹⁾ Barrow in 1797 said it was called the Dwyka or Rhinoceros River.⁽²⁾ If this was not an error, it must have been an alternative and not a translation, for the Hottentot word for that animal has been rendered variously as nabba, tuabba and gNahas. Sparrman's nomenclature here is in fact probably more correct than the form given by Barrow and which now survives. For in agreement with the statements of Swellengrebel and Van Plettenberg, Debenka also seems to signify Brakke River. In the Korana tongue debe means brack⁽³⁾ whilst the ka termination is said to mean river in Hottentot.⁽⁴⁾ This suggestion is advanced in the belief that it is not incompatible with what is known of the history of native names adopted and adapted by Europeans. In contradiction, however, to some of these statements, is the opinion that Dwyka is derived from the Hottentot word twake meaning a tributary.⁽⁵⁾

His Anthonveld may be an attempt at a phonetic rendering of Hartanveld, as the district around the present Calvinia was then called. Its position somewhere N.E. of the Cape would then be as close as it could be placed from local information. This tentative identification is, however, in conflict with his statement⁽⁶⁾ that from Gamdebo (Graaff-Reinet dist.) to the Cape "the north road is said to go to Anthonveld, Kau-veld and Bokkeveld."⁽⁷⁾ Had he said that a north road from the Cape led to these places, this identification would be strongly supported. Indeed, he may have muddled his information, for we learn in his translator's preface of his "having been careless in his language, and more especially in his nomenclature, to a high degree."⁽⁸⁾ His Kau Veld is probably the Gough or Koup with veld added to conform with the usage familiar in regional names. Gough is said to mean Skeleton Country⁽⁹⁾ and was the name used then for that part of the Karroo that lies S.W. of the present Beaufort West.⁽¹⁰⁾

Proceeding now further N.E. on the road to Gamdebo, the name Seahre Valley R. is printed thus in the maps of both the English and French editions, but appears more correctly in the Swedish and German editions as Seahre Valley R. This is the

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| 1. Molsbergen 1916 II, 68. | 6. Sparrman II, 160. |
| 2. Barrow, 1801, p.96. | 7. Mentzel 1944, pp.5, 96. |
| 3. Maingard 1934, p.131. | 8. Sparrman I, ix. |
| 4. Pettman p.38. | 9. Engelbrecht p.15. |
| 5. Engelbrecht, p.15. | 10. Blommaert & Wild, pp.225, 247. |

then well-known outspan of Beervlei where the Salt and Kariega rivers unite to form the Groot River. The Kahre R. is probably that which was called Kalij by the Hottentots,⁽¹⁾ was spelt Karee by Van Plettenberg's journalist,⁽²⁾ Kare by Swellengrebel,⁽³⁾ and seems to have been wrongly identified recently as the Karree River of the Aberdeen district.⁽⁴⁾ Evidence points instead to it being the Kraai, for Swellengrebel wrote, "Morgens 5.30 spannen wij uit aan de Kare R., die na de Camdeboo loopt, en verder de Brak R. word genaamt." This answers to the Kraai which downstream becomes the Kleine Brakkerivier, a tributary of the Camdeboo River.

Van Plettenberg's waggons took 6½ hours from Kraan-Vogel-Valleij to the Karee River, and thence 4 hours to the Camdeboo River. The Gordon Map 3 clearly shows the road from Beervlei passing up the Kariega River (then the Buffels), then striking N.E. by Kraan Vogel Valleij (Sparman's Water Valley?) and reaching the Carce R., a tributary of the Brak (now Kleine Brakkerivier) which in turn joins the Camdeboo River. These facts thus point to the Kahre in its various spellings being the modern Kraai and not the Karree which is some 20 miles E.S.E. of Aberdeen.

The Brack Fountain of Sparman's map may have been the outspan at the Kleine Brakkerivier by which Aberdeen now stands on the farm marked Brakke Fontein in the Divisional Map of 1912. His Beahr River, whose spelling is similar to that used by him for Beervlei, may be a lower portion of the Kleine Brakkerivier, since here was situated a farm owned by J.J. de Beer where Swellengrebel outspanned. The custom of naming streams thus is mentioned by Mentzel who related that "each rivulet derives its name from the riparian owner, which name varies every few miles."⁽⁵⁾ However, since the map shows the Beahr as a separate stream from the Brack Fountain, it is more probable that it was the Swarte River where Van Plettenberg outspanned at the farm De Vrede occupied by Johannes de Beer.⁽⁶⁾

Rhinoster jagt Dinnelman Vluukt⁽⁷⁾ commemorates the flight of his companion from a rhinoceros near the Little Fish River. Heuy, in the same locality, twice spelt Hevy in the English text⁽⁸⁾ but given as Hevy in the Swedish original, is apparently a phonetic rendering of Hooi (Hay), a rocky vale

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| 1. Mossop, 1931 p.228. | 5. Mentzel 1921 p.68. |
| 2. Molsbergen 1916 II, p.71. | 6. See below p. 290. |
| 3. Molsbergen 1932 p.6. | 7. Sparman II, 113. |
| 4. Botha 1926a, p.68. | 8. <i>ibid.</i> II, 81,307. |

where he said that all the plants "were dried up like hay" and where some brackish pools were found. Its position remains unidentified, but it is possibly the Zout Kloof River 3 miles S.S.E. of Comnadagga railway station.

Kurekoiku, or t'Kurekoi t'Ku,⁽¹⁾ a half-day's trek from Alicedale towards Comnadagga, may have been near Bushmans River railway station which is on the farm called Hoekoe. This name suggests a connection with t'ku, the latter half of the Hottentot word. Particulars obtained in 1945 from the proprietor of Hoekoe, Mr. G.M.T. Burlo, are not in conflict with this suggestion. He wrote that as far back as local inhabitants can remember, the only road from New Years Drift to Dirkskraal and Comnadagga passed through Hoekoe, which is about 5 or 6 hours waggon trek from New Years Drift at Alicedale. The road was still in use up to the time of the floods in 1944. The homestead of Hoekoe is situated about 200 yards from the drift across Bushmans River, the drift being a little way below a large pool of water which has never been known to be dry, and where Sparrman might have outspanned. This is the more likely since he records that it was a year of unusual drought. Burchell's Kurukuru River in this general locality is a name of sufficient similarity to Kurekoiku to merit investigation which seems to show, however, that these features are not the same. For it is unlikely that Sparrman ever crossed the Gaitu River, as the Kurukuru has been identified with little fear of contradiction.⁽²⁾

Keusi Kunni sati, which he said was called by the colonists the Little Boehies-mans River, he encountered on his way between Coerney and the Bushmans River. He remarked that its name "in the Hottentot language bears pretty nearly the signification of Let not the ugly drink here".⁽³⁾ This was probably the intermittent watercourse which joins the Bushmans River from the west some 2 miles upstream from Rautenbachs Drift. This identification will be discussed more fully below.⁽⁴⁾ In Mentzel's comments on Sparrman this name appears as Keuri-Kanniagli.⁽⁵⁾

The mountains called the Sneesebergen by Sparrman lay in a locality inhabited by a tribe whose "complexions being rather

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1. Sparrman II, 77, 307.
 2. McKay 1943 p.52.
 3. Sparrman II, 71.
 4. See below p. 254.
 5. Mentzel 1944 p.97.

of a yellow cast have consequently been called the Chinese or Snesse-Hottentots."⁽¹⁾ These were the Bushmen.⁽²⁾ According to an indication by Pettman, however, these mountains should have been shown to the east of the Great Fish River.⁽³⁾ Sparrman commemorates two Swedish navigators who had sailed these waters, his kinsman the Chevalier Ekberg and Captain Adolphus Burtz,⁽⁴⁾ in Point Ekberg and Burtzenhoek respectively. The former as we have seen is now Cape St. Francis, whilst the latter, at the mouth of the Gamtoos River, has no existence in anything like the form in which it was mapped by him.

His Krake Kamma was first recorded by Beutler⁽⁵⁾ and was applied by the latter to the big vlei which still exists in an attenuated form some 12 miles W.S.W. of Port Elizabeth in the locality called Kragga Kamma to this day. Sparrman's Krake Kamma Harbour⁽⁶⁾ was Algoa Bay and his Point Padron⁽⁷⁾ our Cape Recife. Swellengrebel called the promontory terminated by Cape Recife "de uitstekende hoek van Kragga Kamma".⁽⁸⁾

Of the Outeniquas region he wrote, "This part I had no opportunity to visit, and therefore was obliged to be contented with putting down on the map the farms and rivers as well as I could conceive them from an account, which, however, was not very accurate or distinct, given me by a farmer who had travelled a good deal in that district."⁽⁹⁾ Thus it is not surprising that this part of his map offers more puzzles in nomenclature than any other. The present writer gratefully acknowledges the assistance of the late Dr. H.G. Fourcade of Witte Els Bosch, C.P. in some of the identifications in the Outeniquas region, in the Lange Kloof and in the valley of the Kromme River.

In the former area Sanddrift, apparently a farm, may have been on the Sanddrift River which is a tributary of the Malgaten, as the former Groot Els River is now called. The Klein Els River is the Witte Els of Burchell, and may be one of the branches of the headwaters of the Witte Els, a name which is still used as an alternative for the Malgaten River.⁽¹⁰⁾ The Moeras River forms the eastern boundary of the farm Geelhoutboom and thus may then have gone by the name Geelboom River.

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| 1. Sparrman II, 145, 265. | 6. Sparrman I, 351. |
| 2. Molsbergen 1932, pp.40,48. | 7. <i>ibid.</i> II, 316. |
| 3. Pettman p.76. | 8. Acc.447 pp.51,65. |
| 4. Sparrman I, 348 &
II, 286,338. | 9. Sparrman I, 261. |
| 5. Molsbergen 1922 p.283. | 10. Fourcade p.160. |

Similarly the Malagas River forms the eastern boundary of the farm Modder River, so that this river may then have had the latter name. Hartbeestdrift being the next stream to the east, was probably that now called the Kampers Drift River which forms the western boundary of the township of George, and which may be the Hartbeestrivier crossed by General Janssens. (1) The Keeron is now the Kasimans River. The Keura is possibly the Klein Keur of Prof. Schwarz's geological map of 1905, (2) a stream shown flowing into the Lange Vlei, but called the Kleine Keurbooms by De Mist in 1803 (3) as well as on the Divisional Map of 1911. However, the name Klein Keur re-appears here in the Oudtshoorn Sheet, 1/4 - Million Series of 1943. The Kokou may be Thunberg's Krakakou, (4) the modern Touw River. (5)

By the Grootware Valley may be meant the chain of lakes from Lange Vlei to Swart Vlei. The Dawkona River is the modern Goukama, of which Victorin wrote that the latter name is pronounced according to the former spelling. (6) Robert Semple rendered it as Doukama. (7) From the position assigned to the name Groen Land it may perhaps have been intended to represent it as an alternative name to Houtniquss Land which is given in his vocabulary as meaning terra firma. (8) Kokardi and the Geelhoutboom River remain obscure. Those other names on Sparrman's map in the Outeniquas region not mentioned here are omitted since they fall under category (a), as do also all his mapped place-names of the Little Karroo and of the Lange Kloof west of Avontuur.

East of Avontuur in the Lange Kloof and in the valley of the Kromme River, some of the names fall under category (b). Starting from the headwaters of the Couga, the farm Welgelegen was then by Rietvalley. (9) Sparrman's Klein Riet Valley was therefore probably the Couga at Welgelegen, and his Groot Riet Valley River probably the stream 1 1/2 miles to the east, the present Groot River west of Haarlem. (10) His Klein River thus may be the stream at Ongelegen. (11) The Crants is

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| 1. Molsbergen 1932 p.114. | 5. Pettman p.24. |
| 2. Schwarz, 1905. | 6. Victorin p.45. |
| 3. Theal, 1911 p.153. | 7. Semple p.156. |
| 4. Thunberg I, 183. | 8. Sparrman II, 352. |
| 9. (R.L.R. 19, p.9.
(Gordon Collection, Map 12, equivalent copy of Friderici's Map
(of 1790, of which the original may be M.178 Cape Archives. | |
| 10. (Theal, 1902, Vol.10 p.64. The ford through the river here
(was called Riet Valley.
(See above p. 29 &
(below p. 220. | |
| 11. (R.L.R.19 p.21.
(Gordon Collection, Map 12. | |

probably now the Rooikrans near the head of which stands the Redoliffe Hotel. The Dieu is the Diep River at Misgund. The Klein may be the stream at Nieuweplaats. Klipdrift is the name of the farm through which flows the Louterwater River, known then as the Groot Aapjes according to Sparman and several other travellers of that period. Krakeel and Wagenboos rivers still retain these names, the latter being the stream at Joubertina. De 3 Fonteinus may be the present Tree Rivieren discussed elsewhere in this work.⁽¹⁾ 3 Deurs Valley is unidentified. Witte Else was probably a farm on the Wit Esche Bosch River mapped by Wentzel in 1752.⁽²⁾ The Melkhout may be the stream at Melkhout Kraal. Rooye Hoogte is given in Burchell's map as Roode Hoogte and may be the Roode Kraans on the north bank of the Kabeljauwa River shown in the Humansdorp Division Map of 1921. Further information upon Sparman's place-names between the Attaquas Pass and St. Francis Bay appears in the chapters of this volume dealing with Boutler and with Swellengrebel as well as in the tables of Itinerary Comparisons in the appendix.

One other name on his map calls for comment, the t'Kan t'Nasi River which is translated by him in his text as Washing Water River.⁽³⁾ This should be compared with a modern translation of the same Hottentot word,⁽⁴⁾ now spelt Kananassie.

Place-names mentioned in the text, but not shown in his map are 37 in number. Of these 32 fall under category (a), whilst in category (b) there are only 5, for 2 of which no suggestions as to their identity can be offered. Two of the three names for which tentative identifications can be attempted are the Meulenaars and Souj rivers listed amongst the streams between Swellendam and the Hex River.⁽⁵⁾ The former placed by him between the Klip and Leeuwen (Leeuw) rivers, is probably the present Keurbooms which is 7 miles W.N.W. of Swellendam on the bonaf or upper road leading up the Breede River valley. Whilst no record has been discovered that the Keurbooms ever drove a mill, it could have done so, since its flow is sufficiently sustained for it to be used now to produce hydroelectricity for a nearby farmhouse.

He misplaced the Vinke River in naming it before (i.e. east of) the Gorce. Thus the order of mention cannot be taken as an

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1. See above p. 30 & below p. 219.
 2. See above p. 30.
 3. Sparman II, 352.
 4. Mossop, 1931 p.223.
 5. Sparman II, 329.

entirely reliable guide in the case of his Seuj, which he placed east of the Komma, and thus may be the present Nuy. The name Seuj is given as the Sauffluss in the German edition and hence suggests that Zeug (Sow) River was the Dutch name he meant to represent. But no connection can be traced in Dutch or Hottentot between this word and Nuy which suggests nooi, a housewife, in the former language. This surmise is strengthened by its appropriate association with the Monna, meaning a young mistress; though admittedly nomenclature is not governed by rules of congruency. Again, Seuj could be due to the misreading in the manuscript fieldnotes of the letters designed to give the sound now represented by the spelling Nuy.

The third name in category (b) for which a possible identification can be suggested is the Little Zomo River which may be the Tsejana, as is explained below.⁽¹⁾ The two names which remain untraced are Nies-hout-kloof (Sneezewood) and a vale called t'Kur-t'keija-t'kei-t'kasibina, both between Bushmans River and Assegai Bush in Alexandria Division.⁽²⁾

Relief & Geology.

His highly imperfect representation of the relief clearly reflects the author's lack of accurate knowledge, which indeed is scarcely surprising considering how little of the country he had seen and that his informants were mainly unlettered settlers, ill qualified in the niceties of topographic description. However, even an account of the disposition of the chief relief features which he himself had seen is scarcely attempted in his text. Nor on his map is the linear character of the east-west ranges in the fold belt apparent except perhaps to one familiar with their trend. In the text the only reference made to their disposition is that "on the eastern side of Leeuwen-bosch [near Humansdorp] the country may be said to be a champain or open country, the long range of hills, by the side of which we had travelled all

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1. See below p. 155.
 2. Sparrman II, 75, 76.

the way from the Cape, terminating here or else running to the north."⁽¹⁾

The north-south fold ranges are better mapped and show an almost uninterrupted linear extension between latitudes 32° and $33^{\circ} 30'$. It is strange that these mountains which he did not see throughout their length should be better represented than those which he had himself seen. He suggested that the Sneeuwberg might be part of the same chain as the Roggeveld and Bokkeveld mountains:⁽²⁾ but since the positions of these two latter ranges were not indicated in either his map or text, this opinion was meaningless to those unfamiliar with what was then known in the colony of its topography.

He quoted the height of Table Mountain⁽³⁾ as determined by the Abbé de la Caille as 550 toises⁽⁴⁾ which equal about 3517 English feet. The Abbé's observation was that which he made of the western corner of the Table, given as 3353 Parisian feet⁽⁵⁾ six of which equal one toise. Sparrman could have given some indication of the order of size of the mountains he described if he had but ventured to compare them roughly with the altitude of Table Mountain. Heights above sea-level of mountains situated far inland could scarcely be estimated: but a comparison of their elevation above the surrounding country with that of Table Mountain above the sea would have assisted his readers in visualising the scale of magnitude of the scenery he described. But he either did not appreciate how such comparisons would have enhanced the value of his descriptions, or else he hesitated to commit himself in making any such estimates.

The sandy wastes of the Cape Flats as well as the low valley between Fishhook and Noord Hoek he thought had been formerly covered by the sea.⁽⁶⁾ He did not seem to think that a fall in sea-level had brought about the exposure of these tracts, but that they had been formed "particularly with sand, sea-shells, trunks of trees and such like rubbish" driven in by the "violence of the south-east wind in False-bay". To support this he tells us that "even Table-bay is by degrees grown shallower; so that the house that is built by the sea-shore is now farther from it, and time after time they have been obliged to lengthen the quay that has been made in the harbour".

1. Sparrman I, 345.

2. *ibid.* II, 141.

3. *ibid.* I, 8.

4. La Caille 1763 pp.357,359.

5. Maclear I, 63.

6. Sparrman I, 20.

It is indeed not unlikely that this pronounced shallowing was brought about by sheetwash from the Table Valley due to the rapid destruction of the natural vegetal cover by grazing, ploughing and fuel-cutting, and also by the formation of bare ground in the unmetalled roads and open spaces of the town. As evidence of marine retreat he cited the sea-shells he had found below the Tygerberg in a sandy spot some two leagues from the sea-shore. He rejected the theory that the shells might have been carried there by Hottentots, since fresh water was not available in that locality for their sustenance. These conjectures were taken up by Le Vaillant, Degrandpré, Barrow, Percival and Lichtenstein and are discussed below,⁽¹⁾ though the present day has by no means seen the solution of all the problems of past fluctuations in sea-level on these coasts.

At a much later date Sparrman published a curious and quite incorrect account of a cataclysmic change in sea-level at the Cape that had brought about the submergence of Robben Island and the drowning of all its inhabitants.⁽²⁾ This tale seems to have arisen from exaggerated stories of the Cape Town earthquake of 1809.⁽³⁾

An event he reported may have had a firm foundation in fact, even though he related it under the date of All Fools' Day 1776. He was then at the upper part of the Duivenhoks River (Heidelberg) where the inhabitants told him that "towards the end of the preceding month a noise had been heard at a distance, and we were afterwards informed that certain changes had taken place in a mountain, and in a little stream situated a great many miles on the other side of the high chain of mountains upon which I then was."⁽⁴⁾

He made no further comment, but it could be explained by a major landslide or rockfall on the northern slopes of the Langeberg, causing damming and diversion of a stream. If it was on a sufficient scale, traces of this event may still be discernible and thus await identification. It is suggestive that "towards the end of the preceding month" when the occurrence was said to have taken place, exceptionally heavy

1. See below pp.348, 365, 371.
2. Sparrman 1944 p.205.
3. (Forbes 1946 & 1947a. (Rochlin.
4. Sparrman II, 329.

rainfall had been experienced⁽¹⁾ between 22nd and 24th March 1776 only fifty miles away at Honingklip.⁽²⁾ This downpour may have extended to the Duivenhoks River region and caused the landslide by saturation of the ground. Or the slide may have been touched off by a minor movement along the Worcester fault whose surface expression terminates some twenty miles west of this locality.

At the same time and place he had an experience familiar to modern geologists when he was shown a piece of "pretended gold ore" which he immediately recognized as pyrites. Little credence can be given, however, to his identification of "a piece of lazuli in a matrix of quartz" near the Wagenbooms River in Lange Kloof.⁽³⁾ Whatever it was he found, and it is difficult to suggest what it may have been, it seems most unlikely that this uncommon mineral, the product of contact metamorphism in limestone, should exist in this region of Cape sedimentaries. The same applies to lazulite and azurite with which he may have confused it.

He claimed that the specimen "contained no inconsiderable quantity of metal. But supposing this mineral to abound here, even then it would hardly pay for the smelting on account of the length of the way and the badness of the roads by which coal and fuel must be brought hither for this purpose from Sitsicamma". He did not say what metal he considered it to contain, probably because he thought it was common knowledge that it was a copper ore, which was the opinion then generally held, for example by such an authority as Linnaeus.⁽⁴⁾ It was probably this mention by Sparrman of his find that led Mentzel to say that cobalt was found in these parts,⁽⁵⁾ for this mineral, like lazuli, was also then believed to contain copper.⁽⁶⁾

His mention of fossils was solely to those of "elephants' teeth" which he said were seldom found at the Cape.⁽⁷⁾ His expectation of finding them was based upon the recent discoveries in Siberia by Pallas and others of tusks of mammoths. He therefore reasoned that they should be even more common in South Africa where elephants abounded. He

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| 1. Sparrman II, 326. | 5. Mentzel 1744 p.88. |
| 2. See below p. 163. | 6. Johnson, Samuel,
<u>English Dictionary</u> , 1756. |
| 3. Sparrman II, 323. | |
| 4. Linnaeus, Vol.37 p.192. | 7. Sparrman I, 330. |

thought that tusks buried by sand, dust and leafsoould might be found in plenty here; "and as people at the Cape are very little used to pry into the bowels of the earth, there perhaps still lie buried, from the like causes, in several spots thereabouts, a hundreds times this quantity of elephants teeth".

The tusks of the Siberian "Mammoth, an imaginary subterraneous animal", he thought were simply those of elephants which had migrated north in summer due to over-population of their species in their Indian homeland. He preferred this conjecture which "would allow them quietly to take their course and to get to Siberia on their feet" to the hypotheses of "great men with their systems", such as Buffon who "modifying the earth according to his own fancy" proposed that after having been formed at welding heat "it first began to cool at Siberia and near the pole, at which time the creation of elephants &c took place". Sparrman derided equally the theory of those who drowned the earth "in a deluge in order to have an opportunity of carrying to the same spot by this torrent the rhinoceros and elephant from the warmer climates of Asia". This diluvial hypothesis had been advanced by Pallas and by De Luc who had, however, based their conclusions upon different assumptions, (1) and Sparrman's curious comments afford an interesting view of one of the scientific controversies of that period.

His sole reference to the rocks of the mountains is that the "Carrow-fields (taking the word in its most extensive signification)" are surrounded on all sides by "lofty and barren mountains of granite, frequently to all appearance rich in iron ore". (2) He may have made this generalisation from observations in the mountains near Agter Bruintjes Hoogte. The most prominent rocks there are thick sheets of coarse-grained dolerite which he probably thought were granite, whilst frequent thinner sills of the same composition but finer grain (still called ironstones) would explain his belief in the abundance of iron.

If this is a correct interpretation of his views, it is clear that they were faulty not only in omitting notice of the Beaufort sediments into which the dolerites were intruded, but

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1. (Mather & Mason p.124.
(Von Zittel pp.52, 77.
 2. Sparrman I, 246.

also in stating that these "granites" everywhere surround Karroo tracts. Dolerite intrusions are absent in the southern ranges bordering the Great Karroo, and also in the mountains surrounding the two other similar regions he traversed, the Little Karroo and Robertson Karroo. For the rest, his comments on geology are scant and of little interest. Caverns in the mountains near Bot River he correctly ascribed to weathering, with the comment that they "certainly did not exist from the beginning, but were produced by the vicissitudes and changes to which all natural objects are subject".⁽¹⁾ Not one word of mention did he make of the strata so prominently displayed in many parts where he travelled.

Hydrography.

Though his map is a blank beyond the Great Fish River, his text gives particulars⁽²⁾ of some of the rivers of the country of the Snese-Hottentots [Bushman] which by the accounts he had received was said to have extended between the present positions of Tarkastad and Tsomo. He had derived his information from the experiences of "several small parties of Christians [who] have at different times travelled through this country and shot elephants there unmolested." In what follows, therefore, it must be recollected that since he depended on hearsay, strictures must not be passed upon Sparrman who was right to record all useful information whose accuracy he had no reason to doubt.

He said that he had been told that the more considerable rivers were only four, and were encountered in the following order when travelling eastwards; t'Kansi-t'kay or White River, t'Nu-t'kay or Black River, the Little Zomo and the Great Zomo. "These rivers are reported to flow from north to south and south-east, down towards the sea, whither they probably run all together through the country called Caffer-land." In this account of the tributaries of the Great Kei his position of t'Nu-t'kay or Black Kei does not agree with either contemporary or modern nomenclature, for he says that from the west it was reached after the White Kei.

1. Sparrman I, 128.

2. *ibid.* II, 146.

It seems clear that the Tsomo, eastern tributary of the Kei, is the stream referred to as "the Great Zomo or great Watery-eye". The word used here in the Swedish original is surögat meaning the eye running with soreness; but Mr. B.E. Mahlasela, lecturer in Xhosa at Rhodes University College in 1945, stated that there seems to be no connection between this signification and the word Tsomo, whose meaning is unknown. It is possible that the colonists called the Tsomo the Zuurgat, a river of sour and stagnant pools, and that when Sparrman used his travel notes to write his book, he took this word to be the equivalent of the Swedish surögat. Alternatively the colonists could have called it the Zeeroog River after one of the widely-distributed Sore-eye flowers, a name borne by numerous Amaryllidaceae such as Brunsvigia gigantea and Boöphone ciliaris.

Whatever stream was then called the Little Zomo it certainly was not the modern Klein Tsomo which is only an insignificant affluent at the headwaters of the Tsomo which it joins at Cala Road, and is not one of the "more considerable rivers" of the region as he stated. Moreover, it lies far to the north of the route he was probably describing. The stream referred to may have been a western tributary of the Tsomo now called the Teojana, which could be a diminutive form of Tsomo according to Mr. Mahlasela. Or if this explanation be not acceptable, then the Teojana could have been called the Klein Tsomo because it was a tributary of the Tsomo, a practice seen elsewhere in such examples as the Klein Vis, Klein Zondags, Klein Bosjessmans and Klein Swartkops rivers. The Teojana valley may have been the line taken by some of the early European hunters since it is one of least difficulty, and was later to be followed by the main road from Queenstown eastwards through the Qanata Poort to the Tsomo River and Engcoeb. ⁽¹⁾ This is the first record of the use of a route north of the Winterbergen into Kaffirland. Presumably the journey was made from near the present Cockhouse and past the vicinity of where Tarkastad and Queenstown now stand.

As regards distance, his information was that a waggon took 10½ days by this route to the Tsomo River. This is a tolerable estimate for the distance of about 200 miles that it actually is; for if each day a schoft of 8 hours was travelled, the average speed was under 2.4 m.p.h. But readers of his English edition

1. Plan of Territories formerly known as Kaffraria Proper; scale 2,400 Cape Roads equal one inch, Surveyor General, Cape Town 1884.

must have put the distance at about 475 miles, since he is there credited with having stated that every day's journey "is reckoned at above forty-five miles, or eight hours' brisk driving of oxen without stopping." The reasons for this mistake are discussed above.⁽¹⁾

The only other rivers beyond the Great Fish that he wrote of are mentioned in his correct statement "that if one travelled from the upper part of the Visch-rivier, more to the south-east, or the Caffre side of the country, one would come to a river called Konap, which was supposed to run into Visch-rivier; but two days journey farther on, going from Konap-river towards the north-east, there was a river called Kaisi-Kanna" (Keiskana) which rose in the Bambus-berg,⁽²⁾ (Bamboo Mountains), as the present Winterbergen-Anatola ranges were then called.⁽³⁾ Other names of these mountains are discussed elsewhere.⁽⁴⁾ The remark in the foregoing quotation about "the Caffre side of the country", seems to indicate the area south of these mountains, whereas to their north he tells us elsewhere, dwelt the Snee-Hottentots,⁽⁵⁾ namely the Chinese Hottentots or Bushmen.

His surmises are interesting regarding the Groote-Rivier, later to be known as the Orange.⁽⁶⁾ He related that its existence eight to ten days' journey north of the Sneeuwberg had been reported by Hottentots [Bushmen?] who said that it rose in the east, and thereafter its course ran "strait on towards the north". However, Sparrman thought that "it is probable that this river soon after turns off to the west and south, and is the same Groote-Rivier which I have inserted in my map on the authority of M. Henry Hop's Journal." This reference is to the account of Hop's journey in 1761 - 62 which, as explained above, he had read in the French edition of the Nieuwste en Beknopte Beschryving etc. His assumption was correct that these were one and the same river. His information that it ran due north in the longitudes of the Sneeuwberg should have been that it flowed north-westwards. His reason for thinking that thereafter it would have to turn

1. See above p. 137.

2. Sparrman II, 151-2.

3. See below pp. 206, 257.

4. See above p. 41.

5. Sparrman II, 145-6.

6. (*ibid* II, 152.
(See below pp. 250, 263.

south-westwards arose from his mistake in placing the Sneeuwberg north of lat. 23^o, which is north of the latitude where he had heard that the Groote Rivier reached the Atlantic. Hence, if it flowed northwards in the middle part of its course as the Hottentots (Bushmen?) related, only by subsequently turning south-westwards could it reach the latitude where it had been crossed by Hop. A glance at Sparrman's map makes this clear immediately.

Certainty that the Groote Rivier which he discussed was not the Zeekoe, as has been suggested,⁽¹⁾ is shown by the report of the commando against the Bushmen led by Adriaan van Jaarsveld in August 1775.⁽²⁾ This account describes their journey along the Zeekoe River and mentions the existence of the Groote Rivier beyond, to which however, they did not penetrate. It was only four months after this commando that Sparrman visited Agter Bruintjes Hoogte.

Only once does he record his speculations upon the influence of natural forces upon relief. This according to his map was probably a mile or so upstream of the present Sunland which he approached from the S.S.W. He related that on reaching the Sundays River, "which at this part made a great many windings, the banks opposite to us were extremely high and steep, and indeed quite perpendicular; consisting to all appearance merely of the same dry and clayey materials as the surface of the earth exhibited on our side. In the upper part, the bank appeared quite plain and level; but it is difficult to conjecture whence this dissimilarity in the banks of the river should arise, unless one of them had been thrown up by an earthquake; or that the river by degrees had made its way to the side of some flat hill level at the top, and undermined it till the part that hung over fell down".⁽³⁾ The latter conjecture is of course more correct, and it is probable that he was here viewing the attack by a meander upon a terrace of alluvium, a process which in this locality has resulted in vertical banks up to 100 ft. high.

He visited the Swartkops saltpan which he described as having a natural resemblance to a frozen lake, but advanced no theories as to its origin.⁽⁴⁾ He related that colonists from as far afield as Camdeboo and Sneeuwberg visited this pan for salt

1. See below p.203,n.1.

3. Sparrman II, 19.

2. Moodie 1838 III, 44.

4. *ibid.* II, 14.

which was prized for its savour and purity above that found anywhere else in the entire colony. His explanation of the salinity of the Brak Rivers (Mossel Bay) as being due to ingress by tidal waters was correct.⁽¹⁾ He must have realised that this could not apply to those brack streams and vleis he encountered at considerable distances from the sea, but he attempted no explanation.

He was interested in the unexpected floods characteristic of the Gouritz, "likewise called the Gouds-rivier, probably from the resemblance in sound between these words; or else from the latter word being more easy to pronounce, and not with any reference to gold, to which it might otherwise seem to allude."⁽²⁾ Other accounts of the derivation and spelling of the name of this river are given subsequently.⁽³⁾ He explained the danger to travellers of its sudden floods which he ascribed to "partly the hasty melting of the snow on the various high mountains which lie to the northwards, and partly the falling of heavy rains in the extensive Garrow-field, lying to the north of this spot; in which plain Olifant's or Gauritz-rivier, by means of divers small branches, has its source." One of its tributaries, the Kamanassie, he stated in his text flows into the Gamtoos River;⁽⁴⁾ but this is clearly only a slip, for his map shows it correctly.

On the east bank of the Bot River, on the road to Caledon, he reported the existence of "a mineral water of considerable strength, which nobody in this quarter had had the sense to make use of."⁽⁵⁾ This has not been traced by the present writer, and assuming that Sparrman's identification was correct, it would be interesting to know whether it still remains unutilized. Though the only hot spring that he visited was the one at Caledon, called by him the Hottentot's Holland Bath, he stayed there a month and devoted a dozen pages to describing its curative and also its physical properties.⁽⁶⁾ The temperature of the springs he could not determine as his thermometer was not graduated high enough.

His chemical experiments were handicapped "as well with respect to drugs as vessels; for the master of the bath's brandy-glass excepted, I had nothing here fit for the purpose but the two drinking glasses I had brought with me, the people

1. Sparrman I, 255.

2. *ibid.* I, 254.

3. See below p.228.

4. Sparrman I, 305.

5. *ibid.* I, 128.

6. *ibid.* I, 136 &c.

here usually drinking the water of the well out of ladles." By means of several tea-kettles joined together he improvised apparatus for distilling water required in the preparation of lime-water which he employed in one of his tests. Though he employed these ingenious shifts to overcome obstacles, his experiments seem to have been inconclusive in spite of the use of a dozen reagents. Oil of tartar, litharge, sal ammoniac, lacmus and syrup of violets, each separately digested with the water made no change in its colour. However, with powder of galls a durable dark colour was produced, but he did not suggest that this might point to chalybeate properties of the spring, from its contained iron reacting with the tannin in the galls. This conclusion, moreover, would have been supported by his observation that the cistern and conduits were covered thickly in ochre, had he but known, or connected this with, the fact that iron is the metallic constituent of this substance. However, he did not state that these observations confirmed the popular opinion that this water was "supposed to contain more iron than any other bath in the colony" and hence was sometimes known as the Yzer-Baad.

Presumably he was testing for sulphur with a solution of sugar of lead which produced a foul filmy matter; and with a solution of silver (silver nitrate) which precipitated a little white powder. These apparently negative reactions he did not expressly claim as such, though this conclusion (which incidentally is correct) was supported by his observation that "silver that had lain long in the water discovered no tokens of the presence of sulphur."

He probably expected to find traces of sulphur because of a theory of the origin of hot springs which he mentioned, namely "that heat, earthquakes and even fire are produced when water comes into contact with strata of sulphur mixed with iron. Subterraneous heat or fire produced by this or other causes is the occasion of the water existing in the bowels of the earth being forced upwards in the form of vapours. A collection of these vapours impregnated with the substances which they have dissolved in their way, compose what we call mineral waters. So it seems there is great reason to fear, lest in such large and extensive distillations, the water should chance to boil over. And indeed experience shows that in this case warm springs and

volcanos for the most part ensue."⁽¹⁾

He concluded therefore, that the number of hot springs at the Cape, as well as their high temperatures, probably indicated that in these regions "there lies concealed in the bowels of the earth not a little of this burning and all-destroying element." Moreover, he suggested that this surmise was supported by the existence near the spring of a little hill which "consists of solid lava, in which there appear evident marks of its having been once in a fluid state." This supposed lava is, however, a spring deposit consisting of both iron and manganese; but its appearance in conjunction with the hot spring led others besides Sparrman into the same error.⁽²⁾

Climate.

He paid close attention to the weather, and apparently recorded his observations daily for at least part of the time he was in this country. Instead of writing subjective impressions of the extremes of heat and cold he endured, he set down figures and facts which, though far from complete, were a great advance upon anything previously published and gave clear indications of the climates of those districts he was in at the season of his visit.

In Vol. I he gave a summary of monthly weather for the period May to November 1775.⁽³⁾ In Vol. II he discontinued monthly summaries, but made more than a dozen allusions to weather conditions as they occurred, giving temperatures, wind-directions and rainfall. The highest temperature he recorded was 104° at noon in January near the Great Fish River.⁽⁴⁾ The lowest was 48° one August morning at Caledon, whose midwinter he said resembled the Swedish spring.⁽⁵⁾ His final observation was for 30th March 1776,⁽⁶⁾ so that for eleven months definite indications of the weather appear from time to time.

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| 1. Sparrman I, 146. | 3. Sparrman I, 112, 221, 291, 310, 368. |
| 2. (Thunberg I, 215.
(Semple p.128.
(Burchell 1953 I, 70.
(Latrobe p.107. | 4. <i>ibid.</i> II, 292.
5. <i>ibid.</i> I, 221.
6. <i>ibid.</i> II, 328. |

His only meteorological instrument was a Fahrenheit thermometer on which he daily took readings "in the shade, in the open air, between eight and nine o'clock in the morning."⁽¹⁾ He does not say why he chose this time, though it may merely have been because of its convenience. But whether by design or not, it was fortunate in giving an approximation to the daily mean in the absence of a maximum and minimum thermometer. His monthly means of morning readings differ but little from the true monthly means as now determined, so far as comparisons can be made considering the fact that he was moving from place to place during several of the months for which he gave summaries. One such is given here in full and was recorded at Cape Town in 1775. "During the first half of May the thermometer kept fluctuating between 53 and 63 degrees; and during the latter half between 50 and 58, excepting on the 27th of this month, when it was at the lowest, or 49%, although the day was clear and the sun shone. The rainy days in this month were the 11th, 12th, 15th, 16th, 30th; and among these the three first-named were the worst, and accompanied by tempestuous north-west winds."⁽²⁾ Other summaries are similar, but mention is sometimes omitted of the wind directions usually accompanying rainy and fine weather respectively.

Further remarks upon the Cape Town climate include the usual information about the Quade Mousson (Bad Monsoon or winter) with N.W. rainbearing winds, and the summer with dry S.E. winds. During his first winter at and near Cape Town in 1772 he wrote that it was "not distinguished by any particular degree of cold; for we had frequently at this time the finest summer days. Once or twice there fell some hail, but I never saw any snow."⁽³⁾ Upon his return from his voyage with Captain Cook, he recorded of June 1775 at Cape Town that on seven days "there was a fall either of rain or snow". He wrote further "that this winter was reckoned one of the mildest."⁽⁴⁾ Thus his readers then would infer that in 1772, when he saw no snow, it was even milder, but that in normal or exceptionally cold winters, snow at or near sea level was common. Thus his account in the English edition is such as to give an exaggerated impression of the severity

1. Sparrman I, 112.

2. *ibid.* I, 112.

3. *ibid.* I, 18.

4. *ibid.* I, 112.

of the average winter at Cape Town. In the original, however, the word nederhört is used, which signifies precipitation of either rain or snow. This explains why the English translator gave the wrong impression. No snowfall in June 1775 is mentioned in the German edition.

He devoted a paragraph to an explanation of why the N.W. winds blow across Table Mountain without causing rain on its southern surroundings near Wynberg until "they reach the other side of Zout Rivier".⁽¹⁾ Actually the N.W. winds commonly bring rain to the Wynberg area which is S.S.E. of the mountain, so that the first part of his statement is obscure. So also is the latter part, since the Zout Rivier lies N.E. of the mountain. The first part is clarified if we assume that he confused the compass-points, since the S.E. winds produce on the northern surroundings of the mountain a striking phenomenon resembling his description, which would certainly engage the attention of a newcomer. The winds pour their condensed moisture over the northern precipices in a giant cataract of cloud which brings no rain to the City below, since in its descent it vanishes by vaporization. However, this does not clarify the latter part of his observation, since this wind does not cause rain beyond the Zout Rivier, and the full meaning of the paragraph remains unexplained.

In explanation of his assertion that it never rained at Wynberg he wrote that "the vapours which are driven up from the sea by the north-west wind, gather round the mountain in consequence of their being attracted by it, and there remain as long as they preserve any degree of rarefaction; but when at length they become more and more dense and pressed together, so as necessarily to yield to the greater force of the wind than to the attractive power of the mountain, they are carried away too quick to fall in rain directly at the foot of the mountain". Though the laws governing atmospheric precipitation were then not fully known, the causes underlying the phenomena described here had already been discussed⁽²⁾ with a great clarity and approach to the truth than there is in this obscure account by Sparrman.

The concept of the attractive power of mountains appears again in his remarks on the effects of the Boschberg, near the Little Fish River, where "these mountains, by collecting the clouds together, caused them to fall in refreshing showers of

1. Sparrman I, 34.

2. (Darwin.
(Franklin.
(Whewell II, 509.

rain".⁽¹⁾ At Grootvadersbosch, however, he omitted the relief factor and attributed the rainfall to the presence of forests, and not vice versa.⁽²⁾ In the Outeniquas he recorded that "it never rained when this north wind prevailed, probably on account of the chain of mountains, which extending from east to west, proves a barrier to keep the clouds on the other side".⁽³⁾ This incomplete explanation is not supplemented by what might seem the logical sequel, that southerly winds from the sea would bring rain to the southern slopes. But he related that it rained there most in March and April, whilst it was dry in May, June and July which were the wettest months at Cape Town. Though the dryness of these three months in the Outeniquas is exaggerated, the statement has a foundation of truth since these are amongst the least rainy months of the year in those parts. It must be borne in mind too, that since he was there only for a few days in October, these reports did not depend on his personal observations. No estimate of rainfall amounts is attempted in other than general terms, such as this description of the weather in March 1776 at Honingklip (near Herbertsdale). "There fell the whole night throughout the most dreadful heavy rain known in the memory of man".⁽⁴⁾ Presumably this refers to the traditions of that locality whose inhabitants had had far fewer opportunities of encountering really heavy rainfall than had Sparrman in his very extensive voyages.

It can be seen from his observations that from Caledon eastwards, rain was more commonly associated with winds of southerly component than with those from the north.⁽⁵⁾ And he remarked that on the "days which were fine and free from rain, the north-west and west winds almost always prevailed".⁽⁶⁾ However, it is not clear whether he applied this as a rule governing rainfall on the south coast and in the eastern Cape. It is doubtful whether in the existing state of weather science he could have perceived the significance of this phenomenon, or have assigned any cause to it.

At those places in these localities where he recorded observations, he did, however, make it clear from what directions fair and foul weather respectively might be expected to develop during the seasons when he was there. Moreover his

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| 1. Sparrman II, 163. | 4. Sparrman II, 326. |
| 2. <i>ibid.</i> I, 237. | 5. <i>ibid.</i> I, 221, 291, 368 &
II, 130, 321. |
| 3. <i>ibid.</i> I, 281. | 6. <i>ibid.</i> I, 368. |

observations can often be supported and explained by modern records and theories. At Kragge Kama (west of Port Elizabeth) in February after a strong dry N.W. wind by day, towards night "the wind chopped about to the south-east and was less violent, being accompanied with rain".⁽¹⁾ Here he may have been describing the sequence experienced when this locality is near the centre of a depression moving E.N.E., when the N.W. wind in front of the cyclone backs with the passage of the disturbance to a wet south-easter.

In the vicinity of St. Francis Bay in November he experienced rain not only from the S.E. but also from the S.W. This is in fact the more frequent rainy quarter hereabouts, since south coast localities usually lie north of the centres of depressions. Their eastward movement then gives dry off-shore northerly winds, backing to S.W. winds with rain of frontal type. Similar effects accompany the passage of an inverted V of low pressure.

He remarked that the people at Swellendam "pretended to have observed that the wind, when it blew from the south-east at the Cape, was always northerly with them; and that when it had ceased raining at the Cape, they had still slight showers at Swellendam".⁽²⁾ He was clearly sceptical about this, presumably because of the distance separating these two contrasted localities, a fortnight's journey by ox-wagon. How then could the people of Swellendam compare their daily weather with that prevailing at Cape Town? Records must have been kept at both places, for Swellendam was a Company post, and have been compared with each other subsequently. Only this assumption can account for these weather observations which are generalisations of as much reliability as might be expected from the data upon which they were probably founded. The eastward passage of a depression centred south of the coast would account for the effects stated.

He also recorded local lore from "a yeoman who was a great observer of the weather" at Kronbek River, some forty miles east of Swellendam.⁽³⁾ This account can be interpreted in part by present knowledge, though in some respects it is obscure. However, being largely of local significance it was of little value as a guide to the climate of the country.

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1. Sparrman II, 315.
 2. *ibid.* I, 223.
 3. *ibid.* II, 328.

He believed that all the Carrow-velden, or semi-arid tracts wheresoever situated, were "horridly parched up quite languishing with drought and thirst" in summer, but in winter were deluged with heavy rains which produced "a delightful verdure".⁽¹⁾ This belief probably was derived from the climatic regime at Cape Town: but the considerably exaggerated account of the quantity of rainfall and of its effects depended on hearsay, since he was not in any Karroo country in winter. Thus he was unable to verify from personal observations these overdrawn descriptions.

He more than once mentioned that it was a year of severe drought,⁽²⁾ so that he probably did not expect to see remnants of "delightful verdure" in the Little Karroo in October, since he would ascribe its absence to the unusual drought of the winter months just ended. It is true that in this area there is normally a slight preponderance of winter rainfall, but its quantity is on nothing like the scale he suggested.

The heat and aridity he experienced in December and January near the Little Fish River would confirm his belief in the normal lack of summer rain there. Under such conditions rain must have seemed unthinkable, for at Cape Town he had experienced a conjunction of winter rain and cold; and he may have heard nothing to lead him to expect that matters stood otherwise elsewhere in the country. Swellengrebel, however, who visited these parts the same year in which Sparrman returned from his travels, reported that the region had summer maximum rainfall. These are his words:- "In dese bovenlanden regent het in de quade moison seer weinig, het meest in December, January en February, wannear het dagelijx dondert."⁽³⁾ Our author could have ascertained these facts from the inhabitants when he passed through this selfsame region, and it must remain conjectural why the information he gives in this matter is faulty. When his return journey brought him in April to the Robertson Karroo, its bareness accorded with his belief, which indeed was correct for this area as regards period of maximum incidence, but in error regarding the quantity of precipitation suggested.

He advanced the theory that the aridity of Karroo tracts was probably due to subterraneous heat whose presence was also evinced by the number of thermal springs known in the colony.⁽⁴⁾

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1. Sparrman I, 246 - 8. 3. Molsbergen 1932 p.16.
 2. *ibid.* II, 3,117,161,325. 4. Sparrman I, 147.

He suggested that volcanic fires might "so far operate on the shell or external crust of the earth that much of the humidity of the latter shall in part evaporate What confirms me in this conjecture is, that though there falls a great deal of rain in this part of Africa, so that in the rainy season the rivers almost overflow their banks, yet the greatest part of them are quite dried up in summer time". He felt that these conclusions were supported by his belief that the warmth of the climate was insufficient to account for so great a degree of aridity, and that the supposition of its being occasioned by volcanic heat was by no means absurd.

From these and other remarks it is clear that he and his informants did not understand the character of the rainfall and runoff in the semi-arid interior regions. The short sharp showers and brief floods they took as evidence of abundant rainfall, and completely underestimated the effects of long months of warm and thirsty air in evaporating the small total of rain that had fallen.

He was aware of the tempering effect of oceanic proximity upon summer heat which he commented upon when he returned from Agter Bruintjes Hoogte to the coast in February.⁽¹⁾ The cooler winter climate at Agter de Berg (Elgin locality) than at Cape Town he correctly attributed to the greater altitude and distance from the sea of the former.⁽²⁾ But he did not suggest that these reasons might cause the winter snow at Agter Bruintjes Hoogte which he was told sometimes "lay on the ground for a couple of days together, about two inches deep",⁽³⁾ a statement which is probably true only of the most elevated tracts in this area.

He described how the Karroo farmers who lived in situations convenient for it, "remove in the summer up to the ridges of the mountains and hills where they find the usual summer climate with rain at intervals, plenty of grass and cool refreshing breezes."⁽⁴⁾ He related that in the winter the hills and plains alike were drenched with heavy rains, whilst hail and snow on divers of the mountains caused the graziers to descend. These remarks show again how he was misled by the climatic regime at the Cape, which he thought prevailed throughout the colony. He did not realize that it is in the summer that the Karroo plains, as well as the mountains surrounding them, receive most of their meagre rainfall, which in the latter is increased by orographic causes and made more effective by the coolness associated with altitude.

1. Sparman II, 317.

2. *ibid.* I, 129.

3. Sparman II, 140.

4. *ibid.* I, 248.

Conclusion.

Current practices in agriculture and stockfarming, and their probable effects on the future of these occupations were the subject of shrewd comment by him. He touched upon such topics as the differences between sweet and sour veld, (1) overstocking, (2) indiscriminate veldburning, (3) the spread of rhenosterbos, (4) neglect of manuring, the advantages of mixed farming and the declining soil fertility. (5) His views on these topics have recently received appreciative mention elsewhere (6) so that it would be superfluous to treat them here.

He was one of the first to utter a warning upon the consequences that would follow upon unenlightened farming practices, and wrote "that as well with respect to the effects of the industry of man as to the more immediate operations of nature, it is not at all unlikely that future ages may see this part of Africa entirely changed and different from what it is at present". (7) Though he foresaw the nature of the deterioration that might occur, he can scarcely have imagined the extent of the damage that several generations of careless exploitation would wreak upon the land.

He devoted many pages to detailed descriptions of the Hottentots and Bushmen whom he did not realise were doomed to virtual extinction. These valuable records are dealt with fully by Stow. (8)

Sparman's volumes are invested with a spirit of whimsical humour and a tolerant attitude towards his fellow men. The numerous passages displaying these characteristics appear in engaging contrast to the long and serious discussions upon zoological and other scientific matters. Though he gives little prominence to his own personality, occasional glimpses of his feelings can be obtained. We learn that he was lonely in the long winter evenings at the Cape, needing books and friends, and particularly the "society of some one who set a proper value upon study." (9) Hence it is not surprising that when he rode from Constantia to Cape Town to take leave of Dr. Thunberg, he confessed that "I staid at his house rather late in the evening,

1. Sparman I, 249,345.	5. Sparman II, 164.
2. ibid. I,251 - 2.	6. Hall, 1934.
3. ibid. I,254 & II,522.	7. Sparman I, 254.
4. ibid. I,250,254.	8. Stow, consult his index.
	9. Sparman, I, 47.

which occasioned me to be benighted and miss my way home".⁽¹⁾
 His chapter, "Trip to Paarl" is in a light vein throughout,
 and is a rollicking account which well merits the attention
 given it by Colvin.⁽²⁾

Youthful high spirits are evident in his gay account of
 his own dishevelled appearance upon his travels, and that of
 his companion, handsome young Immelman, who usually "figured
 on horseback in a long night-gown, with a white night-cap,
 large wide boots" and no stockings.⁽³⁾ As to their beards,
 he wrote that "we had both of us in a merry mood, formed a
 resolution not to touch a hair of them either with razors or
 scissors, till we should either get into company again with
 the Christian lasses, or should have an opportunity of
 dissecting a hippopotamus". These curiously contrasted
 alternatives might seem to represent the aspirations of
 gallant and scientist respectively, but since this is not
 expressly stated it can be assumed that Sparrman felt he
 had an equal interest in either eventuality. Other such
 amusing passages occur to enliven his volumes, that are
 however, in the main compact with solid information and sound
 observation which, in the words of Burchell, bear "a character
 of honesty" and "the stamp of fidelity".⁽⁴⁾ These are the
 qualities which give the volumes a lasting value in that
 long and distinguished series of works on travel in
 Southern Africa which they initiated.

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1. Sparrman I, 57.
 2. Colvin, pp.281 - 310.
 3. Sparrman II, 137.
 4. Burchell, 1953 I, 71, footnote.

HENDRIK SWELLENGREBEL 1776 - 77.

In the year 1776 Hendrik Swellengrebel, son of the man of the same name who was Governor of the Cape in 1739 - 1751, performed a notable journey from Cape Town to beyond the Great Fish River, preceded by two trips of shorter duration. He had recently come from Holland to visit the Cape where he had been born and where his boyhood had been spent. He held no official position and journeyed as a private gentleman of influence, means and education. According to Prof. Dr. N.H. Swellengrebel, writing in 1924, the journeys made by Hendrik were in continuation of the work of Governor Swellengrebel, and had an economic rather than a geographical purpose, namely to investigate whether the colony could support more settlers.⁽¹⁾ Whether he undertook this enquiry to forward his findings to the Chamber of Seventeen, hoping thereby to improve his chances of becoming Governor is quite unknown. Prof. Dr. N.H. Swellengrebel has recently written that amongst his family papers there is a sentence in a letter by Van Plettenberg and a similar one in a letter by Hendrik Cloete, hinting at their wish that Hendrik might succeed as Governor of the Cape,⁽²⁾ but no indication has been found of Hendrik's reactions to the suggestion. It is, however, unlikely that he would have been considered seriously for that post, as he actually favoured permitting free trade for the burghers, a view that was far too liberal for the times. His journal certainly attests to his interest in agrarian economics at the Cape and in its interior, regarding which he later developed a correspondence with Van Plettenberg, with Pensionaris de Gyselaar of Dordrecht and with Hendrik Cloete, the Old Heemrad of Stellenbosch.

In the Cape Archives are handwritten transcripts of this correspondence and of the journals of the journeys.⁽³⁾ These transcripts were made for and carefully checked by Prof. Dr. N.H. Swellengrebel in 1924 from documents in his possession. The latter are copies made by Hendrik of the originals which are in the Swellengrebel family papers now at Breda, Holland. The copies of the travel journals belonging to Prof. Dr. N.H. Swellengrebel, and hence also

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1. Acc. 447, annex. 1.
 2. In letter of July 1955 to present writer. Hendrik Swellengrebel was younger brother of Prof. Dr. N.H. Swellengrebel's great-great-grandfather.
 3. Acc. 447 & annexures.

the transcripts in the Cape Archives, contain several allusions to works that were published and to events that occurred after Hendrik had left the Cape. Amongst these works are some opinions on Cape matters of Sparrman and of Thunberg whose books first appeared in Swedish in 1783 and 1788 respectively, followed by translations into other languages. There is also a reference to the travels by the deserter H. Wikar along the Orange River, from which he returned to the Cape in 1779.⁽¹⁾ Prof. Dr. H.H.

Swallengrebel explains that these references were made as later additions on loose sheets of paper by Hendrik who inserted them amongst the pages he had copied from his original Journal. He obtained his information on Wikar's travels from a manuscript account prepared by the latter who gave it to the Old Heerred Hendrik Cloete of Nooitgedagt, Stellenbosch, who sent it to Hendrik Swallengrebel.⁽²⁾ Perhaps this is the document referred to by Hallema as "Relaas van den Heer Cloete"⁽³⁾ though it would seem more likely to be Wikar's "Relaas aan den Heer Cloete!"⁽⁴⁾

Having reached the Cape in February 1776, Swallengrebel's first journey was to Saldanha and St. Helena bays in July 1776⁽⁵⁾ and is described in a journal transcribed in the Cape Archives version upon 7 foolscap pages. The second journey, the subject of the present study, was across the Great Fish River, September to December 1776, and is recorded in a document of 96 foolscap pages. The third was to the Heeren Logments Gebergte and the mouth of the western Olifants River from 12th to 29th January 1777, an account of which is given in a journal of 13 pages. Incidentally this tells of his visit to the cave at Heerenlogment, and though there is no evidence that he inscribed his name there, it must be added to the long list of persons known to have visited that spot.⁽⁶⁾ He appears to have sailed from the Cape in March 1777 as is indicated by his intention to do so expressed in his journal entry of Saturday 7th December 1776, whilst the probability that he fulfilled this intention is conveyed in the title of a manuscript in his hand entitled, "Benige Consideration ontrand de Casp opgemaakt na mijne terugkomst van daar in 1777".⁽⁷⁾

There is documentary evidence amongst the Swallengrebel family papers that Hendrik had no desire to publish his journal and indeed he may have felt that this would have been beneath his dignity.

1. Mossop 1935.

2. *ibid.* p.8.

3. Hallema, p.8 note 8.

4. Dreyer p.56.

5. According to the Cape Archives version, Acc.447, whereas Hallema p.7 states it was the third journey and made in 1777. In that case Swallengrebel cannot have left the Cape in March 1777 as suggested

6. Kirby 1941, 1943. below.

7. Prof. Dr. H.H. Swallengrebel in letter dated August 1954 to present writer.

He intended it to be read only by his family and close friends. A very distorted account of his journeys, furnished by one of his servants, did appear in print during his lifetime; but he, Hendrik, published a rectification of it in a later number of the same periodical.⁽¹⁾

His journey into the eastern Cape is also recorded in a journal ascribed to one of his travelling companions, Pieter Cloete, which was printed in 1952 by Dr. E.C. Godee Molsbergen.⁽²⁾ This is not quite so full an account as the transcribed Swellengrebel document in the Cape Archives, but is so remarkably similar, many sentences and even paragraphs being identical in both, that it is certain that one was largely copied from the other. Though there may be nothing conclusive to prove that Swellengrebel wrote the original, and that the version attributed to Cloete is largely a copy of it, there is probably little doubt that this was the case. At the time of the journey Swellengrebel, aged 42, was a wealthy, influential, widely read and studious man, whereas Cloete was 20 and at the outset of his unremarkable career. Moreover, Swellengrebel kept a journal of his sea voyage to the Cape and also of his two other inland journeys, thus demonstrating his adherence to the habit of recording his experiences and impressions during his travels. It is hard to believe that he could have been content to allow the journal of his most important journey to be written by his young companion, or by Dr. Hagh or indeed by anyone but himself. There is one circumstance that raises doubts as to whether Cloete was even the copyist of the version of the Journal attributed to him by Molsbergen. This is the omission from that version on Friday 1st November of the fact that it was Cloete who shot the rhinoceros, as is stated in the account of the hunt given in the Swellengrebel document. Since this was the only rhinoceros shot on the journey, it is remarkable that if Cloete copied the version attributed to him, he should have omitted to mention himself as the successful hunter.

Though in the main the transcribed Swellengrebel document is considerably longer than that printed by Molsbergen under Cloete's name, there are a number of short passages and minor particulars absent from it that appear in the Cloete version. These may have

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1. All.Geog.Mph. III, Feb.1799 p.144 & IV Aug.1799 p.173.
Information in this paragraph received from Prof.Dr.H.H.Swellengrebel.
 2. Molsbergen 1952 pp. 1 - 38.

been added by whoever it was who copied the latter: or they could have been omitted as unimportant by Hendrik Swellengrebel when he made the copy that was transcribed long afterwards for Prof. Dr. N.H. Swellengrebel in 1924, and which is now in the Cape Archives. Since the assumption is probably correct that Swellengrebel wrote the original journal, facts common to both versions will be referred to below as appearing in the Journal. If a fact appears in one version only, this will be shown by a reference that will indicate where it appears in either the Swellengrebel manuscript that is Accession 447 in the Cape Archives, or in the version printed in 1932 by Molsbergen and attributed by him to Cloete.

Whilst a biographical note on Hendrik Swellengrebel has been printed elsewhere,⁽¹⁾ the little that is known of the career of Pieter Cloete must be given here. He was born at the Cape in 1756 and was the second child of Hendrik Cloete, the Old Heerstraat of Stellenbosch.⁽²⁾ He is known to have made at least one visit to Holland, which was after his journey with Swellengrebel. When he returned from Europe to the Cape in 1779 he was described as "Landmeester met de Titel van assistent, dog sonder gagie ---- Pieter Cloete van Cabo de Goede Hoop".⁽³⁾ In that same year he married Catharina Christina Saller. In 1781 he was promoted to Engineer Extraordinary with the rank of ensign at the salary of f.40 per month, under a contract of 5 years.⁽⁴⁾ Not long after the completion of this period he died at the Cape in 1787.⁽⁵⁾

There is no doubt that Pieter Cloete accompanied Swellengrebel on his longest journey for his name occurs four times in the latter's journal⁽⁶⁾ though only mentioned perfunctorily. The third gentleman in the party was Dr. Hagh whose name is mentioned at the outset by Swellengrebel⁽⁷⁾ who only refers to him once again, and then not by name, when their cart upset and broke "het medicijn kistje van den Doktor".⁽⁸⁾ His presence is not even hinted at in the version printed by Molsbergen. It is unlikely that Dr. Hagh accompanied Swellengrebel from Holland for he is not mentioned in the latter's journal of that voyage during which much sickness and many deaths

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1. Hallema p.7.
 2. De Villiers 1893-4 I,154.
 3. Jeffreys 1927 pp.45,236.
 4. Jeffreys 1930 p.40.
 5. Cape Archives. M00C. 7/32 p.1.
 6. Acc.447 pp.1,40,49,50.
 7. *ibid.* p.1.
 8. *ibid.* p.40.

occurred, even the ship's surgeon having succumbed. (1) He was probably the naturalist (Naturkundiger) mentioned in the contemporary printed account of the journey cited above. (2) He must have been the third man of the first category of travellers enumerated (3) as "zijnde buiten ons drie stark, de knecht van d' heer Cloete, J. Swanspoel, twee wagenrijders, een tekenaar, ook en knecht, nitsgaders 8 Hottentotten." For their conveyance they were provided with three wagons, one cart, 68 trek oxen and 7 horses, a Jewish equipage by comparison with that afforded by other overseas visitors to the interior of the Cape at that period such as Thunberg, Masson, Sparman, Peterson and Le Vaillant.

Since there is so little mention made by Swellengrebel of his social equals, it is not surprising that his employees are treated even more summarily in his journal. In his list quoted above is een tekenaar who has been identified recently as Johannes Schumacher whose drawings made on this journey and elsewhere in the Cape were published in collected form in 1951 (4) though a number of them, probably from the Elliott Collection, had appeared previously in at least three books. (5) To fill the role of the modern camera, the eighteenth century traveller without artistic ability sometimes employed an artist to accompany him. And it was indeed fortunate that Swellengrebel found at the Cape in the person of Schumacher a capable artist to illustrate some of the outstanding scenes of his journey.

So far as the present writer has been able to ascertain, the name of this artist appears first in the Cape Muster Rolls for 1770 which therefore seems to dispose of the statement that he accompanied Swellengrebel on his journey to the Cape in 1776. (6) He is listed as a soldier, Johan Schoemaker (7) of Rodenburg, in the company commanded by Major Henrik van Preen. (8) In 1778, before the departure of the latter from the Cape, he transferred to the company commanded by Captain R.J. Gordon in which he

1. Prof. Dr. K.H. Swellengrebel in letter dated August 1954 to present writer.
2. All. Geogr. Tjds.
3. Acc. 447 p.11.
4. Helena p.5.
5. Notes 1926 b, Frontispiece.
Schmidt-Pretoria, p.224.
Pictorial Hist.S.A. reproduces 10 Schumacher drawings but omits mention of his name.
6. Helena, p.15.
7. Spelt variously.
8. V.O.C.45, 1770 p.65.

remained until 1781.⁽¹⁾ In 1782 he is described as an assistant in the armoury in which capacity he continued to be listed until 1789, after which year the Muster Rolls are discontinued.⁽²⁾ The fact that his name does not seem to appear in the Index to Wills 1790-1840 or in the Index to Inventories to Estates up to 1834 may indicate that he did not die at the Cape but returned to Holland.

A suggestion will appear below that the assistant whose work is apparent in a number of the drawings of the Gordon Collection may have been none other than Johannes Schumacher.⁽³⁾ Be this as it may, his published aquarelles from the Swallengrebel family papers have enabled some of the obscure portions of the route of H. Swallengrebel in the eastern Cape to be clarified. This was possible in the Sneeuwberg for example, by the identification of the positions from which these mountain views were drawn, though finding these viewpoints was not always easy. On the other hand it has been relatively simple to establish the viewpoints of those drawings whose titles show that they were made on parts of the route that could be laid down on the modern map with little trouble.

Two contemporary maps are directly associated with Swallengrebel's journeys. The first accompanies the journals of these travels preserved in the Swallengrebel papers, and a copy of it traced in Indian ink upon tracing-cloth is in the Cape Archives. It is there numbered N.463 by which designation it will be referred to below. It shows the Cape from the mouth of the Olifants River in the N.W. to the mouth of the Sundays River in the S.E., and thence inland as far as the Krocnie River between the present positions of Adelaide and Fort Beaufort. It is without signature, initials, date or title, but its relevance to the documentary material which it accompanies is clear from the appearance upon it of a dotted line which follows the route taken by Swallengrebel into the eastern Cape as far as the Karceno (Krocnie) River. The return thence is shown as far as the vicinity of Humansdorp, west of which it is discontinued. The routes of his two other journeys are omitted. The observed latitudes of the points recorded by Swallengrebel are here plotted in fair

1. V.C. 46, 1777, p.33; 1778, p.40; 1781, p.35.

2. V.C. 47, 1782, p.6; 1789, p.9.

3. See below pp. 334-5.

agreement with these observations. This, it will be noted more fully below, is also the case in the other map illustrating the journey.

The second map is No.222 of the Van de Graaff Collection in the Netherlands Topographical Service at Delft, and is entitled on its reverse, "Caart van een gedeelte der Zuidelijke oever van Africa behoord tot het Journaal gehouden op den Land-Togt gedaan door den Heer van Swellengrebel in 1776. geassisteerd door den Lande^r Cloette."⁽¹⁾ It covers an area only slightly larger than that represented in M.463 and has marked on it in red the traces of all three journeys made by Swellengrebel, with the dates of overnight halts included. Unfortunately these dates are sometimes illegible in the recently published reproduction of this map⁽²⁾ but the present writer has been able to clarify them by a personal examination of the map in Delft.⁽³⁾ It appears to have been drawn by a skilled draughtsman rather than by an amateur and is a remarkably accurate map for its period. Since the modern reproduction by Koeman is generally available for consultation, it as well as the original will be referred to below as Map 222.

Between M.463 and Map 222 there are so many similarities that the conclusion can scarcely be avoided that one was partly copied from the other, or that both derive from the same original source. Map 222 was probably the property of the Company, and a rough copy of it may have been given to Swellengrebel to enable him to record on it the trace of his travels, and perhaps to prepare from it another copy for use by Van Plettenberg on his journey. For the Governor, writing to Swellengrebel on 1st February 1779, observed that he had hoped to receive a copy of the latter's journal and map before he set off on his tour in 1778, but had not received these documents.⁽⁴⁾

It is indeed most unlikely that Map 222 was entirely, or even mainly the work of Pieter Cloete. No explicit claim for this is made in its title; and the weight of evidence is against the assumption that it could have been made wholly or even largely from the unaided observations of Cloete, aged 20, on or shortly after his journey with Swellengrebel which was before he had gone

1. Koeman 1952 a, p.84.

2. Koeman 1952 b plate V.

3. The present writer was permitted to study the Van de Graaff Collection by the kindness of the Director of the Netherlands Topographical Service Delft, to whom he was introduced by the courtesy of Ir. G. Koeman in 1956.

4. Acc. 447, Annex 5, No. 1.

to Holland, presumably to receive training in engineering and surveying. As will emerge below, it is far more likely that it is a map compiled from the fieldwork of more than one surveyor, upon which someone other than Cloete or Swellengrebel imposed the trace of the three journeys made by the two latter.

Whoever inserted the routes on Map 222 may have adjusted a few cartographical details where necessary to agree with the observations made in the course of the journey to the east. For it is noteworthy that in nearly all cases there is a close agreement between the latitudes, given in Swellengrebel's version of the journal, of places where observations were made during the journey, and the positions assigned to them on this map. The largest disagreement seems to be only 4' and is between the observation of 27th October ($32^{\circ} 25'$) and the point on the map that as far as can be judged is meant to represent it; though this is not easy to decide upon as the sun was observed during a midday rest at an unperceived position probably some 5 miles west of Kroonde railway station. On both 23rd September and 7th December a disagreement of 3' occurs; but the latter observation at Mossel Bay, is said to have been uncertain because of cloudy weather. (1) The other nine observations are within 1' of their positions on Map 222. These are far from always being their true latitudes as mapped to-day; but that is another aspect of the matter which will be dealt with below.

Further support for the hypothesis that a previously constructed map was used on which to lay down their route seems to be given by the appearance on Map 222 of several some 75 miles N.S.W. of the position where it should be on that map and where Swellengrebel and Cloete knew they had encountered it at the confluence of the Salt and Karloyn rivers. It may also be suggested that it was in all probability the faulty courses of the Little Fish and Bushmans rivers on Map 222 that made it impossible for the correct directions of travel to be laid down on it for the route described and which they undoubtedly followed on 4th November. The faulty positions of these two streams are reminiscent of their relationships as depicted by Ventzel in his map of Bontler's trek in 1752. And it seems likely that the latter may have been the source of at least this part of Map 222. For Ventzel's map was still available at

1. Acc.447, p.84.

the Cape as late as 1786 when a copy of it was made for the Van de Graaff Collection (No.219) by Ingenieur ^{D. M.} Barbier. ⁽¹⁾ Wentzel's Olyvenhoutsbosch River could have supplied the Olijve River of Map 222, in which case the latter is probably the present Koms River. ⁽²⁾ But this identification is weakened because the Koms has no major northern tributary, in which role the Touwi is shown, confluent to the Olijve in Map 222. ⁽³⁾ However, if it be assumed that these names were erroneously interchanged, and that in fact the Olijve should have been applied to the stream on the north and the Touwi to the stream on the south, then the topographical facts of the Koms drainage system are tolerably well fitted. Nor does this conflict with a possible identification of a similar name from this area, the Thoubie River, that has hitherto been taken as a probable reference to the Kowie. ⁽⁴⁾ For it would there suit the context equally well were it taken to refer to a tributary of the Koms River.

Cloete certainly had no opportunity on this journey in 1776 of mapping the Olijve and Touwi rivers in the field, or those depicted east of the Great Fish in Map 222. Neither could his observations have supplied the correct general trend of the course of the Bushmans River below his crossing of that stream; nor the greater part of the coastline of the map. Indeed, had he done so he would scarcely have been guilty of so seriously misrepresenting a feature he had actually visited as is Ambrosiushoek (Danger Point) shown as a narrow peninsula 12 miles long.

It thus appears virtually certain that Cloete did little if any fieldwork for this map during the journey of 1776. Nor does it seem at all likely that he could have performed the fieldwork after his return from Holland. For in spite of its defects, the map is so faithfully drawn compared with any others of similar scope available up to about 1785, that it must have immediately established for its author a reputation that would have gained him many more cartographical commissions, whereas in fact Cloete has had only this one map attributed to him. But it has no resemblance to the work of a beginner, displaying instead a competence born of long experience.

Cloete could have assisted in its compilation in the drawing-office; but even this seems unlikely, because in that case he would presumably also have inserted on it the route they took on

1. Koeman 1952 b plate II & 1952 a p.83.

2. See above p.42.

3. Koeman 1952 b plates VI, VII, XI also show Touwi River.

4. Jeffreys 1930 pp. 540, 575.

their eastern journey. It is scarcely credible, however, that he did so, for the dates of their stay at their headquarters in the Camdeboo are inserted in Map 222 at two separate localities, when he knew perfectly well that they had been then at his father's farm De Doordrift (now Brooklyn) by the Swarte River. This duplication and the resulting muddle in the traces of their routes on side-trips from De Doordrift thus strongly suggest that these were not drawn in by either Cloete or by Swellengrebel. Moreover, there is no such confusion here in M.463 which belonged to the latter, who filled in clearly on it the general directions of his excursions into the Sneeuwberg. As a final note on this topic, it is strange to observe that a portion of their route was also inserted on another map of the Van de Graaff Collection, No.230, which is an amplification of an original by Friderici.⁽¹⁾ Its identification as part of Swellengrebel's route is made upon the difference in the outward and return journeys shown between the Great Fish and Kroonle rivers, and because it corresponds with his movements between the Bushmans and Sundays rivers.

A clue to the history of Map 222 is afforded by the inscription on Map 221 of the Van de Graaff Collection, for these are very similar to each other though not quite identical. The latter is upon tracing-paper, is crudely lettered and is inscribed as having been founded upon a compilation made by Surveyor C.F. Brink⁽²⁾ to illustrate the route he took when he accompanied J.W. Cloppenburg on his journey in 1768.⁽³⁾ This compilation was copied in 1791 and finally was added to and improved from the best available sources by Governor van de Graaff in 1798, long after he had left the colony. Since Cloppenburg only went east as far as the forests of the Outeniquas and north to Pienkiers Kloof (Greys Pass), these limits may indicate the scope of the original nucleus of the map. North of Pienkiers Kloof, Brink's own map of his journey with Hop in 1761-62⁽⁴⁾ was probably the source drawn upon, as is shown by the trace of the expedition's route on Map 222, though it is absent from Map 221. East of the Zwartkops River there are signs that Wentzel's map may have been used as a source, as has been suggested above. But west of the Zwartkops there is no sign of Friderici's map of 1789-90 having been used, in spite of its

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1. Koenan 1952 b plate VII.
 2. Mossop 1947 a, p.x.
 3. V.C. 96.
 4. Koenan 1952 b, plates III & IV.

superiority to anything preceding it.⁽¹⁾ These activities by successive cartographers probably produced Map 222 or a now missing equivalent copy of it, from either of which Map 221 could have been traced.

In the Molsbergen version of the Journal there are 12 results given of observations upon the sun for its noontide elevation. Swallengrebel's version repeats these figures but also gives the latitudes calculated from them. Of these 12 calculated figures of latitude, so far as can be ascertained without knowing exactly where the observation for each was made, the first has a positive error of about 11', the second (at Prince Albert) is approximately correct, whilst of the remainder all but one have a negative error which appears to range between 7' and 16' and averages about 13'.

The figures of the 12 observations and the latitude positions calculated from them as they appear in the Swallengrebel version of the Journal, together with the assumed true latitudes of the respective positions, were submitted by the present writer to the Royal Geographical Society for expert opinion. This was kindly given by Mr. A. Stephenson of the Imperial Institute of Science and Technology, London, whose detailed investigation and report is here gratefully acknowledged. He concludes that of the average negative error of about 13' in most of the results, 3' can probably be ascribed to the use by Swallengrebel (or whoever it was who worked out the calculations) of faulty figures for declination. The remaining error of about 10' Mr. Stephenson believes was probably the result of several errors of observation in which there was one predominating factor such as index error, which mainly influenced the sign. Further it is his opinion that the first two observations made, must have been grossly in error to give upon calculation a positive error of about 11' and practically no error at all respectively. He concludes his report by remarking that his opinions must, however, remain mere hypotheses since the calculations which led to the results in Swallengrebel's journal are not available; nor is it known what instrument was used for the observations.

The single result alluded to above with a negative error considerably larger than the average, is that of at least 21' on 27th October, as is derived from the following considerations. Though some uncertainty exists as to where he took his noontide observation on this day, it is certain that it cannot have been

1. Koonan 1955.

more than about latitude $32^{\circ} 46'$, for only 2 or 3 miles north lie the mountains between Adelaide and Port Beaufort which he did not reach. Thus if we allow $32^{\circ} 46'$ as the farthest north he could reasonably have been on this day, the latitude he gives of $32^{\circ} 25'$ is seen to be at least $21'$ north of its true position. It is unfortunate that it was on the day that he attained his farthest point east that this singularly large negative error of $21'$ occurred. On this day, 27th October, the Journal records the sun's noontide elevation as $70^{\circ} 36'$ whereas it records the elevation on the previous day as $70^{\circ} 6'$, presumably with much the same index error in each. But of the $30'$ difference between these two observations, about $21'$ was due to increase in the sun's declination. Thus $9'$ remains to be accounted for by northward travel, a figure which, on the generally easterly course they seem to have taken, they certainly did not accomplish between these two noon observations. In this period they probably approached the equator by no more than $3'$. Hence the remaining $6'$ must be ascribed to an excess in the figure of the sun's elevation. (Though an extra error of this magnitude is unlikely to have occurred in the observation, it could easily have been due to faulty transcription from field-notes to the Journal, when the true figure $70^{\circ} 30'$ in the former became altered (it is now suggested) to the erroneous $70^{\circ} 36'$.)

Whatever the origins of Map 222 may be, it represents a very considerable advance upon its most comprehensive predecessor, which so far as is known, was Wentzel's map of Bontler's expedition of 1752. The latter shows but little coastline, and only the surroundings of the route from the Cape through Swellendam, through the Lange Kloof to the vicinity of Butterworth and then inland to a few miles north of Cradock. Map 222 gives a full coastline within which, in addition to most of the areas shown by Wentzel west of the Great Fish River, there are shown the district of Agter Bruintjes Hoogte, the Sneeuwberg region and the Great Karroo, besides the west coast strip bounded on the east by the western Olifants River.

These latitude positions in the eastern Cape that have been examined in Map 222 have negative errors not exceeding $21'$ whereas Wentzel's errors in the same regions are often of the order of $35'$. The longitude errors in these parts are, however, much the same in both maps, being at Algoa Bay $-55'$ and $-59'$ for Map 222 and for Wentzel's respectively. Map 222 is incomparably more accurate than

those published by Sparrman 1783, Paterson 1789, Riou 1792⁽¹⁾ and le Vaillant 1795, whilst in certain respects it compares favourably with the first reasonably accurate published map of the Cape, namely that which accompanied Barrow's Volume I in 1801. These conclusions can be confirmed by an examination of the comparison maps prepared by Kossman and accompanying the plates in his atlas.

Though there is thus much in the history of Map 222 that is speculative, its geographical interest and value are considerable. It has been used (with occasional assistance from M.463) in the study of Swellengrebel's route that follows, to confirm, clarify or reject conclusions reached from consideration of the information given in the Journal and in the Schumacher aquarelles. However, considering all the circumstances under which Map 222 and M.463 were constructed, their evidence will not be taken as sufficiently trustworthy to outweigh conclusions founded upon the study of times, distances and directions of travel recorded in the Journal and compared with modern maps and field-investigations.

Opening Stages of the Journey.

Hendrik Swellengrebel, Pieter Cloete and Dr. Hagh set off on 10th September 1776 from Kooitgedagt, the farm of the Old Heemraad, Hendrik Cloete, that lies some 3 miles W.N.W. of Stellenbosch. Their waggons were sent direct to the farm of Wouter de Vos at the head of the Hex River Valley, there to await their return from a trip to the Bokkevelds.

The three gentlemen rode through Paarl and Wagenaars Vallei (Wellington) and then into the Tulbagh Basin through the Roodezand Kloof where the mountains are cut by the Klein Berg River. The journal⁽²⁾ and Map 222 both attest that they passed through this gorge. Moreover Schumacher Drawing 39 shows two tracks by the stream in the Roodezand Kloof.

Since Thunberg in 1772 and 1774⁽³⁾ and Sparrman in April 1776⁽⁴⁾ had passed through this kloof cut by the Klein Berg River, it is clear that the Oude Kloof 3 miles to the north over the mountains, had been superseded by 1772 at the latest. The Gordon Map 3 drawn in the decade 1778-88 shows the road through the kloof by the river.

1. Carter & Van Reenen, p.132.

2. Acc. 447 p.3.

3. See above p. 86.

4. Sparrman 178 6 II, 347.

Narrow in 1797 came this way as shown by his statement that "from the upper part of the kloof there is no descent to the land of Waveren".⁽¹⁾ By this route travelled Lady Anne Bernard in 1798, for she saw the feature known as the Bushman's Rock.⁽²⁾ Though Mossop says that Truter and Scamerville with young Borchards came this way in 1801⁽³⁾ their narratives are in fact not explicit on this point. But there is no doubt about it in the other sources quoted above which are given here because they disprove the statement made in 1804 by Lichtenstein that the road through the Roodesand Kloof had only very recently been opened.⁽⁴⁾ It can only be supposed that he referred to a re-opening after a temporary closure or to a re-routing of the road within the gorge of the Klein Berg River.

In the Land of Waveren, the present Tulbagh Valley, Swellengrebel and his party visited the waterfall, 5 miles S.S.W. of Tulbagh, which is mapped and described in some detail by Lichtenstein,⁽⁵⁾ and also took a circular tour of the Winterhoek at the valley's northern extremity. They left the valley by crossing the mountains to the east by the Witzenberg Pass (E. by N of Tulbagh) and then E.N.E. through the pass in the Schurftberg (Skurweberg) which leads to the Gyde Pass. Through this they turned north and so came into the Cold Bokkeveld in which they reached a point some 5 miles north of the Tafelberg. Beneath this mountain they visited Karl van der Merwe at whose farm Thunberg had stayed in 1773.⁽⁶⁾ The latter also had visited Schalk van Heerden⁽⁷⁾ near the south end of the Gyde Pass, twice mentioned by Swellengrebel as his host. This was in the Warm Bokkeveld, or Oude Bokkeveld as it is named in the Journal, where they spent a day making a round trip in a horse-drawn waggon. They then came through Mostertshoek, now Michell's Pass, visited Brand Vlei and ascended the Hex River Valley to its head where on 19th September they rejoined their waggons at the farm of Wouter de Vos, Buffelskruaal, some 2 miles N.W. of the present railway siding of Oosplaat. Their quarters here were a well-appointed house whose standard of comfort was not to be experienced again for several weeks until on their return journey they reached Jacob Kok near the present Humansdorp. Thus it was in the Hex River Valley that they bade farewell to the amenities of civilization to enter upon parts that were still within the semi-settled frontier zone

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1. Barrow 1801 I, 70.
 2. Lindsay, III, 465.
 3. Mossop 1929 p.55.
 4. Lichtenstein 1930 p.115.
 5. Lichtenstein 1928 p.179.
 6. Thunberg 1795 II, 27.
 7. *ibid.* II, 29.

of the colony.

The transcribed version of Swellengrebel's journal occupies 9 foolscap pages in bringing the travellers to this point. Besides narrating daily events, it contains remarks on the effects of overgrazing the veld near the Cape, on the agricultural conditions and possibilities there as well as in the two Bokkevelde, the Goudini and the Hex River Valley. A description of the hot spring at Brandvlei is also given.

It was from the house of Wouter de Vos at Buffelskraal that Governor van Plettenberg and his suite set off across the Karroo on his visit to the eastern Cape in 1778.⁽¹⁾ Though Swellengrebel probably discussed his own journey in conversation with Van Plettenberg telling him of the good houses at which to stay and of where the roads were worst, the Governor did not have a copy of Swellengrebel's journal or map during his travels in 1778.⁽²⁾ Thus the close correspondence between the ways taken by these two travellers probably owed less to an exchange of information than to the fact that, but for side-trips, both were traversing the same standard routes on their outward and return journeys. It would therefore be superfluous to devote equal space and attention here to Van Plettenberg's route. It will be discussed in some detail only where it differed widely from Swellengrebel's, and referred to briefly where the divergences were slight. Where the Governor was accompanied by Captain R.J. Gordon (later Colonel) the route will be dealt with in the chapter devoted to the latter. Van Plettenberg's journey through Outeniqualand will be discussed in an appendix.

Hex River to Gandebo.

On 21st September Swellengrebel's party began their journey in the Great Karroo when they left Buffelskraal, and again sending their waggons by a shorter route, they went on horseback over a difficult footpath through a kloof due north of the present railway station of Matroosberg. This brought them to the Widow Jacobse near Verkeerde Vlei, at its western end if it was the same as the house of Jacobs shown on the Gordon Map 3, as Map 222 suggests was the case. From this house on the 22nd they visited the Kaaimanegat in the mountains to the south near the point where they had crossed them the previous day. Then they rode down the course of the stream that empties

1. Nolsbergen 1916 II, 65.

2. Acc. 447. Letter No 1, dated 1st Feb. 1779 from Van Plettenberg to H. Swellengrebel.

Verkeerde Vlei and rejoined their waggons by the Touns River near the present town of that name. They camped that night at Jagersfontein shown on the Gordon Map 3 some 3 to 4 miles west of the Witte Water River,⁽¹⁾ and hence at or near the present railway siding of Constable. According to Barrow who passed here in 1797, the spring was called after a Hottentot named Constable,⁽²⁾ but it may well have been known earlier as Jagersfontein.

On the 23rd they passed an abandoned farm of P. Mijntjes, now Pietermeintjes, and reached Matjesfontein, still so called. Next day they passed through Rietfontein, whose name also remains unchanged, near the present Whitehill siding, and through a kloof then called the Klijne Jan Mostertshoek because it was said to resemble the southern exit from the Warm Bokkeveld.⁽³⁾ This was along the descending course of the Bavians Krans River in the poort from which the farm Riet Fontein's Poort appears to have been named.⁽⁴⁾ That night they camped by the Buffels River which is shown on Leiste's map⁽⁵⁾ as the Eerste Buffels River, presumably to distinguish it from the stream of the same name to be encountered later at Beervlei and then called also the Kariega, by which name alone it is known to-day. Leiste's Eerste Buffels River is shown on Map 222 as the Kauka or Buffels River, and passages in Sparman⁽⁶⁾ show without doubt that the one is the translation of the other and that they are not alternatives⁽⁷⁾ as in the case of the Kariega or Buffels at Beervlei to be discussed below.

Their camp on the night of the 24th must have been within a mile or two of where Laingsburg now stands. On the following morning they continued east to the abandoned farm Geelbekfonteyn which probably lay by the Geelbek River. On the 26th they passed Hartebeestfonteyn and camped at Wolvefonteyn, both still bearing these names. Wolvefontein, however, is shown on the Divisional Map of Laingsburg 1906 some 5 miles west of its position given on the Ladisath 1/4 - Million Sheet of 1943, but it is the former position that fits better the times taken by Swellengrebel's party. The next day a journey of 4 hours brought them to Jakhalsfonteyn, and hence probably in the Jakhals River valley. Judging by the time taken from it to the Dwyka River by Swellengrebel and later by Van Plettenberg,⁽⁸⁾ their Jakhalsfontein is likely to have been at or near

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1. Laingsburg Division Map, 1906.
 2. Barrow 1801 p. 87, & see below p. 299.
 3. Molsbergen 1916 II, 68.
 4. Laingsburg Division Map, 1906.
 5. Koesen 1952 b plate VI.
 6. Sparman 1786 II, 146, 291, 352.
 7. Maingard 1934 p. 131.
 8. Molsbergen 1916 II 68.

the present Allemansdrift and certainly not by the Dwyka River as is shown in Lichtenstein's map⁽¹⁾ and indicated by the editors of Van Reenen's Journal.⁽²⁾ Harrow's mapping of Jachals Fontein with reference to Slagtersfontein tends to confirm this conclusion, whilst on the other hand the map of Burchell, who did not pass this way, follows that of Lichtenstein. After Swellengrebel's party had journeyed $3\frac{1}{2}$ hours from Jachalsfontein⁽³⁾ they reached and camped for the night of the 27th by the Brakke, Dwinka or Zout River, now the Dwyka, and commented upon above.⁽⁴⁾

In the late afternoon of the 28th September they continued their journey, crossed the Ganka⁽⁵⁾ shortly before midnight, and following it up for some distance as is shown in Map 222, then swung E.S.E. up its tributary the Swarte River. On this course they continued throughout the night and reached at daybreak on the 29th the farm of Zacharias de Beer "op de Queekvalley onder den hoek van den Swartenberg." No Harrow farm of this period is better known to-day than Kweekvlei, where Prince Albert is now situated, for not only did Gordon make a drawing of it, but it was also visited and praised by Van Plettenberg, John Harrow, De Mist and Lichtenstein. Le Vaillant's claims to have been here are, however, open to considerable doubt.

On the afternoon of 30th September they resumed their journey and outspanned for the night at the Tygerberg. They reported that this outspan which had good water here and there in the river bed, lay half-an-hour north of the direct and otherwise waterless route between Kweekvlei and the Traka River. This outspan was presumably at or near De Poort shown in the Gordon Map 3 S.W. of his Tyger Berg and on the watercourse now called the Tierbergs River. In this vicinity the farm Argentina is now situated.

Between their camp at Tygerberg and their next outspan whose position can be identified with certainty with an error of less than 5 miles, namely at their Iceriesfonteyn, there must have been at least 60 miles by the way they took.⁽⁶⁾ If this distance be divided proportionally to the times occupied by the 3 stages taken to cover it, the approximate lengths of these stages may be calculated. The time taken for the 60 miles is either 23 or 17½ hours according to the starting times on 1st and 2nd October adopted for the purpose of estimate. These are 1.15 p.m. and 1.45 p.m. respectively⁽⁷⁾ as against 4.15 p.m. on both days.⁽⁸⁾ The earlier starts appear less

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1. Koeman 1952 b plates IX & X.
 2. Blommaert & Widd, p.246 & end map.
 3. Acc. 447, p.13.
 4. See above p.142.
 5. Usually taken to mean Lion, see Botha 1926 a, pp 34,68; but also said to mean Deep, see Engelbrecht, p.15.
 6. Burchell 1953 I, 66,67, says to obtain straight-line distance, reduce distance travelled by two-ninths.
 7. Molabergen 1952 pp.4,5.
 8. Acc.447.DD 14.15.

likely because they involved travel at the hottest time of day. On the other hand if the later starts be accepted, then their average speed of travel was about $3\frac{1}{2}$ m.p.h. which is less likely than the $2\frac{1}{2}$ m.p.h. given by accepting the early starts. To these uncertainties must be added those of the unrecorded incidents of the journey without a knowledge of which an attempt to estimate position by dead-reckoning is unreliable. Furthermore, Map 222 is of no help here for it marks no position (at least in its modern reproduction) for their halt at Rietkuyl. Thus the following suggestions for the positions of their halts between Tygerberg and Loeriesfontein are really not much better than guesswork. Perhaps their halt by the Traka River after a journey of 12 hours at 1.15 a.m. on 2nd October was near Koppieskraal, and their camp later the same day at their Rietkuyl after a further 7 hours travel, near Diepvalle.

Map 222 shows their route south of the Traka as E by N whereas it must have been E by S. It errs also in showing Elydeberg in the same latitude as Zoetendalsvlei depicted as lying to the north of their route. It seems virtually certain, however, that this vlei must have lain to the south of them. For to pass south of it would have involved an unnecessary detour as it lies in the mouth of Zoetendals Poort. The relation of the route at that period to the vlei and poort ^{is} ~~are~~ well shown in the Gordon Map 3.

On the 3rd they travelled 4 hours, say 10 miles, crossing the Traka an hour after their start and reaching their Loeriesfonteyn at 8.45 p.m. The position of this place, also visited by Van Plettenberg, is now uncertain. Barrow halted at both the Great and at the Little Loeriesfontein hereabouts ⁽¹⁾ and these as well as a Loerie Fontein figure in the Willowmore Division Map, 1906. The Loeriesfontein of the Oudshoorn $\frac{1}{4}$ - Million Sheet of 1943 fails to coincide with the positions of any of the preceding, but is within 3 miles of the farthest of them.

On the 4th they made a short journey to a stream shown on Map 222 flowing S.E. from the Elyde Berg, where they spent the hottest hours of the day. They continued their journey in the late afternoon, crossed their Zoute River (now the Salt) in the early evening and shortly afterwards halted at their Kriegsvally. It obtained this name from one of its feeders, the Kariega River, but it was also then called the Beervlei, as it still is. Map 222 is here badly at fault for it shows that the cartographer

1. Barrow 1801 pp.102,103.

was unaware of the position of the junction of the Zoute and Kariega rivers, and it places Beervlei some 35 miles E.S.E. of their crossing of these two streams. The latter name does not appear in the Journal though Schumacher Drawing 33 is entitled "Thunt after Buffaloes at Berenfley". The present writer has identified the drawing on the spot. The artist faced E.N.E. The prominent peak in the centre is the distant Schoorsteenberg whilst the low cone in the mid-distance is Kafferskop. Behind it the hills sink below the level horizon and are not elevated as depicted by Schumacher.

Saturday 5th and Sunday 6th were spent encamped here and the compass variation was ascertained to be $23^{\circ}W$ whilst the latitude was observed as $32^{\circ}47'$, an error of about $16'$ too far north. This may help to explain why the route from Kweckvlei, where the observed latitude was correct, is given too much north component in Map 222 along the Traka River and again between Blyde Berg and Beervlei; though these effects are diminished by too little northing being applied between the Traka and Blyde Berg. Swellengrobel says that the Krika (Kariega) River derived its name from the kirie, a knobbed stick used by the Hottentots and Kaffirs. Van Plattenberg's diarist recorded that this was also called the Buffelsrivier,⁽¹⁾ but as has been remarked above it is clear that this was an alternative name and not a translation. Kariega is now said to mean either the Steenbok or the Hartebesst River.⁽²⁾ Another possibility is that it was named after the Karee tree followed by the syllable -ga denoting either 'abounding in' or 'stream'. The presence of these trees further north along this river is shown by the appearance there of the name Caroe Bos on the Gordon Map 3.⁽³⁾ Before leaving this locality it should be noted that the mountains between the Nieuwveldberg and Sneeuwberg were then sometimes called the Zoute Riviers Berg,⁽⁴⁾ doubtlessly because that river has its source there. Moreover, it is on record that at this time the Nieuwveldberg were considered by some to extend to within 20 miles west of Graaff-Reinet. This appears in records of land grants in the period 1770 - 1785 when three farmers, the last of whom was Adriaan van Jaarsveld, each in turn described the farm in question as "de Vreede aan de Swarte Rivier onder de Nieuwveldsberg".⁽⁵⁾ This is now the farm Vreede mentioned below.

1. Molsbergen 1916 II, 70.

2. Pettman, p.32. Messop 1931 p.229.

3. See also Blommaert & Wiid, and map.

4. Acc. 447 p.20 & also on Map 222.

5. K.L.R. 21 p.131; 25 p.29; 34 p.213.

On 7th October they left Beervlei at 1.40 p.m. and followed up the Kariega for a short distance before striking out N.E. on a long overnight trek on the waterless stretch that ended at 5.30 a.m. on the 8th at their Kare River, the present Kraai. This distance of over 45 miles covered in nearly 16 hours was the longest stage of the entire journey. The Journal gives no indication whether it was covered in this time by both ox-waggons and horsemen; and since this stage seems unusually far and fast for the former,⁽¹⁾ the difficulty can be met by assuming that in all probability waggons and horsemen were not together throughout. The Journal states that they took a new route 3 to 3½ hours (say 10 miles) east of the old, probably indicating that the latter followed up the Kariega to the vicinity of Ganna Leegte before striking off N.E. past Kraasvogel-valley (Kraas Vogel Kuil of the Aberdeen Division Map, 1912) and thence to the Kraai River about 5 miles upstream from the point where Swallengrebel reached it. This old route was in fact followed by Van Plettenberg two years later⁽²⁾ and is depicted on the Gordon Map 3.

The new route taken by Swallengrebel probably proceeded from the Kariega on a line very similar to that followed to-day by the road between Beervlei and Aberdeen, except that it diverged a little to the north in its closing stages so as to reach the Kraai River as soon as possible, near the present Karrooside or old Kraai River Outspan (Divisional Map) some 10 miles west of Aberdeen. About 5 miles west of the latter, and on the following day, was made Schmacher Drawing 32, "Hunt after Springbuck in the vicinity of Gendebo." This has been identified on the spot by the present writer as depicting the view to the N.W. looking at the Gendebo Mountains which are well represented but for the cone in the centre which is a fanciful exaggeration, being neither as sharp, symmetrical nor as high as it is drawn. Encounters with large herds of springbuck are recorded in the Journal of 7th and 8th October.

After this journey of 16 hours to the Kraai they took less than 4 hours rest, for at 9.15 a.m. on the 8th they set off again. Though no reason is given for haste on the journey between Beervlei and the Swarte River, it is likely to have been due to shortage of water. The rivers may have been dry or the pools in them inadequate for the large number of animals (68 oxen and 7 horses) that accompanied the party. Nearly 5 hours later, after a distance given on Map 222 as about 12 miles, they stopped a second time by the Kraai River, perhaps a mile or two downstream from the present position of Aberdeen. This halt lasted less than 3 hours, and at 5.15 p.m.

1. Burchell 1953 I, 212. Burchell's waggons once covered 52½ miles in one continuous stage of about 17½ hours.

2. See above p. 144 & below p. 289.

they set off again to travel until 1.30 a.m. on 9th October when they arrived at De Doordrift by the Swarte River, grazing farms (veeplaats) of the Old Heerwaad, Hendrik Cloete, father of Swellengrebel's companion Pieter. Contemporary records show that Hendrik rented this farm for over 10 years from March 1775 to November 1785.⁽¹⁾

Excursions into the Snowberg.

This place now became their headquarters from which they made excursions into the country to the north-west. It was probably this farm that was visited by Van Plettenberg since it is described in his journal as belonging to Hendrik Cloete and situated hereabouts on the Swarte River. The indications given above combine to show that De Doordrift retained its name from 1775 until the opening of the 20th century⁽²⁾ when it was altered to Brooklyn whose homestead is situated a mile east of the Swarte River bridge on the National Road between Aberdeen and Graaff-Reinet.

On the Gordon Map 3 a farm belonging to Cloete is shown S.E. of an isolated cone that can be identified with certainty as Vuilkop. Though it is here placed south of the river, all other sources that indicate the position of the homestead place it on the north bank, as it is now; but this is perhaps an unimportant discrepancy, as the farm probably then lay astride the stream as it still does. Alternatively, the farm on the Gordon Map 3 may represent another of the several farms rented hereabouts at this time by Hendrik Cloete.⁽³⁾

Unfortunately Map 222 cannot be cited as immediately and clearly confirming the preceding identifications, though these are not on that account any less well-established. This map is confusing here, where not only is the Milk River misplaced but also the dates 9th-17th, during which their headquarters were at De Doordrift, are inserted at two distinct localities. However, of these that by the Swarte River is in a position that agrees with the time they took to reach it from their halt near Aberdeen, namely about 8 hours or a distance of 20 miles. Its position by the Swarte River agrees better with the routes depicted on M.463 which shows the rivers of this region more correctly than does Map 222. Finally, its position on the latter agrees in latitude with that recorded for it⁽⁴⁾ whereas the position of the alternative place, several miles to the S.W., does not. And as

1. R.L.R. 23 p.349.

2. Graaff-Reinet Division Map, 1900.

3. R.L.R. 20 pp 317, 319 & R.L.R. 22 p.307.

4. Acc. 447, p.21.

has been noted above, Swallengrebel's observed latitudes have usually been accurately inserted on Map 222.

The present writer has himself ascertained that Schmaecher Drawing 28 was made near the present homestead of Brooklyn looking W. by N across the Swarte River towards the sharp cone of Vuilkop, with the table-topped Perleberg in the background. Though the title of this drawing states that it was made on the farm of Johannes Swaenpoel, he was in fact only its overseer and an employee (inagt) of Hendrik Cloete.⁽¹⁾ This drawing is almost exactly the same as the unfinished pencil sketch, Drawing 46 of the Gordon Collection.⁽²⁾

The reproduction of Map 222 by Kossan does not show clearly all the dates and other details of the routes of their side-trips from De Doordrift. Accordingly when the present writer examined the original Map 222 at Delft he paid especial attention to these particulars, a study of which has proved helpful in elucidating their movements in this locality. But the faulty cartography has not made this task easy or made it possible to present conclusions that are entirely free from doubt. These side-trips are shown more clearly on M.463 but are quite without dates or names.

The day after their arrival at De Doordrift, 10th October, they set off in a cart drawn by six oxen in a N.W. direction over flat veld⁽³⁾ which was clearly the valley of the Moordenars River, then known as the Myshonds River.⁽⁴⁾ This is now zapped as the Little Sundays River^(4A) though it is quite unknown locally by that name to-day and is always called the Moordenars. In 4 hours, a distance of 14 or 15 miles, they reached G. Koekmoer's house, probably near Klipdrift, where the road now leaves the river to draw a chord from east to west across the latter's north-directed arc.

Early next day, 11th October, a journey of about 1½ hours along this chord brought them to the river again, and so to the homestead of "den ouden Koekmoer"⁽⁵⁾ which "lay at the very foot of the Sneeuwberg where the road ascends them." It was of this homestead and its surroundings that Schmaecher Drawing 31 was made, "The Sneeuwbergen at Koekmoer", which the present writer has identified in the field as the view north from the vicinity of Tweefontein, known also as Avonleigh. The road portrayed which they were to ascend follows much the same route as that of the

1. Acc. 447, p.11.

2. See below p. 335.

3. Acc. 447, p.17.

4. Gordon Map 3 & Molsbergen 1932 p.41. See below p.200.

4A. Graaff-Reinet Sheet, ¼ Million Series, U. D. F. 1943.

5. Acc. 447, p.18.

private road constructed by Mr. Kraemer Minnaar between his farms Tweefontein below and Kleinfontein on the summit of the mountains. As will be related below, Van Plettenberg also ascended the Sneeuwberg here and passed this way through "the farm of Diederik Kockmoer at the Tweefonteynen over a tributary of the Sundays River where the Sneeuwberg rears itself up".

These identifications appear so well established that it is at first somewhat disconcerting to find that they are not entirely supported by contemporary records of land grants. These show that Tweefontein was rented by Gerrit Jacobus Kockmoer in 1771-1776⁽¹⁾ and that the adjacent farm to the W.N.W., Zondags Riviers Hock, was held by him in 1771-76,⁽²⁾ whereas there is no mention of his occupancy of a farm at Klipdrift where he seems to have been when Swellengrebel visited him. And Diederik Kockmoer, who seems without doubt to have been at Tweefontein at the times of the visits of first Swellengrebel and then Van Plettenberg, is only on record as having rented Goliats Craal, 13 miles N.N.E. of Graaff-Reinet in 1772,⁽³⁾ though his whereabouts in 1776 and 1778 are apparently not recorded in the Oud Wildschut Boek.⁽⁴⁾ So we may suppose that in the latter period Diederik was in occupation of his son's (?) farm at Tweefontein, whilst the latter, Gerrit Jacobus, had moved to near Klipdrift. There can be little doubt that in these frontier regions moves of this nature frequently went unrecorded officially, and that land was sometimes occupied on trial for considerable periods before registering a claim to it. An unsuccessful trial, the discovery of a more attractive area or the death of the farmer could thus account for no registration of occupancy.

The ascent of 3 hours N.N.E. from Tweefontein was so steep that Swellengrebel records that even though their cart was drawn by six fresh and strong oxen they had to rest often, whilst the passengers seemed to hang in mid air and were compelled to hold on to the vehicle to prevent themselves from falling out behind. Looking S by W from half-way up this track, sometimes now called Perakboom Hoogte, was made Schumacher Drawing 27, "View of the Sneeuwbergen as wild country." In the centre the Perdeberg is instantly recognized by its distinctive flat-topped profile, double-notched like a gunsight. The cone peeping up to its right, whose symmetry and sharpness are exaggerated in the drawing, seems to be the southeastermost summit of the Minnaarberg whose elevation is now given as 4878 ft.⁽⁵⁾ This cone and the double-notched flat summit appear in the centre of

1. R.L.R. 21 p.503.

2. R.L.R. 22 p.5.

3. R.L.R. 22 p.143.

4. Cape Archives, now catalogued R.L.R. but previously S.G. or Surveyor General.

5. Graaff-Reinet Sheet, $\frac{1}{4}$ - Million Series, U.D.F. 1943.

Gordon Drawing 63 which reverses their positions as it was made looking at them from the south side.⁽¹⁾

Schmacker Drawing 30 looks back at the viewpoint where Drawing 31 was made, and is from near the top of Perskeboon Hoogte looking S.S.E. down the valley of the Moordensars River. However, from this viewpoint the valley does not open upon a flat horizon but is terminated by distant hills which have been displaced to the right in the drawing.

Looking N.E. from the summit of Perskeboon Hoogte, on the present Kleinfontein, was made Schmacker Drawing 26, "View of the Sneeuwbergen at Van der Walt". The house depicted is on the farm Houd Constant (still so called) occupied then by Johannes Petrus van der Walt.⁽²⁾ though neither the name of the farm nor of its tenant appear in the Journal. The high cone in the background is that now mapped as Doemanskop 5506 ft, though locally this name is now applied to a summit about 1½ miles farther west. The road shown in the drawing leads N.E. to Doornplaats and was followed by Van Plattenberg and R.J. Gordon in 1776.

From the top of the track on the present Kleinfontein they must have swung east across the Drooge River to a point about a mile N.W. of the homestead of Request. Here the artist must have taken a side-trip due south, for the viewpoint of Drawing 29 is most unlikely to have been on their direct route. This drawing was made about a mile W.S.W. of where the homestead of Request is now situated. The artist faced E by S and not in a northern direction as stated in the title. The prominent truncated cone in the centre is Coesemants Kop 10 miles north of Graaff-Reinet, and to its left is the Oudeberg whose summit is at three discordant levels. The valley on the right is again that of the Moordensars River.

H. van der Walt, whose farm the Journal records that they passed next, was probably Hendrik who farmed Rietfontein,⁽³⁾ still so called in 1900, but at present named Request. The times given for their movements now, indicate that on reaching the summit they had probably changed their mode of travel from the oxcart to horseback. An hour after passing Rietfontein they came to the farms of Tjaart van der Walt and H. Krieger "dig by alkander guleegen". The former then occupied Drooge River,⁽⁴⁾ named thus or Duurplaats in the Divisional Map, and now known by the latter title. H. Krieger⁽⁵⁾ thus probably

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1. See below p. 275.
 2. R.L.R. 22 p.13.
 3. R.L.R. 22, p.147.
 4. R.L.R. 22, p.219.
 5. Mossop 1947 b, p.265.

occupied Katbosch, for it is the only place close to Zuurplaats with a good spring of water. Another hour's ride took them to the farm of Carel van der Merwe which was then Doornbosch,⁽¹⁾ 5 miles west of Zuurplaats and approached over the watershed at Zuurpoort. At Doornbosch the night of 11th October was spent.

On the 12th they rose early and in 5 hours retraced their footsteps along and down from the Sneeuwbergen, reaching D. Keekamoer at Tweefontein at the foot of the mountain at 10.15 a.m. Thence a ride on horseback of about 1½ hours in a direction S by E⁽²⁾ brought them to J.J.⁽³⁾ or Hannes⁽⁴⁾ de Beer who is likely to have been Johannes Jurgen de Beer at De Vroede,⁽⁵⁾ now Vrede, on the Swarte River where Van Plettenberg was to make his headquarters in this area two years later. Farther down the Swarte River they passed the farm belonging by Cloete's account⁽⁶⁾ to G.R. Oppeman. However, this is likely to have been Christiaan Rudolph Oppeman at Uitkomst⁽⁷⁾ which appears on the Gordon Map 3 and is still so called. This conclusion is supported by the fact that Van Plettenberg visited Christiaan Oppeman in this vicinity.⁽⁸⁾ Godlieb Rudolph Oppeman, on the other hand, is recorded as occupying then, only farms in the western Karoo and Roggeveld. Thus they returned to De Doornkrift where the night of 12th-13th October was spent. It is certain that this excursion did not encircle the site where Graaff-Reinet was to be founded 9 years later, though this appearance is given by the trace of their route on Map 222 whose uncertain history is discussed above. Whoever drew in the trace of this and of the following excursion on Map 222 evidently had insufficient information to judge accurately what their true movements had been.

On their next side-trip Cloete was the first to set out, going off on horseback on the afternoon of the following day, the 13th, and performing a journey of 5 hours "over de Gansdooieberg" to D. van der Merwe. From there on the 14th Cloete took a 3-hour ride early in the morning to Uijtkijk which he described as on a corner of the Sneeuwberg. On his return to D. van der Merwe he met there Swallengrebel who had reached there that day from

1. R.L.R. 21, p.13.

2. Acc. 447, p.20.

3. Molsbergen 1932 p.7.

4. Acc. 447, p.20.

5. R.L.R. 21, p.13.

6. Molsbergen 1932 p.7.

7. R.L.R. 20, p.169. Moodie 1838, III, p.2. Here in 1769 dwelt Rudolph

8. Molsbergen 1932 p.41. Godlieb Opperman.

De Doordrift after a ride of 4 hours along the [foot of the?] Camdeboo Mts, having passed J. Overholster's on the way about an hour before reaching D. van der Merwe's. From the latter, Swellengrebel and Cloete returned together, reaching De Doordrift in about 5 hours. On this return trip they passed G. Overholster's who lived about an hour's ride from D. van der Merwe. (1)

No directions of travel or any other particulars than those used in the preceding paragraph are given in the Journal. However, the indications from this and from Map 222 and M. 463 combine to give the following impressions. The latter, which was the map in Swellengrebel's own possession, marks his journey as about 30 miles, roughly thus from De Doordrift: first 10 miles W, then 10 miles N.W. and finally 10 miles W. These distances are probably somewhat exaggerated and it is unlikely that all three were of equal length, though they provide a useful guide to the general trend of the route followed and of its destination. The route thus depicted avoids the mountains, crosses the headwaters of the next south-directed river west of the Swarte River, and terminates at the next stream to the west of the former. These streams are thus probably the Kriegers Hoek and Zeehoë rivers respectively, even though they are not depicted as confluent in M. 463. Thus it seems that Swellengrebel rode over the plains with distances and directions roughly as in his map, and that his destination at D. van der Merwe's was in the N.W. corner of the embayment in the mountains north of Aberdeen. In this position at that time David van der Merwe, Davides, occupied two contiguous farms De Oost and Moorddal (2) which retained these names (the latter altered to Moorden Dal) till at least 1900, (3) though in a recent map the latter appears as Morgendaal. (4) There is little doubt that it was one of these farms that Swellengrebel visited.

Contemporary records show that at this date only Charles Johannes Overholster had registered his occupation of land in this area, so that both the J. and the G. Overholster referred to by Swellengrebel on different occasions as dwelling at an hour's ride from D. van der Merwe, may in fact have been this G.J. Overholster. The latter then occupied Zeehoë Rivier, (5) which still went by this name in 1900, and lies in the appropriate direction and distance from van der Merwe's. He should not be confused with the Abraham

1. Acc. 447, p.21.

2. R.L.R. 21 p.17 & R.L.R. 22 p.361.

3. Graaff-Reinet Division Map, 1900.

4. Graaff-Reinet Sheet 1 - Million Series, U.D.F. 1943.

5. R.L.R. 20 p.65.

Overholster (or Oberholster) whose grazing-farm at Zeekoegat on the Lower Camdeboo River is mentioned in Van Plottenberg's Journal.

Incidentally it is of interest to note that around the farm Zeekoe Rivier in the embayment in the mountains north of Aberdeen, no less than seven farms owned by Oberholsters figure in the Aberdeen Division Map of 1912.

The description given in the Molsbergen version of Cloete's ride is even more scant. It merely states that in 5 hours he crossed the Camdeboo Mountains to D. van der Merwe. These mountains, as the title of Schumacher Drawing 30 attests, then included the summits around and south of the Kruis River such as the Wynberg, Minnaarsberg, Pendeberg and Frysfonteinberg. So it is now suggested that he rode W.N.W. from De Doordrift to the vicinity of Requestkop, where he turned west up the Kruis River valley to descend in the vicinity of Kriegers Hoek and to ride thence W.N.W. to D. van der Merwe's at De Cust or at Koorddal. This route is between 25 and 30 miles, including a mountainous section, and to have covered it in 5 hours represents fast travel, but not sufficiently so as to rule out the possibility that it was the way he took.

The farm Uijtkiyk that Cloete visited the next day was almost certainly that which had been transferred into his name in December 1774⁽¹⁾ after having been vested by his father in March 1773⁽²⁾. In the transfer the farm is stated to lie "at the farthest corner of the Camdeboosberg". In the Journal, however, it is stated that it lay at the corner of the Sneeuwberg. But these names could refer to the same features, for the Gordon Map 3 shows the present Camdeboo Rts as the S.W. termination of the sweep of the Sneeuwberg range. Thus Cloete's ride of 3 hours probably took him some 15 miles S.S.W. from De Cust to the southern point of the Camdeboo Mountains where he visited the farm still called Uitkyk.

1. R.L.R. 22 p.353.

2. R.L.R. 23 p.289.

Farming in the Sneeuwberg & Camdeboo regions.

Swellengrebel gives an account of the extent, physiography and climate of the Sneeuwberg together with his opinions concerning the enmity existing between the colonists and the Bushmen. Of the farming there, his brief account translated in full is this. (1)

"Corn is not grown in greater quantity than is required for bread, as the transport of it is practically impossible. The most important product is the sale of wethers at 4 or 5 schillings each, and oxen, of which fat ones are sold at about 5 rixdollars each. In addition much butter and soap are made. However, milk production here is poor. Instead of milking into a bucket, wooden bowls serve the purpose, and these must be emptied by a Hottentot again and again into a bucket standing in the middle of the kraal. Nineteen cows here do not give as much milk as two good cows in the fatherland and to milk them 6 or 7 people are necessary."

Of the two dozen regional descriptions he wrote, one of the longest and most interesting is that of the Camdeboo which is here translated in full. (2)

"Camdeboo, which in the language of the Hottentots means Green Hollow, is a stretch of territory a good 3 hours in breadth that extends 6 or 7 hours in longitude beneath the Sneeuwbergen. It lies much lower than the Karrooveld to the south and is, however, beautifully covered with grass, whereas the Karrooveld is meagre and dry, probably because there the ground in the depressions is too salty and impregnated with saltpetre. The ground here appears to be a yellow clay. The best grass is found in the thornbushes where it receives shade. On the banks of the river grows the so-called kweek or broad grass which is here considered the best. Though the hills are very stony right up to their summits, they carry nevertheless many tussocks of grass. The grass is lanky, however, with no clover or heap beneath it, but it is free of weeds."

"Here only as much corn is grown as is required for household purposes. It does not rain during the season for cultivation. The weather is then so cold and raw that sowing cannot be undertaken on any farms except where irrigation water is available. There are, however, many farms that can be irrigated, and on these corn flourishes. In summer they have much thunder and at this season it also rains most. Transport of corn would be rather too far even

1. Acc. 447 p.19.

2. Acc. 447 pp 21-24.

if it could be forwarded from the nearest seacoast. But besides growing corn, this land would be of much importance if the coastal districts become cultivated, because of the excellent grazing for cattle which is here and which could be kept in good condition. Cattle could also be kept in these interior regions so that less land for this purpose would be required in the cultivable districts."

"Several persons who live at Stellenbosch or elsewhere near the Cape now have a number of cattlefarms here for the raising of trinkoxen and sheep. They also churn a lot of butter that is estimated by the purchasers at the Cape at 5 or 4 stuivers per pound. They also make a lot of soap which obtains from 4 to 8 stuivers, in proportion to how much is delivered at the same time. (1) But as a waggon cannot carry more than 1,000 lbs of butter and 400 to 500 lbs of soap, and requires 2 months to journey there and back, besides needing to take with it at least two spans, namely 20 oxen, there is little profit that is not absorbed by the upkeep of the waggons."

"The rent of 24 rixdollars per farm they usually pay with oxen, each being reckoned at 8 rixdollars, to the Company which uses them on its own outposts. They have also some profit from the sale of wethers that are worth 4 schillings each. For anyone who keeps these farms for no other purpose than for raising cattle, which nearer [the Cape] is no longer possible because of the meagreness of the pastures, very little profit is realised apart from this cattle raising."

"A number of people have settled here and could make a very good living if transport to the Cape were not so difficult and expensive, so that most of them now live not much better than the Hottentots. Though they live here at most 4 or 5 stages (schoffen) from the forests, and thus could build good houses, their dwellings here consist of a wall of clay raised to a height of 3 or 4 feet, above which is a roof of reeds. There are no divisions into rooms; no chimney, so that the smoke goes out through a hole in the wall or roof; a door of reeds is tied with a rope and there is a square hole for a window; the bedsteads are separated from each other by a Hottentot's mat so that the sleeping arrangements are pretty sociable; the floor is of clay mixed with dung. On this everything stands in confusion together; butter churn, freshly slaughtered cattle, bread etc; while amongst them a menagerie of hens, ducks and little pigs runs around; and the doves actually nest in the roof. The furniture is

1. i.e. according to its abundance or scarcity.

appropriately a small table, or lacking that, a wooden box, and 3 or 4 campstools whose seats are of hide. These barns that are scarcely 40 ft long and 15 ft broad, hold on some farms two or even three families and their children. Thus cleanliness was not considerable."

"The limited traffic in their products causes the activity of these people, who moreover from their earliest days love to live by hunting in the veld, to diminish in proportion to the time they have spent there; and it may be prophesied that these people will wholly sink back into savagery (aan geheel verwilderde natie zal worden).⁽¹⁾ I have only found two houses that were decently built and maintained in cleanliness, but still were far from luxurious. One sees here practically no slaves. The Hottentots serve and are paid in cattle, and make the households not more attractive but more smelly (niet brillanter maar wel nog stinkender)."

"In the Gamdebo there are about 30 farms of which about 25 are inhabited. If they will not begin to conserve artificially the grazing for their cattle, it is to be feared that the luxuriance of the grass that has already started to deteriorate markedly, though settlement in the area only began 7 or 8 years ago, will not last long, and this veld will become wholly deteriorated just like that which lies nearer the Cape. This has already gone so far that one, Jacobus Botha, has had to move to the Great Fish River because he had no pasture for his cattle here; and an A. van den Berg⁽²⁾ spoke of wanting to trek elsewhere because he could not maintain himself on his own farm."

The following comments arise from topics dealt with in the foregoing quotation. By his account Gamdebo meant Green Hollow in the language of the Hottentots, which certainly fits his description of its situation better than Barrow's assertion that it meant Green Elevations.⁽³⁾ Perhaps the latter's informant had been misled by the terminal syllable -bo, to which the Netherlands word boven, meaning "above" or "on high" may by that time have been contracted by the colonists. The meaning Green Hollow is, moreover, confirmed by the Landdrost of Stellenbosch, J.F. Ments, in his report of his journey of 1769-70 into the Eastern Cape with the Landdrost of Swellendam, L.S. Faber. Ments wrote that the Hieuwveldbergen,

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1. Leibbrandt 1905 p.295. Here too the gloomy but groundless fear is expressed that "the residents in the far distant Veld will degenerate into a savage and barbarous people." Similar remarks appear in De Mist 1920 p.209.
 2. They met him on 17th October by the Swarte.R. The Gordon Map 3 shows a man of this name residing between the Great Fish and Tarka Rivers
 3. Barrow 1801 p.115.

(which name was then sometimes applied to the mountains forming the north termination of the Karroo as far east as the present Graaff-Reinet Division), "heeft in het midden een kaa de welke van een daar buijten in het zuiden leggende groen zeekegat, het geen de hottentots Candobo noemen, zijn naam ontleend, en in de gedaante van een halve cirkel zig opdoet". (1)

Swallengrebel defined the Candobo as a strip 3 uurs wide stretching along the foot of the Sneeuwbergen and between them and the rising ground to the south for 6 or 7 uurs. This practical method of measurement has the drawback of indefiniteness, since the uur with oxen was only about 2 English miles, whilst on horseback it could be reckoned at as much as 6 English miles. (2) Yet even using the latter measurement, the extent of the Candobo as defined by Swallengrebel is only about half that assigned to it in the Gordon Map 3 where it is shown lying between the approximate positions of Aberdeen and of Bruintjes Hoogte. The first place described by Swallengrebel as being in the Candobo is the farm De Doordrift on the Swarte River, but he fails to state either its western or its eastern boundary. Van Plettenberg's journal, however, put the former at about the present position of Aberdeen, though it is less specific about the eastern boundary that it says diminishes (afnesad) at the Vogel River by which Fearston now stands. (3) Barrow put the western boundary of the Candobo at what is now known as the Kaapse Poortje 13 miles S.W. of Aberdeen, and its eastern at Bruintjes Hoogte. (4) The latter was first mentioned in this role by Sparrman who was there before Swallengrebel. (5)

Swallengrebel was unduly pessimistic in prophesying a return to savagery by these dwellers in the Candobo, who were actually living in conditions very similar to peasants of some other countries at that time such as in the Highlands of Scotland or in the Hebrides. And they certainly enjoyed conditions far superior to those which were to be endured in the next century by countless slum-dwellers of the Industrial Revolution in Western Europe. Hardships were inevitable upon an expanding colonial boundary, but these were salutary in their effect in strengthening the spirit and intellect of these resolute frontiersmen and women.

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1. Stellenbosch 20/2.
 2. Sparrman 1786 I, 131.
 3. Nolsbergen 1916 II, 72 & 1932 p.41.
 4. Barrow 1801 pp.109,231.
 5. Sparrman 1786 II, 141.

From Gamlebo into Kaffirland.

On the 17th October Swellengrebel and his party set out from De Boordrift in an E.S.E. direction south of the Swarte River which they must have crossed just above its confluence with the Sundays, since only 5 minutes elapsed between their fording of these two streams. The latter they called the Landdrost or Sneeuwbergs River. Since at this time there was neither Landdrost, drostdy, village or district of Graaff-Reinet, it seems likely that this river was named for either the Landdrost of Stellenbosch, Lucas S. Faber, or the Landdrost of Swellendam, Joachim F. Nants, who together visited this area in 1769-70 with a commission entrusted with the task of deciding upon the boundary between their respective districts.⁽¹⁾ However, when the Gordon Map 3 was constructed in these parts, in 1776 presumably, the Landdrost and the Sneeuwbergs were no longer considered to be alternative names for the upper Sundays River, which Map 3 shows as the Landdrost River. This map errs in failing to show the Sneeuwbergs River⁽²⁾ as tributary to the Maishonds, these streams now being the Drooge and the Moordenaars (Little Sundays) respectively. The fact that the farm still called Zondag Riviers Hoek, on the banks of what is now mapped as the Little Sundays River,⁽³⁾ received its name as early as 1771⁽⁴⁾ probably indicates that this was then considered to be the main stream of the Sundays River. It may be conjectured that when this was discovered to be a mistake it was named the Maishonds or Little Sundays River,⁽⁵⁾ and then presumably to avoid confusion with the Sundays River it became the Moordenaars which is the name in general use for it to-day.

Where they crossed the Swarte River just below where it debouches from Booyens Poort, the Journal describes the riverbed as of flat rectangular rocks set as evenly and closely together as if they had been laid by a mason. A visit to this spot confirms this account. The riverbed is floored by the level pavement-like surface of a bedding-plane in horizontal Beaufort Series fine-grained sandstone of grey-blue colour. The rectangular joints are more pronounced in the magnetic bearing of about 265° and in this direction lie 2ft or more apart, whilst greater distances usually separate the less conspicuous joints at right-angles to the former.

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1. Stellenbosch 20/2. Moodie 1838 III, 1 - 4. Theal (1910) p.57.
 2. Molsbergen 1916 II, 74.
 3. Graaff-Reinet Sheet, 1/4 - Million Series, U.D.F. 1943.
 4. R.L.R. 22 p.5.
 5. Not to be confused with the other stream of the same name, See below p. 253.

From the point where they had forded the Sundays River a journey of 6 hours in a direction E.S.E. brought them to their Joubertsfonteyn which, from its position on Map 222 and from the round of compass bearings they took nearby, must have been at the foot of the eastern slopes of Roodekop on one of the feeders of the Klip River. On the 18th, being detained by strayed cattle, they made a journey from Joubertsfonteyn of only half-an-hour to the farm of Ad Greef, which was thus probably on another headwater of the Klip.

In less than 2 hours on the 19th they reached and crossed the Malk River, and in another 2 hours outspanned by the Platte, Plat or Plant River, having travelled S.S.E. all day. On the 20th a journey of 5 hours brought them to J. Meyburg on their Heerreds River which had presumably been named for the heerredsen accompanying the boundary commission led by Faber and Mertz. Van Plettenberg also visited this farm but called the river the Vogel, Caniga or Canniga,⁽¹⁾ which is shown as the Kaniga on the Gordon Map 3. The name Vogel has survived, and by it Fearston has now sprung up, presumably not far from where the dwelling of J. Meyburg once stood, as first the farmhouse and then the village were probably sited because of proximity to the most frequented ford over the Vogel River on the track between Gansdobe, Bruintjes Hoogte and the Great Fish River. From the Vogel River they proceeded further to outspan for the night at their Blijde River, still so called. The directions travelled this day are given in the Journal as first E by S and then E.S.E. which latter is, however, shown as E.N.E. in Map 222 and is probably incorrect.

On the 21st they came in mid-morning to their Allensfonteyn, mapped now as Almondsfontein, climbed the Bruintjes Hoogte and once over this summit, camped there for the night. This feature presents to the west a step-like form up which the road climbs steeply for about 500 ft., whilst the descent to the east is relatively gentle and inconspicuous. The Journal refers to this pass as De Bruynshoogte. It was given this name by the boundary commission led by Faber and Mertz of 1769-70, probably after a signatory of the report, Nic de Bruyn, who appears to have been a heerred of Swolleniam.⁽²⁾ The Hoogte were then suggested as the eastern boundary of the Colony, one reason for their selection being that they are the watershed between the basins of the Sundays and Great Fish rivers. The other was that they were then considered to lie the same distance east of

1. Nolsbergen 1932 p.41 & Cape Archives, M.179, Canniga R.

2. Moodie 1838 III 4.

the Cape as the lower reaches of the Gamtoos River adopted in 1770 as the colonial boundary which thus was supposed to run due north and south.⁽¹⁾ The area between the Bruintjes Hoogte and the Great Fish River became known as Agter Bruintjes Hoogte as it lay behind or beyond these heights when approached from the Cape.

Lichtenstein seems to have been misinformed in saying that Bruintjes Hoogte had been named after a Hottentot called Bruintje by the colonists.⁽²⁾ His statement in the English edition of his book that the Hottentots called the colonists in this area Bruintjes, Brownkins or Little Browns is apparently a mis-translation.⁽³⁾

On their journey of the 22nd, Schumacher Drawing 25 was made, looking north about 3½ miles due west of the present position of Somerset East. On visiting this viewpoint the peculiar feature in the centre of the drawing is seen to be a vertical rock face on which vegetation grows here and there, though now with nothing resembling palms as shown by the artist. The mountain depicted is now marked with a survey beacon on its summit at an elevation of 5531 ft.

Four or five miles further east they reached the dwelling of Wm Prinsloo, the first settler in Agter Bruintjes Hoogte, whose house was below the Boschberg and is described in the Journal as by the Bosch River, that which now skirts the western boundary of the town of Somerset East. This clearly shows that here dwelt at first the earliest settler and not on the site of the farm named Prinsloo on the Naude's River about 3 miles east of the town. The Boschberg were known earlier as the Bosjesmans Mountains as appears from this translation of words written in 1770 - "the Gandebo Mountains which extend, although under another name, of Bosjesmans Mountains, to the Fish River".⁽⁴⁾ Prinsloo had arrived in this locality in 1771,⁽⁵⁾ and some ten months before Swellengrebel visited him he had entertained another guest from overseas, the Swedish Doctor A. Sparman who was there in December 1775 and January 1776.⁽⁶⁾

The Journal records that they were told here that north of the Sneeuwberg rose the Grootte River that was very wide⁽⁷⁾ and flowed out on the north [-west] coast. This account of its width scarcely supports its identification with the Zeekoe River made by Coode

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1. Moodie 1838 III 4.
 2. Molsbergen 1932 p.241.
 3. Lichtenstein 1928 p.441 & Lichtenstein 1813 Vol.II p.253.
 4. Moodie 1838 III, p.4.
 5. *ibid.* pp. 14, 39, 48, 49.
 6. Sparman 1786 II, 140. Thompson 1827 I, 55.
 7. *Acc.* 447, p. 27.

Molsbergen,⁽¹⁾ and it is more likely to have been a variant of the information recorded by Sparrman regarding the river now known as the Orange.⁽²⁾ Swellengrebel also tells of meeting at Wm. Prinsloo by the Bosch River "een gezelschap van eenige boeren die over de hier gemelde Grootte Rivier naar 't N.O. met verlof van de Gouverneur een togt van drie a vier maanden zouden doen en olifanten te schieten".⁽³⁾ Perhaps this was the hunting expedition made by Jochas Prinsloo and three sons of Wm Prinsloo some time before December 1777 and mentioned subsequently.⁽⁴⁾ The given direction of N.E. seems more likely to indicate the locality of Bethulie to which it will later be suggested that they went, than the position of the Zeekoe River to the N.W.W. Besides, the report mentions their intention to proceed over the Grootte River, thereby implying that it lay across their northward route, to which of course the Zeekoe lay parallel. Moreover, the banks of the latter were bordered only by reeds and were entirely destitute of trees and shrubs,⁽⁵⁾ so that elephants were far more likely to have been sought along the well-wooded banks of the Orange River with which the Grootte River of the Journal is here confidently identified. Finally, the Zeekoe River was then already known by that name, for a report survives written by Adriaan van Jaarsveld describing a commando that he led along the Zeekoe in 1775 against the Bushmen whom he unsuccessfully asked to show him "the road further on to the Grootte Rivier", which obviously refers to the Orange.⁽⁶⁾

Schumacher Drawing 24 entitled "The Boschberg at Bruintjeshoogte with the farm of Prins Smr" contains nothing to prevent it from being regarded as a crude likeness of the mountain immediately north of the town of Somerset East. The Gordon Drawing 34 made here in 1777 or 1778 is, however, an immediately recognizable portrayal of the hills behind that town⁽⁷⁾ and it thus inspires confidence in its representation of the farm buildings which do not agree in number with those shown on the comparatively crude drawing by Schumacher. The latter's Drawing 25 entitled "The Boschberg at Bruintjeshoogte" may be considered as a characteristic representation of part of the Boschberg range, though the exact view has not been, and is perhaps incapable of being, identified.

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1. Molsbergen 1932 p.9.
 2. Sparrman 1786 II, 152; & see below p. 250.
 3. Acc. 447 p.28.
 4. See below p. 278.
 5. Barrow 1801 p.254.
 6. Moodie 1838 III, 44.
 7. See below p. 277.

While they were staying here, Swallengrobel relates that five oxen belonging to the assembled colonists were killed by lions. But disregarding this loss they lived very merrily, emptying a keg of brandy, playing cards all day long and dancing very cheerfully till late at night. ⁽¹⁾

Thus far on their journey all the way from the Cape they had been on "a travelled road" (gehaande weg) but this seems to have ended at the Bosch River. By it they spent two days with Wm. Prinsloo. On the 25th they set out again, now accompanied by him as well as several other colonists from that locality so that the party consisted of 18 Europeans as well as their Hottentot servants. It was thus a considerably augmented company that now began the journey into Kaffirland.

The statement ⁽²⁾ that at 10 a.m. they passed through the Little Fish River for the third time that day is inconsistent with the route followed and the other times recorded. Swallengrobel's account ⁽³⁾ however, only mentions the second, and thus final, crossing of that stream at 7.30 a.m. which agrees with other particulars of that morning's journey.

It is highly improbable that they forded the Great Fish River at its confluence with the Savianus River as shown in Map 222. It is far more likely that from the site of Somerset East to the Great Fish River their 5 - hour journey was E by S as the Journal states. This would have brought them to the river very close to the present Cookhouse, formerly Kookhuis. ⁽⁴⁾ They probably forded it within a mile north of the town and then travelled for over 2 hours, first due E and then S.E. till they camped by a pond of rainwater. Not far from this spot, and about 7 miles due east of Cookhouse, Schumacher Drawing 21 was made, facing N.E. The hills on the right of the picture are part of the Kageberg which lie N.W. of Bedford.

The small Kakouri River at which they rested on the morning of the 26th October could be the Kaba near Albertsdale. From it a journey of 2½ hours or about 6 miles, brought them to the Kaga River (whose name is still as spelt by them), perhaps in the vicinity of Kingsvale. They evidently passed north of Schiet Rug for Schumacher Drawing 22 was made from a point about 1½ miles S.W. of Prineston railway siding. The artist faced N.N.E. and drew the waggons proceeding eastwards. The view is centred upon the Groot Winterberg with its flat westward-sloping summit, whilst below it in the middle

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1. Acc.447 p.28.
 2. Mulsbergen 1932 p.10.
 3. Acc. 447 p.29.
 4. Blommaert & Wild, pp.154,156.
Koonan, 1952 b, plate X.

distance is Mount Pleasant. Continuing east they reached their Konna River, the Conna of Boutler, and the present Koonap, on whose west bank they camped, probably 2 or 3 miles south of where Adelaide is now situated. As the Journal records that they took only 1 hour 35 minutes to travel between the Kaga and Koonap rivers, a distance here of over 10 miles, this stage if correctly timed, evidently recorded the progress made by horsemen and not by ox-waggons.

On the 27th they travelled for half-an-hour by the Koonap before crossing it, and then went over a long hill, presumably the watershed between that stream and the Kroonie. On reaching the latter, which they called the Karoone,⁽¹⁾ they encamped at a spot that may have been within a mile west of Kroonie railway station. Here the night was spent near the kraal of the Kaffir chief whom they call Jeramba.⁽²⁾

In the course of this day a reprehensible incident occurred that might well have been attended by disastrous consequences.⁽³⁾ The colonists hunted down and forcibly detained a Kaffir youth, with what purpose and final outcome is not related. However, the incident nearly precipitated an attack upon the white visitors which was apparently only averted by the presentation of gifts to the Kaffire. They continued, however, to show resentment and it was doubtlessly this attitude that led the colonists to wish to return westwards as soon as possible. A further cause of dissatisfaction amongst the Natives was Swallengrebel's refusal to barter cattle from them, presumably because this traffic by private individuals was prohibited by the Company. For these reasons his desire to proceed farther east could not be carried out.

At noon of the 28th he began his return journey, intending to go due south across the Great Fish River to the place where he believed there was another path or track of earlier European visitors (tochtgangers). This was presumably the route between Kautenbachs Drift on the Bushmans River and Trumpeters Drift on the Great Fish River. However, his colonist guides absolutely refused to go that way, saying that the latter stream was impassable there. Thus he was forced to return westwards, probably travelling for the remainder of his journey of the 28th to the south of his outward route between the Koonap and Kroonie rivers: for both Map 222 and M.463 show that

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1. Moodie 1838 V, 49. Karoone R, Colonel Collins 1869.
 2. *ibid.* p.9. Jalsamba.
 3. *Acc.* 447, p.34.

his outward and return journeys between these streams were by different routes. Camp was made at the Koonap that evening, perhaps 4 or 5 miles south of the spot where he had camped by that stream on the 26th. It is true that Map 222 shows his camp of the 28th on his northern track, but this may well have been a mistake of the person who added the tracks to this map.⁽¹⁾ For as we have seen, Schumacher Drawing 22 established that they went eastward bound north of Schiet Rug; and it seems unlikely that they would have returned to the north of this route after having struck out initially on the 28th with the intention of proceeding due south.

The two maps show that they rejoined their old track some 7 miles west of the Kaga. This must have been on the 29th, the night of which they spent at their camp-site of the 25th. On the 30th they re-crossed the Great Fish River at the point where they had forded it on the 25th. Here the Journal notes that the mountains of Kaffirland were called the Bamboesberg because of the bamboos [*Arundinaria tessellata*] that grow on them. Other travellers of this period record the same name for these mountains, later known as the Winterbergen and Anatolas.⁽²⁾

Southwards to the Seacoast.

On 31st October they set off south between the Little and the Great Fish rivers, but closer to the latter. The route from here to the vicinity of Alicedale is hard to follow because the watercourses they crossed were mainly dry, minor and unnamed. Hence the times taken and directions followed on the various sections of this southward journey are the best indications of their halting places and of other features encountered. From their fording of the Great Fish River 2½ hours brought them to the vicinity of Longhope railway station where they camped that night.

On 1st November, Map 222 shows that they swung S.W. at the start of their journey, presumably so as to reach the watershed between the Little and Great Fish rivers and to avoid the entrenched tributaries of the latter. Along this watershed they travelled southwards. Their Doorn River appears under the same name in Henry Hall's map of 1856⁽³⁾ and is that which passes Harofield siding. The dry streambed that enters the Great Fish River 1½ miles south of

1. See above p. 176.

2. See above pp. 41, 156 & below p. 257.

3. Hall, H. Eastern Frontier of C. Colony, 1856.

Middleton railway station appears to have been that in which lay the deserted cattle-enclosure named De Stale Kraal. This unusual name that means Steel Kraal, suggests the surmise that it may have been in this vicinity that the meteorite was found that is referred to by Barrow and that later became known as the Cape of Good Hope Iron. (1)

An hour south of Steele Kraal they descended the last hill of the day which was thus very probably that which is now capped by Wilton beacon, 2476 ft. On this descent they disturbed a rhinoceros as is depicted in Schumacher drawing 20 whose actual viewpoint is probably unidentifiable with certainty since the background of hills exhibits no distinctive features. As noted above (2) it is strange that the Cloete version of the Journal does not mention that the rhinoceros was shot by him as is related by Seelengrabel. (3) From the foot of this hill they went south over the level to camp by the Little Fish River which they say have reached about 2 miles west of Nypon siding.

After a day's halt there on the 2nd November, on the 3rd they crossed the stream an hour's journey to the east, perhaps at the present roadbridge where the name Companies Drift Outspan points to an old-established ford. (4) They then went south to their Comlages spring, which was probably on or near the outspan 3 miles W by S of the railway station of Yonakalaga. The Journal states that here they rejoined a beaten track (heretofore spoor) last mentioned at the present position of Somerset East. Thus they seem to have rejoined here the highway between Agter Bruintjes Hoogte and Swartkops (Algoa) Bay which probably took here a more direct route, and hence further west, than the way they had come from Cookhouse. This suggestion is supported by Van de Graeff Map 230 which shows this route following the Little Fish rather than the Great Fish River, whilst Barrow's map made in 1797 shows it west of the former. (5)

There was at this time, according to Sparrman, a rougher but shorter route between Agter Bruintjes Hoogte and Swartkops Bay. This was probably that which crossed the Koutpans Nek near Volyerfontein railway station 65 miles N.W. of Port Elizabeth, and which was probably used by Le Vallant in 1782 and certainly by Barrow in 1797. (6)

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1. See below p. 417.
 2. See above p. 171.
 3. *Acc.* 447 p.40.
 4. *Somerset East Division Map, 1929.*
 5. *Koeman 1952 b, plates VII, IX.*
 6. See below pp. 344, 383.

Swellengrebel's guide, J. Swanspoel, probably took this direct route from Algoa Bay to the Gamdebé as related below under date 18th November. The longer route through ^KWanadagga, besides being less rough, had the advantage that it was never far from a stream with perennial pools even if not running throughout the year.

After a journey of 1½ hours from ^KWanadagga they outspanned at their Riet River, described in the Journal as a very brack tributary of the Bushmans River, and which is probably the stream by which Saltaire Siding is now situated. There they camped for the night of 3rd November. The next day the first stream they crossed was their Doorn, probably that which flows south from Wittepoort Kop, whilst their second was their Swartwater whose name remains unchanged to this day.

They state that they outspanned at the Bushmans River for the night of 4th November, and this may have been so. More probably, however, as suggested by Map 222, it was the present New Years River; for at the period when this map was drawn it is clear that it had not been fixed which of the two branches of the Bushmans River above the present Alicedale should be considered the main stream. In either case they must have camped within a mile or two of the junction of the Bushmans and the New Years rivers. The latter has been said to have received this name because it was crossed by Van Plettenberg on New Year's Day.⁽¹⁾ Actually he crossed it on 20th October 1776. The river is more likely to have been named by the Boundary Commission led by Faber and Mentz who were in this vicinity on 1st January 1770,⁽²⁾ though the first known use of this name is in Van Plettenberg's journal where the Nieuwjaars Drift is mentioned.

Several maps of this period, including Map 222 and M.463 show the Bushmans River above the present position of Alicedale flowing from the east, whereas this part of the system is now known as the New Years River. This representation of the upper course of the Bushmans River was apparently derived from Wentzel's map of 1752. That this was possible is indicated by a reference to the existence at the Cape in 1775 of what seems to be almost certainly Wentzel's map, or an equivalent copy thereof.⁽³⁾ The upper course of this stream is represented similarly in the 1786 version of that map, namely Map 219 of the Van de Graaff Collection.⁽⁴⁾ But the lower course of the Bushmans is far better represented in Map 222 than in

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1. Theal 1911 p.164.
 2. Moodie 1938 III, 2.
 3. *ibid.* p.49.
 4. Roeman 1952b, Plates I,II,V,VI,VII all show the Bushmans River flowing westwards from its source before turning southwards and then eastwards.

Wentzel's map or in Map 219, so that copying of the entire course of the Bushmans River from one of the two latter to Map 222 has not occurred. To the errors in Wentzel's map in the relative positions in longitude of, for example the confluence of the Little and Great Fish rivers on the one hand and on the other of Rautenbachs Drift on the Bushmans River, ⁽¹⁾ may perhaps be ascribed the faulty orientation of Swellengrebel's route on Map 222 which is shown as S.W. between the Little Fish River and Rautenbachs Drift. Actually this journey must have been made S.E. as far as Assegai Bush, and only there can they have turned S.W.

The directions of travel given in the Journal are here inconsistent with the route it describes. On the 4th November it records that from Comadagga their course was westerly when in fact they must have inclined from a S.S.E. direction to one that was more nearly S.E. During their journey from New Years Drift to Assegai Bush on the 5th their general direction of travel must have been S.E. by E, but the day's course given in the Journal is "at first east of south but afterwards more and more westerly". This conflict leads to the conclusion that these directions in the Journal were not their actual courses as observed by compass in the field, but were inserted in deference to a faulty map of a predecessor, probably Wentzel, a copy of which they used either during the journey or after its termination. The reason why travellers here swung S.E. to Assegai Bush was that immediately south of the junction of the Bushmans River with the New Years there lies a virtually impassable poort, on either side of which are steep tangled hills dissected by deep and densely bushed valleys.

On 5th November, as the Journal states, they forded the New Years Drift, presumably through what is now the New Years River, though as mentioned above, it was probably then known as the Bushmans. In 1½ hours they came to "een spruitje in een diep gat tussen twee kloven". This was probably Hoffmans Gat mentioned by Lichtenstein ⁽²⁾ and on the farm Hoffmans Kloof shown on the Albany Division Map of 1899. Through it to this day there passes from Alicedale the most direct route to Assegai Bush, where Swellengrebel's party outspanned for the night. ⁽³⁾ Sparrman had camped here too. ⁽⁴⁾ The rounded hillcrests here formed the natural routeways, for they were practically without trees ⁽⁵⁾ and are described in the Journal of

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1. See above p. 57.
 2. Lichtenstein 1928 p.421.
 3. Acc. 447 p.44.
 4. Sparrman 1786 II, 76.
 5. Acc. 447 p.44.

6th November as being covered by much grass. By contrast, many of the valleys here are to this day obstructed by thick bush.

Their route must then have changed to W.S.W., approximating to the line of the modern road between Sidbury and Bushmans River on the way to Sandflats. On the west bank of this stream they camped on the 6th, probably at what was later to be called Rautenbachs Drift about half-a-mile above the present low-level roadbridge.⁽¹⁾ Here they met a party of Gonaquass,⁽²⁾ that tribe with which Le Vaillant was later to fraternize and enthuse upon at such length in his overcoloured narrative. A footnote to his infatuation with the fair Marina is provided by Swellengrebel's remark⁽³⁾ that the best-looking Hottentot women were amongst these Gonaquass. In similar vein is the observation by Paterson that these people were better shaped than any of the other Hottentot tribes he had seen.⁽⁴⁾ Their chief, Ruyter, visited the travellers on 7th November. His true name is said to have been Unkhola, but it is under his Dutch name that he appears in the records of journeys in that period.⁽⁵⁾ Two drawings of him figure in the Gordon Collection.⁽⁶⁾ Swellengrebel's party accompanied him to his kraal by which they outspanned that night.

If weight be allowed to the evidence in this matter of Map 222, the kraal lay some 10 miles S.E. of Rautenbachs Drift; and an examination of the original in Delft showed it to have been near a west-bank tributary of the Bushmans River. Though less than 10 miles, a distance that could have been exaggerated because of the circuitous route they reported was imposed upon them by kloofs and hills, it may be suggested that the kraal lay not far from the south side of the stream by which the farm Geluk is now situated, 1½ miles along the turnoff to Alexandria from the National Road near Foulds Halt. The scenery here is, however, not of sufficiently distinctive character to enable unhesitating acceptance or rejection of this identification to be made by comparing the topography as seen

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1. (See above p. 36,
& below p. 255.
(Molabergen 1932 p.50.
(Blommaert & Wild p.152.
 2. Meinard 1931 pp.494,500.
 3. Acc.447, p.54.
 4. Paterson p.85.
 5. (Molabergen 1932 pp.286-91,297,300.
(Moodie 1838 III, 2 and V, 10.
(Sparrman 1786 I, 159,211. II,155 and map.
(Shaw 1840 p.272.
(Napier I, 199.
(Kirby 1955 p.138.
 6. See below p. 287.

In the field with that depicted in Schumacher Drawing 18, "The native Israel of Captain Ruiter." His Drawing 19 of the Bushmans River with cattle (and not buffalo as in the caption) in the foreground could be taken to represent one of several of the numerous bands of that tortuous stream, and accordingly no exact identification of the view is attempted here.

The 8th was spent at Ruyter's Israel, and on the 9th they set out for the mouth of the Sundays River hoping to find there elephants and hippopotami as they had been told they would by "een bloemsoeker" whom they met at the Israel and who accompanied them on this side-trip with his wagon. (1) The term "flower-seeker" instead of "botanist" may indicate that Swellengrebel considered that the individual was not of such education. It is possible that this person was J.A. Auge who had travelled to St. Francis Bay in 1772 with the celebrated botanist C.P. Thunberg. Auge was 65 in 1776 and two years later his eyesight had become so bad that he had to retire from his post of Superintendent of the Company's Garden. He then went to live with a friend near the Gamtoos River. (2) These facts are insufficient to enable an opinion to be formed as to the probability that the "flower-seeker" in question was Auge. However, the Cape musterrolls for 1776 show that there were then seven men employed as "garden-people", (3) so that Auge was not the only one who could have been collecting plants at this time.

Their journey on the 9th took them S by W over grassy hilltops until they reached the dunes in sight of the sea. (4) After a halt they continued west parallel to the coast and inland of the dunes. That night they camped in a kloof between high hills where the water was bad, possibly the valley in which Flatrug siding is now situated. In this general locality Swell's D. and P. Narous as well as Lucas Meyer. (5) Regarding the latter, Ruyter complained bitterly to Swellengrebel, saying he had already been forced once by Meyer to move to make room for his cattle, and pressure was now being put on him by Meyer to move again. (6) This may have been the same Lucas Meyer who later assisted in the search for the survivors of the

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1. Acc. 447 p.49.
 2. Karsten 1951 p.129.
 3. V.C. 46 p.12.
 4. Acc. 447 p.50.
 5. (Acc.447 p.49.
(D. Narous was probably he who had visited the Great Fish River (in 1755, see Woloh 1951 p.465 and Soga p.126.
(P. Narous see R.I.R. 24 p.305. Petrus Johannes Hart,
(De Oudegunde Fonteyn, golvegen aan de Bojesmanrivier etc.
 6. (Acc. 447 p.49.
(Kirby 1953, pp.155,165 etc.
(Cory 1910, pp.248,261.
(Jeffreys 1927 p.266. Lucas Meyer and Dirk, Plet and Jan Narous
(fled from the Kaffirs in 1779.

Grosvenor, and whose abandoned house marked the site on which Grahamstown was founded in 1812. ⁽¹⁾ Similar complaints were made by the Gonaquas regarding the grazier P. Louw. ⁽²⁾

A journey of 3 hours early the next morning, 10th November, brought them to the mouth of the Sundays River. Schussacher Drawings 16 & 17 which combine to embrace a panorama of Zwartkops (Algoa) Bay were taken looking W.S.W. from the summit of a hill about midway between the summit of Landmans Kop and the seashore at the river's mouth, as the present writer has established by a visit to the spot.

November 11th was spent in this locality and the opportunity taken to observe the latitude which Swellengrebel gives as $33^{\circ} 28'$ or some 17 miles too far north. On the 12th they returned to Ruyter's Kraal by a more direct route than that by which they had come. They saw fragments of limestone hereabouts ⁽³⁾ which were of the Alexandria Series of Miocene age. ⁽⁴⁾ The day's journey on the 13th took them N.W. to their Korozi River, now the Coornay, to a point 4 or 5 miles west of Saniflats. Next day, the 14th, they crossed the Sundays River which was swollen by rains in the distant interior. Discussing this, the Journal mentions that further up this river it passes through the Swarte Heuwels. These are probably the Swarte Ruggens of the Gordon Map 3 which seem to represent the hills on whose southern borders Jansenville now lies.

The place where they crossed the Sundays River and where they spent the night of the 14th, is shown on Map 222 as between 2 and 3 miles below its confluence with the Coornay. This combined with other evidence suggests that a point $1\frac{1}{2}$ miles W.N.W. of Addo railway station is the likeliest position of the drift they used. For here the right bank is not so obstructively steep as it is farther north, and a bend in the river flows north of east, so that first thing next morning they could have travelled S.S.E. and E as the Journal states. These then were their initial directions of travel on the 15th and were taken to avoid hilly ground. Thus they must have approached the site of the present Addo railway station till forced by the river to turn south along its bank until they came to that part of it which flows in a westerly direction, as the Journal relates, namely midway between Addo and Barkly Bridge. Here they turned S.W. and later outspanned by the Coega River as Map 222 shows and the Journal confirms.

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1. (Kirby 1953 p.155 etc.
(Souvenir 1820 Settlers, p.7.
 2. Acc. 447 p.53.
 3. *ibid.* p.52.
 4. Houghton 1928, p.29.

saying that they were here on the farm of S. Ferreira. This was Stephanus⁽¹⁾ who in April 1776 registered his occupation of Coegaswagendrift.⁽²⁾ Salomon Ferreira, mentioned earlier in the day, recorded in November 1777 his renting of 't Soetgeneugt by the Coegakama⁽³⁾ which is presumably the Coega River. However, this unusual name, Zoetgeneugt, is shown on a modern map not by the Coega but between Adde and Barkly Bridge at the Sundays River.⁽⁴⁾ It seems unlikely that the latter could then have been confused with the Coega, for the Sundays had received this name before 1752,⁽⁵⁾ and its Nottentot name was written by Sparman⁽⁶⁾ as t'Huka t'Kama (that he said he thought meant 'grassy water'); whilst Maingard has recently given it as i-Nqweba, the thorn-tree river.⁽⁷⁾ The name Coega Kamas Kloof is applied on the Divisional Map to a farm adjoining the S.W. boundary of Zoetgeneugt, and lying between the Coega and Sundays rivers though touching neither. However, its name suggests that, though it is now at least six miles from the Coega, it may be a portion of a far larger farm that once bordered upon that stream.

The P. Ferreira mentioned by Swellengrebel as dwelling nearby⁽⁸⁾ was probably Pieter Hendrik of the farm Rietfonteyn, whose whereabouts cannot be precisely identified from the account of its position that the latter gave when he registered his occupancy in April 1776, namely that it lay between the Coegakama and the waggon-drift over the Sundays River.⁽⁹⁾ Also mentioned in the Journal is Gerrit Scheepers who in March 1776 rented the "Chougatswagendrift geleegen op 't eynd van de Wintershoekberg over de Swartkops rivier"⁽¹⁰⁾ which suggests that this farm may have been near the present Sandfontein.

This day, November 15th, the Journal has an unusually long geological account, about 100 words, describing the hills between the Sundays and Coega rivers. Though it is not entirely comprehensible, it does convey the correct impression that the hills here are made chiefly of soft materials; for they are now described as being in the main of Uitenhage Series clays and sandstones and Alexandria Series marine gravels.⁽¹¹⁾

On the 16th they first climbed a steep hill, presumably without their waggons, from which they saw the sea about 10 miles away. This may have been the eminence marked 515 ft just 3 miles north of Swartkops Saltpan in the Fort Elizabeth Sheet 1 - Million Series of 1943.

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| 1. Ass. 447 p.56. | 7. Maingard 1934 p.131. |
| 2. R.L.R. 24 p.255. | 8. Nolsbergen 1932 p.21. |
| 3. R.L.R. 25 p.267. | 9. R.L.R. 24 p.261. |
| 4. (Map of Uitenhage & Fort Elizabeth Divisions, 1925. | 10. R.L.R. 24 p.209. |
| 5. See above p.26. | 11. Haughton 1928, pp.23, 24, 28 and accompanying map. |
| 6. Sparman 1786 II, 19. | |

Proceeding south, Map 222 shows that they passed to the east of the Zwartkops Saltpan which they visited, and then crossed the Zwartkops River, evidently above tidewater and hence probably between the present positions of Despatch and Perseverance. Gerrit van Rooyen and Pieter Buys whose cattle they saw in this locality then dwelt respectively at the Zwartkopsriviersdrift and at Locuse Fonteyn by the Kleine Zwartkops River⁽¹⁾ whose identity is discussed below.

They visited the mouth of the river opposite where Amsterdian Hoek now stands, and there took a round of compass bearings from the Company's Beacon erected by Ensign Boutler in 1752 and which has been dealt with above.⁽²⁾ The manuscript version of Swellengrebel's Journal gives the bearing to "the other island" (Jahleel)⁽³⁾ as E.N.E. $\frac{1}{2}$ N. instead of E.N.E. $\frac{1}{2}$ W. as given in the printed version,⁽⁴⁾ which is obviously wrong. However, the latter was assumed to have been written in error for the former when the present writer unsuccessfully attempted to locate the beacon in 1946 before he had become acquainted with the Swellengrebel version of the Journal. Near the beacon Swellengrebel found on the beach what is described in the Journal as a heap of petrified sand that looked from a distance like a wrecked ship, and was composed of thin, mainly horizontal layers. He surmised that it was the remains of a waterworn dune, and indeed it was evidently of what is now known as dunesrock.

On the 17th November at 9.40 a.m. they left the beacon and rode S.S.W. until at 11 a.m. they reached the dwelling of Thomas Ferreira at a distance of $\frac{1}{2}$ - hour from the sea. This is shown as Klijn Papkuijls Fontijn in the Frederici's Map.⁽⁵⁾ It was presumably in the same locality as that later known successively as Papenkuijsfontein and Cradock Place,⁽⁶⁾ situated by the Papenkuijs River some 3 miles from the sea on the N.W. outskirts of Port Elizabeth. This stream is shown as Ferreriras River in maps by Burchell, Knobel and Hall respectively.⁽⁷⁾ From Ferreira they returned to their camp by the Zwartkops River, perhaps midway between Zwartkops and Redhouse. The two versions of the Journal do not always agree on the events and times recorded for this day, but the above interpretation attempts to resolve reasonably the sometimes conflicting evidence.

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1. R.L.R. 24 p.219 and R.L.R. 25 p.13.
 2. See above p.33.
 3. Theal 1902 Vol.13 p.189. Jahleel and its companion, Brenton Is. named 1820. Sir Jahleel Brenton was Naval Commissioner at the Cape. (D.H.B.) Jahleel means "Hoping in God". It appears in Munberg, Chap.26, Verse 26.
 4. Acc. 447 p.58. Molsbergen 1932 p.23.
 5. See below p. 328.
 6. (Cory 1910 p.83.
(Blommaert & Wild p.78.
(Redgrave pp. 43 - 53.
 7. (Burchell, 1822.
(Knobel, J. District of Albany, 1820.
(Hall, H. Eastern Frontier of C. Colony. 1856.

From Alcoa Bay through the Lange Kloof.

By the Swartkops River on the 18th they parted with J. Swanepoel who rode from here direct (dwaars af) to the Camdeboo,⁽¹⁾ and hence probably in a N.W. direction through Zoutpans Nek as described above.⁽²⁾ But the others this day set off W, according to the Journal, and then inclined N.W. Hence they probably did not travel up the valley of the Swartkops River but (as shown in Map 222) up its southern tributary which joins the mainstream at Swartkops village and was called the Little Swartkops River in some early maps.⁽³⁾ Perhaps this name and not the Kleyne Gantouwarivier should have been given here in the printed version,⁽⁴⁾ where it certainly seems misapplied, a conclusion which is perhaps supported by its omission in the Swellengrebel manuscript.⁽⁵⁾ Their journey to the W.N.W. probably changed direction to S.W. by W. when they reached the vicinity of Sans Souci whence they took the shortest line to the drift of the Van Stadens River. Their journey from their camp near the confluence of the Swartkops and Little Swartkops rivers to Sans Souci was probably made to rejoin there the beaten wagontrack linking in a more or less direct line the fords of the Swartkops and Van Stadens rivers.

The latter stream was reached at 3 p.m. "in a small flat surrounded by high hills". Schunzocher Drawing 13 shows them encamped here on the east bank. The artist faced east at a point whose grid reference on the large-scale map⁽⁶⁾ of the area is NAL 721,905. Drawing 14 contains the viewpoint of the preceding picture and looks west from NAL 735,905. These show that the place where they forded the river on the 19th was just above its junction with the stream from Witteklip and within 1½ miles in a direct line from its mouth. From the top of the steep western bank of the river Drawing 12 was made at approximately the point NAL 710,905 facing W by S. The mouth of the Gantoes River is depicted in the middle distance just left of centre. Drawing 15 was made somewhere along the high ridge on the western rim of the gorge of the Van Stadens River which is here viewed facing in a direction east of north towards the hills 3 or 4 miles distant. Continuing N.W. along this ridge and roughly parallel to the river they came to Galgenbosch, a name which earlier had applied to a wide stretch of forest,⁽⁷⁾ but in 1776 was

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1. Acc. 447 p.59.
 2. See above p.208.
 3. e.g. those of Sparman, Friderici & Lichtenstein.
 4. Rdsbergen 1932 p.23.
 5. Acc. 447 p.59.
 6. Loerie Sheet, 3325 C.C. 1/50,000, Trig.Survey 1947.
 7. See above p.31.

given to a farm on the west bank of and about a mile from the Van Stadens River, in which position the dwelling appears on Friderici's Map. The National Road must pass through its former boundaries and its name now survives as Galbos, the S.A.R. bus stop at the western summit of the Van Stadens Pass.

They then took the route westward along the ridgecrest now followed by the asphalt road to Loxrie. From this crest looking N.W. was made Drawing 10, "The Ganka Mountains in a Northern direction". The central peak depicted is the Cockscomb 5780 ft which is now one of the Great Winterhoek Mountains, but was evidently then considered as lying in the Ganka or Kankwa (now Couga) Mountains as Map 222 shows.

Their descent into the valley of the Loxrie River was perhaps 2 miles below the present village of Loxrie. Through or above its site they evidently did not pass, for here the right bank of the river is not steep. But in the vicinity of Melon it is, and it was evidently this short ascent westwards from the river that cost them so much trouble the next morning, the 20th November. Continuing westwards, their next descent seems to have been to the stream that joins the Gantoes just below Wagonrift, near which point they probably crossed the latter.

Their route during the remainder of the 20th is most uncertain. Across the Gantoes the Journal gives their course as W.N.W. up a kloof $1\frac{1}{2}$ hours long, a distance of perhaps 5 miles since it was obstructed with stones and heavy sand. The only kloof hereabouts having this direction and length is Zoetkloof (sometimes mapped as Koukkloof); but if they really came this way it is indeed strange, for their destination for the night's halt lay due south of the stretch of the Gantoes River that they must have crossed, and not to the N.N.W. The Zoetkloof answers to their description in that it would be a difficult path for waggons, being steep-sided, narrow and densely bushed. Perhaps it was the ascent of this kloof that led to the remark in the Journal that they took a wrong track and had to retrace their steps for half-an-hour. But since they took $5\frac{1}{2}$ hours for a journey whose direct distance is only about 9 miles, it seems likely that they had strayed further than they thought. It also remains unexplained why they made a steep descent to their crossing of the Kabeljauwe River since this could easily have been avoided by fording it within 5 miles of its mouth. It is tidal for less than a mile from the sea. They spent the night at "a place of J. van Reenen"⁽¹⁾

1. Beyers p.85.

and hence probably the same visited in 1779 by W. Paterson who described it as by the Kabeljauwe River a mile from the seashore.⁽¹⁾ Map 222 shows it hereabouts on the west bank.

On the 21st November they came to the comfortable house of Jacob Kok on the north bank of the Zeekoe River, probably at Alooridge where there has long been a ford. Indeed it seems to have been at this point that the river was crossed by Boutler in 1752. Kok, an hospitable and industrious Hessian, figures in the accounts of several travellers of this period, and he was probably the first to build a good house and maintain it as an up-to-date establishment in the eastern Cape. His full name seems to have been Johannes Jacobus Kok, and he occupied farms successively eastwards from Grootvadersbosch near Swellendam in 1748 to Elands Dans over the Gouritz River in 1754, to Moeras River in 1765.⁽²⁾ He was here visited by the Boundary Commissioners, Faber and Ments, in 1770, and then successively by Thunberg and Masson, Sparrman, Swellengrebel, Van Plettenberg and by Paterson.⁽³⁾ He had died by 1786 when his widow is mentioned for the first time.⁽⁴⁾ In that same year, however, it was taken over by Jacobus Kok, Jacobsz,⁽⁵⁾ evidently he who was reported by General Janssens in 1803 as having fled thence from the Kaffirs.⁽⁶⁾

November 22nd and 23rd were spent with Kok, and on the 24th they followed up the north bank of the Zeekoe, crossed their Geelhoutboom River (Geelhoutboom) and outspanned by their Leeuwen River, now the Leeuwbosch.⁽⁷⁾ On the 25th the Journal records their crossing of the Leeuwen and Diepe (Diep) rivers and passing their Eschenbosch (Essenbosch) and Assagajebos (Assagaibosch), after which they outspanned at Melkhoutbosch (Melkhoutkraal).

From here on the 26th they took a sidetrip southwards on horse-back over what is now known as the Karreduur Pass, and then proceeded a few miles westward through their Autoniquabosch on the flanks of the mountains as Map 222 shows. The statement⁽⁸⁾ that they visited a wagontrack to the Autoniquabosch therefore does not indicate for certain that this road passes westward between the mountains and the sea to the present position of George. No evidence has yet appeared

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1. (Paterson p.60.
(R.L.R. 18 p.467, February 1765, Jacobus van Reenen,
(Kabeljouwerrivier.
(R.L.R. 26 p.67. Taken over by his son Willem van Reenen in 1779.
 2. R.L.R. 12 p.5; R.L.R. 13 p.661; R.L.R. 15 p.529; R.L.R. 19 p.95.
 3. Mentzel 1944 p.4.
 4. R.L.R. 19 p.95.
 5. R.L.R. 34 p.273.
 6. (Molsbergen 1932 p.127.
(Blommaert & Wiid p.74.
 7. Kruisfontein Sheet, 3424 BA., 1/50,000 Trig.Survey 1947.
 8. Acc. 447 p.70.

as to the approximate date when this difficult route was first established. Though the Friderici Map of 1789-90 seems to show that through-communications may have been opened up by then, it was probably only a bridle-path. For in 1804 there was said to be no wagon road through the Tsitaikana⁽¹⁾ whilst a similar state of affairs was suggested in 1809.⁽²⁾ Maps of as late as 1888 show no road here⁽³⁾ but it appears in the Surveyor General's map of the Cape, scale 1:800,000 published in 1895.

Swellengrebel remarked that the unforested plain between the mountains and the sea at the Karredouw Pass was called the Gredo (Karredouw) but became the Gise Xanna (Tsitaikana) in the direction of the Kromme River mouth. Sparrman gave a similar indication.⁽⁴⁾ In this direction we now have the Tsitaikana River and Point, but strangely enough the Tsitaikana Mountains lie in the opposite direction, namely west of the Karredouw Pass, whilst east of it lie the Karredouw Mountains. Thus the present positions of the names of the mountains are the reverse of those of the plains at their feet as recorded by Swellengrebel.

The place-names recorded in the Journal on the journey between Karredouw and the Attaquas Pass have here been studied in conjunction with those in the journals and maps of the more informative travellers who within 50 years of his date of travel covered all or part of this stretch. These are, in chronological order, Boutler, 1752; Thunberg, 1772-73; Sparrman, 1775-76; Van Plettenberg, 1778; Gordon Map 3, 1786; Friderici Map, 1789-90; General Janssens, 1803; De Mist and Lichtenstein, 1803-04; Burchell, 1814; and Theunissen, 1823. The observations of these authors on the names of the streams, farms and their owners have been correlated wherever possible in tabular form in appendices which may be consulted to supplement the matter in the following paragraphs.⁽⁵⁾

From the Gordon Map 3 and Friderici's Map it is clear that Thomas Ferreira with whom Swellengrebel and his companions spent the night of 26th November was at Jagersbosch.⁽⁶⁾ On the 27th they passed

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1. Barrow 1804 p.368.
 2. Moodie 1838 V, p.27.
 3. (Smith 1881 Map by Weller.
(Moodie 1888 Vol. I.
 4. Sparrman 1786 I, p.345.
 5. Strydom p.19, discusses the old families of the Lange Kleef.
 6. R.L.R. 23 p.265, November 1774.

Elandsfontein, still so called, and immediately afterwards climbed their Dwarsbeuvel which doubtlessly is that which marks the head of the Kromme River valley and lies west of the present hamlet of Haight's. About 5 or 6 miles beyond Elandsfontein they passed Drie Fontijnen.⁽¹⁾ This was a name also recorded hereabouts by Sparrman who erred, however, in saying that the three streams flow south instead of north.⁽²⁾ These were probably the three separate spruits previously called the Pannokoeks River by Beutler,⁽³⁾ and may be those referred to as the Drie Rivieren in the maps of Friderici, of Lichtenstein and of Burchell. The narrative of De Mist, however, who preceded Burchell by a decade, only mentions Twee Rivieren in this locality⁽⁴⁾ which is the name that still survives. Theunissen's narrative and map complicate the situation further by recording a Drie Fontein at the head of the Kromme River and another by the Wagenbooms River opposite the present Joubertina.⁽⁵⁾ There are perhaps some grounds for belief that contiguous separate farms in this vicinity may have once borne these two names signifying the possession of two and of three streams or fountains respectively. For on 13th February 1765 Jacobus Scheepers registered his occupation of three loan-places that may have adjoined each other. They were Wagenbooms Rivier and Twee Rivieren, both in the Lange Kloof, and "Driefonteinen on this side of the Kromme River in the Sietsakama".⁽⁶⁾ The latter region is now over the mountains from the locality we are considering; but in those days descriptions of the positions of farms were often registered in terms that would now be considered extremely vague or most misleading.

From their Drie Fontijnen they "swang round the hill into the Lange Kloof"⁽⁷⁾ and then came to the house of Nieuwkerke. This is likely to have been Peter Niekert of Onverwagt mentioned by Thunberg and marked in Friderici's Map as Piet Nieuwkerken, Onverwagt, on the Krakeel River 2 or 3 miles downstream from where Joubertina now lies. Being by this river Onverwagt was evidently considered by them to lie in the Lange Kloof, and indeed this is not an unreasonable opinion. The above sources, as well as Map 222 suggest that at Twee Rivieren, or perhaps even at Elandsfontein, they did not follow the route now taken by the railway, but proceeded on a parallel route about 1½ miles further north and separated from it by a line of hills. From

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1. Acc. 447 p.73.
 2. Sparrman 1786 I, 310 and map.
 3. See above pp.29,148.
 4. Theal 1911 p.157.
 5. Theunissen pp.10,11.
 6. R.L.R. 18 pp. 475, 477, 479.
 7. Acc. 447 p.73.

Overwagt they would not have been able to take their waggons S.W. through the short but steep-sided Krakeel River Poort traversed now by an engineered road just west of the present Joubertina. But they could have proceeded W.N.W. for a couple of miles before inclining S.W. to descend into the Lange Kloof 5 or 6 miles west of Joubertina. This suggested route to this point from Klandsfontein is indeed shown as a road in the Uniondale Division Map of 1901.

Near the point where they thus reached for the second time the Krakeel River, they spent the night of the 27th "with Strydom at the beginning of the Groensrivier", called the Groene by Beutler and now known as the Krakeel.⁽¹⁾ Priderici's Map shows that Matthew Strydom's house lay about a mile E.S.E. of the present Krakeel railway siding and that it was named Dooden Graaf. The accounts of Thunberg, of De Mist and of Lichtenstein explain that a cairn marking a Hottentot grave existed here.⁽²⁾

On November 28th they came in 1½ hours to their Klippenafrift or Grootte Aapjes River, having passed the house of Joh. Celofse 20 minutes earlier. The farm Klipdrift on the Louterwater River is shown on the Uniondale Division Map of 1901. These names are associated again in the entry of 1774 that registers Johannes Celofsen as tenant of "de plaats geseegen in de Lange Kloof thans de Klippe Drift dog eentijds Louterwater genaemd".⁽³⁾ De Mist records that Aapie was a Hottentot whose name was applied to the stream by which he had once dwelt, presumably the Grootte Aapjes, now the Louterwater.

Their Kleyne Aapjes River (also recorded by Sparman) is thus probably the stream at Grootplaats, whilst their Hartebeest River crossed 45 minutes later would be the stream at Nieuwplaats. About an hour later they came to their Diepe River, mentioned in all accounts by travellers of this period and still bearing this name. By it Niagund now stands. Their Roodekransriviertje (the Grants River of Sparman's map) is now the Roodikrans by which the Redclyffe Hotel is situated. Their Kleyne River can be identified from Priderici's Map as the stream at Ongelegen whilst from the same document their "Rietvalley, zijnde de oorsprong der Gauga" is seen to be near Welgelegen,⁽⁴⁾ where dwelt the Widow Heyns whose farm they record having passed here.⁽⁵⁾ Swallengrebel notes⁽⁶⁾ that the Kauka (Gauga)

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1. R.L.R. 27 p.89. Mattheys Strydom, De Krakeel Rivier, 1770-89.
 2. (Thunberg 1795 I,199.
(Theal 1911 p.157.
(Lichtenstein 1928 p.265.
 3. R.L.R. 23 p.217.
 4. Groot R? See above pp. 29,147.
 5. R.L.R. 19 pp.9,21. Both Ongelegen and Welgelegen were granted in 1765 to the Widow of Michiel Heyns, Michielsz.
 6. Acc. 447 p.69.

meant "the man's river". If this is correct, this stream's name may represent the Hottentot word now written as Khoi-khoi.⁽¹⁾

The night of the 28th was spent at the present Aventura with Matthys Zondag who is mentioned in all accounts by those who came this way in this period. The family has never left this spot, and the village still has a Matthys Zondag as well as others bearing the same surname.

On the 29th they continued west. The steep hill they came down just before crossing the Keurbooms River is the descent to its left bank from high up on the steep valley-side where to-day the road still takes the same way that the old track must have followed, and then winds sharply down to the stream.

Gerrit van Rooyen whom they reached at 1 p.m. is identified from Thunberg as living near Diep River, probably where the village of that name now stands. Here they sent their waggons westwards to Hendrik van Staden at Ganssekraal to await their arrival there whilst they took a side-trip to the north to the hot springs. At the outset of this trip they crossed the gently sloping hills to the north that presented no obstacle to horsemen. They then swung E.N.E., crossed their Potjes River, still so called, and came at dusk to the Kamanassie River as recorded in the Swallengrebel manuscript⁽²⁾ but wrongly referred to as the Krome River in the printed version as "de Krome R. die in de Lange kloof even bewesten de Keurbooms R. ontspringt".⁽³⁾ The Andr. Celofse with whom they there spent that night is almost certainly Anders Glofse of Riet-valley visited by Thunberg when on the same route.⁽⁴⁾ Uniondale is now situated on the farm Riet Vallei, so that it seems that Swallengrebel's host lived on the north bank of the Kamanassie opposite where the town now stands.

On 30th November they went north past Vette Vlei whose name remains unchanged and was given, the Journal relates, due to a slimy scum resembling milk, that lay on the water there. Their side-trip terminated at the hot-springs about 3 miles to the east of the southern entrance of Toverwater Poort. They spent less than 2 hours at the hot-springs regarding which their remarks add but little to those of their predecessors, Thunberg and Mason. They returned the way they had come, and a long ride brought them after darkness to their waggons at Ganssekraal.⁽⁵⁾ The Murage River they crossed an hour before reaching this place was probably the present Molen

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1. Schapera, 1930 p.5.
 2. Acc. 447 p.74.
 3. Molsbergen 1932 p.29.
 4. Thunberg 1795 II, 97.
 5. Strydom p.19. This was the first loan-place in the Lange Kloof to be registered i.e. in 1762 by Jacob Kreytenbach.

River, and the stream forded 10 minutes later was its western tributary mapped about 1900 as the Huis or Ruis,⁽¹⁾ but now usually known locally as the Kansenheid from the farm on its west bank near the drift, or less commonly as the Sand River. Nearby, states the Journal, dwelt Jan Buys, from whose surname it is now suggested the names Huis or Ruis River may have been corrupted. The name Kansenheid appears here as early as 1762 when this farm was rented to Jacobus Buys.⁽²⁾

On 1st December the first stream they crossed on their way west from Ganzekraal was their Matjes River, still so called. Beyond it they record passing the place of the Widow van Beuningen, which name may be a mistake, for presumably it was her late husband Jacobus van Neelen who in 1772 registered his occupation of "De Schoone Berg aan de Brakke R in de Lange Kloof agter de Attaquas Kloof".⁽³⁾ For here to-day Schoonberg is situated at the source of the Brakke R. The Journal remarks that from here a track went south over the Duivelskop into the forests of Outeniqualand. This was the route taken by Van Plettenberg in 1778, as will appear below. Another road which had been followed by Boutler and later by Thunberg led north from here by the river and through its poort. Swellengrebel, however, held on W.S.W. to the farm of Roelof Kuffer on a small western tributary of the Brakke River. This farm was Ezeljacht, whose name remains unchanged to this day. Through the Ezeljacht Poort, in which the Brakke River flows, they travelled as Spatzman had done before them.

The Journal remarks that at this poort the Lange Kloof ends, so this point ended the search by the present writer to identify Schumacher Drawing 8, "View of Lange Kloof", which shows their cart and two waggons descending a moderate hill presumably in a westerly direction. When the Lange Kloof is entered from the east, the first such descent is encountered just before reaching Joubertina, the second is to the headwaters of the Kourbooms River and the third is at the crossing of that stream. But at none of these places, nor anywhere between them, nor between the Kourbooms River and Ezeljacht is there a sufficient degree of resemblance between the scenery and the drawing to establish its viewpoint with certainty. Though Schumacher's drawings are often accurate, they are not invariably so, as is exemplified by his No. 9 of the Attaquas Pass which is discussed below. Hence his No. 8 may perhaps be regarded as illustrating the general character of part of the Lange Kloof, rather than an exact

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1. Uniondale Division Map, 1901.
 2. R.L.R. 16 p.473.
 3. R.L.R. 12 p. 255.

delineation of a particular scene.

At Eseljacht Poort they emerged upon the Cannaland named either after the eland or the ganna plant (*salsola aphylla*) as Burchell has suggested.⁽¹⁾ The Cannaland was considered to extend at least as far west as the Platte Kloof in longitude 21° approximately,⁽²⁾ so that it seems to have embraced much the same region as is now called the Little Karroo.

Turning west they next crossed their Groot Doorn (Doorn) River and after 2 hours forded the "Klippendrift, een sterk lopend water", and evidently now the Klip. They relate that they spent the night of 1st December with Ocker Hijns at Mysekraal by the Sandplaat River, probably now the Groot Doorn⁽³⁾ and apparently recorded by that name in the pages of Thunberg.⁽⁴⁾ This identification is supported by the positions of the Sand and Klip Drift rivers on the Gordon Map 3. Note, however, that the names of the Mysekraal and Klippendrift rivers had apparently become transposed since they were recorded first in the account of Beutler's expedition.⁽⁵⁾

Through the Outeniqua Mountains at the Attaquas Pass.

On 2nd December they set off by their account at 7 a.m. from the Groot Doorn River (as it has been identified above), but no explanation is given why it was as late as 11.35 a.m. when they passed "along and through the Kleyne Doorn R. between stony hills". The name of this stream remains unchanged except for its spelling, and they must have crossed it in the southmost corner of the farm Klein Doorn River shown in the Oudtshoorn Division Map, 1932. Here too is shown between this river and the Klein Moeras River to the W.S.W. a road which seems to have been constructed along much the same route as that followed here by Swellengrebel. In visits to this area in 1953 and 1954, the present writer, aided by a mosaic of air-photographs, investigated this route between the Kandelars and Moeras rivers. He has traversed it on foot except for 1½ miles and has seen all of its 7 miles from end to end.

Another hour's westward travel from the Klein Doorn brought Swellengrebel's party at 12.30 p.m. to their Grootte Cannalanische

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1. Burchell 1953, I, 189.
See also above p.121.
 2. (Paterson pp.23,24.
(Gordon Collection, Drawing 55. "Gesigt over het Ganna Land
(genomen van de Platte Gloop".
 3. (R.L.R. 24 p.111. Ockert Hoyns, 6th Feb.1766, at Grootte Doorn R.
(in Cannaland behind Kattiquas Kloof.
(Mossop 1947a, p.120.
 4. Thunberg 1795, I,211; II,53.
 5. See above p.28.

River which is now the Kandelaars, and the latter name probably a corruption of the former. They were then on the farm known now as Zebra Mountain but which is much smaller than when it was shown in undivided form on the Oudtshoorn Division Map, 1932. Immediately beyond the river they were confronted by their Gamalandsche Hoogte which they surmounted in 10 minutes to emerge at 12.50 p.m. upon "vlak Caroveld".

This short steep climb is up the west bank of the Kandelaars River, here perhaps 100 ft high, which is topped by a flat ancient erosion surface sloping gently northwards. This plain they traversed in a S.W. direction for a mile and then descended westwards for about a mile into another valley. Here at 1.35 p.m. they crossed their Kleyns Gamalandsche River, a western tributary of the Kandelaars, and were immediately confronted by another height which again took 10 minutes to scale. This is to a low pass now known as Ysternek. The Journal remarks of these ascents thus. "These two heights are very difficult climbs, because their steepness causes many waggons to stick, and they would scarcely be able to surmount them if they were more rocky. By them one reaches a high veld in a kloof, between mountains and hills, that becomes increasingly narrow westwards."

At Ysternek they entered a broad and easy valley which runs from east to west and leads over a wide low pass, now locally called Grootnek, to the Klein Moeras River. This stream flows west between the main range to the south and the Witberg to the north, and it is evidently their Wasch River reached by them at 3 p.m. ⁽¹⁾ The present Moeras River is their Molder River which they forded at 3.25 p.m. Continuing west they came at 4.50 p.m. to their Saffraan River which still bears this name, as does also Saffraan Kraal where they outspanned for the night. This place is mentioned in several contemporary accounts, and though the actual outspan may be no longer identifiable, it cannot be far from the present veesper Safranekraal by the Saffraan River near the entrance to the Attaquas Pass. This stream was probably named after the bush still used as a saffron dye, Sutera atropurpurea (Hiern).

There is little doubt that Swellengrebel's party was following what was then the standard route between the Lange Kloof and Mossel Bay, and was traversing the mountains by a way which long experience had found to be the easiest natural passage. It is the same that Bontler took in 1752.

1. Carter & Van Reenen p.145. Was Rivier.

On the Divisional Maps of Oultshoorn and of Mossel Bay the old track through the Attaquas Pass is shown which cannot differ much from the one in use in 1776.⁽¹⁾ On 3rd December they ascended by a headstream of the Saffraan River in a W.S.W. direction past Osse Hoek and then crossed over the divide into the valley of the west-flowing Kanna. On the descent from this divide Schumacher Drawing 9 was made. This is a crude representation of the view westwards down the Kanna valley, the steepness of whose sides is exaggerated in the picture. A distant mesa-like hill in the centre of this actual view may have inspired the much enlarged flat-topped hill left of centre in the middle distance of the drawing. The absence of mesa and mountains in the southward view framed by the Molen River valley decisively shows that the drawing was not made there.

Their Grootte Paardekraal was by the Kanna River. To this point, when visited by the present writer in 1953, there was a rough but motorable track from the south, but the road up the Kanna valley has long ago been washed out and cannot be traversed by wheeled traffic. From Grootte Paardekraal they turned south to climb the divide between the Kanna valley and the head of the Molen River high above and parallel to whose left bank they gradually descended in a S.E. direction. Near to, but probably on the flat watershed high above this deeply entrenched stream, at the southern exit of the pass, was their Kleinne Paardekraal which is likely to have been within or near the boundaries of the farm Paarde Kraal of the Mossel Bay Division Map, 1928. By far the best contemporary representation of the Attaquas Pass, with the place-names mentioned by Swellengrebel, is in the Gordon Map 3.

The night of 3rd December they spent at Hagelkraal where their host was Dirk Marcus; but what the relationship was between him and the D. Marcus they had met on 9th November near the Sundays River mouth is obscure. Hagelkraal is mentioned by nearly all the travellers of this period who came this way and recorded their experiences. In the printed version of the Journal this place is described as "in het land van Beuse (?)", the mark of interrogation having been inserted by its modern editor.⁽²⁾ This puzzling phrase is unfortunately not cleared up by the manuscript version which omits it entirely.⁽³⁾

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1. It must have been used with decreasing frequency as other passes were opened: the Cradock Pass in 1812; and crossing it at a gentler incline, the Montagu Pass in 1847; Prince Alfred's Pass in 1867; Robinson Pass (named after Mr. H. R. Robertson, Chief Inspector, P.W.D.) in 1869, originally called the Ruyterbosch Pass. The Outeniqua Pass was opened in 1951.
 2. Molsbergen 1932, p.52.
 3. Acc.447 p.80.

Eastward Trip into Outeniqualand.

On 4th December they set off S.E., soon crossing the Palmiet River in its deep, steep-sided valley and proceeding parallel to it on the high ground above its left bank as Map 222 shows. The farms of J. Botha and of Louw Erasmus which they described as lying to the south of their route are seen to be Goedemoed and Hartebeest Kuil respectively on Friderici's Map, and these names remain unchanged but for their spelling in the Mossel Bay Division Map. Here too appear the names Hartebeest Kraal and Brandwacht, also mentioned in the Journal and featured with their owners' names by Friderici. The former place lay to the east of their route, as the Journal states, but they passed through the latter at their second crossing of the Palmiet on their way to Claas Meyer's, shown by Friderici to be Outeniqua Bosch, still so called in 1928. Friderici also shows that Jac Hatting's, through which they next passed, lay near the confluence of the Klein Brak and Moordkuil rivers; and that Pieter ter Blans, where they spent the night, dwelt at Rhesboksfontein⁽¹⁾ which still bears this name. Strangely enough, the names of the Klein and Groot Brak rivers which they must have crossed in this order are transposed in the Journal as well as in Map 222.

On 5th December they crossed the Groot Brak River (called the Kleyne Brakke in the Journal) below tidewater near its mouth. East of this ford Friderici's Map suggests that the road then did not take the line of to-day's National Road to George, but avoided the more deeply incised parts of the river-valleys by swinging inland N.E. some 6 miles and then going approximately due east. It thus passed through the farms Diepakloof, Kleinfontein and Modder River on which Blanco is now situated shown in the George Division Map of 1911. It is very likely that Swellengrebel took this route because he mentions Hendrik Plooy and Hendrik van der Walt who registered their occupation of Diepakloof in 1760 and Kleinfontein in 1756 respectively.⁽²⁾ These two farmers were passed in the reverse order by Van Plettenberg proceeding in the opposite direction from the Company's Post, now the site of George.⁽³⁾ This, therefore, seems to have been the route followed by Swellengrebel and his party. And since they rode on horseback for 5½ hours from their crossing of the Groot Brak River, it is probable that it was in the vicinity of either Blanco or of George that they reached their Outeniquabosch.

1.R.L.R. 17 p.199. September 1763.

2.R.L.R. 16 p.63 & R.L.R. 14 p.273. See below p. 426.

3. See below p. 424.

Outeniqualand to Swellendam.

They returned to spend the nights of the 5th and 6th at Rhoebokfontein, and on the 7th crossed the Hartenbosch River at Rierewaard's farm shown on Friderici's Map to have been named Hertenbosch, about a mile west of the present village of Hartenbosch. From here they visited the shore where the town of Mossel Bay now stands, and thence rode W by S and W.S.W. until at 8.30 p.m. they reached the house of the elder Botha.⁽¹⁾ Here Schumacher Drawing 11 was made, enabling the present writer to identify the position of the farmhouse by a personal visit to the locality. It is on the farm Brakkefontein of the Divisional Map, and the viewpoint is at Johnsons Post, 3 miles in a direct line from the mouth of the Gouritz River. The artist faced west and drew a crude and partly inaccurate representation which nevertheless corresponds sufficiently with reality to render identification certain. The farm buildings are drawn far too large in relation to their surroundings, but this device was probably adopted to show them in satisfactory detail. No buildings now exist where Schumacher depicted them, as these were on the floodplain of the river which is inundated at wide intervals of time. Hence it may be presumed that after one such flood the farmhouse was abandoned and perhaps rebuilt on the high ground near Johnsons Post.

On 8th December they visited the river's mouth and then rode north for nearly 4 hours till they reached H. Pinaar at the doordrift.⁽²⁾ This was probably Piet Pinaar of Friderici's Map, for as remarked below of 9th and 10th December, the Swallengrebel version of the Journal here seems to use the initial N to indicate or cover ignorance of the correct letter. Piet Pinaar is mapped by Friderici just below the junction of the Honingklip River, now the Honingklipkloof. On Leiste's map too, Pinaar's farm is marked near the drift in the great eastward bend of the Gouritz where the Honingklipkloof joins it from the east.⁽³⁾ Here then it is likely that Swallengrebel crossed, and at such the same point where Beutler had forded it in 1752.

Swallengrebel had recorded earlier⁽⁴⁾ that the Gamtoos and Gouritz rivers were named after Hottentot captains, a variant of the explanation that these were derived from tribal names.⁽⁵⁾ The latter

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1. Acc. 447 p.84.
 2. Acc. 447 p.85.
 3. Koesman 1952 b, plate VI.
 4. Acc. 447 pp.69,74.
 5. Botha 1926a, pp.61,66.

stream appears as the Gauris in Schrijver's Journal of 1689.⁽¹⁾ Sparman's observations upon the name of the Gouritz (which he said was also known as the Gouds) are given above,⁽²⁾ and are confirmed by Paterson, who added that it was called the Tawice Gama by the Hottentots though he did not translate this name.⁽³⁾ Jacob van Reenen in 1790 called it the Gous.⁽⁴⁾ It was referred to again as the Gouds in 1803 by General Janssens,⁽⁵⁾ whilst Backhouse in 1838 made no demur at giving the name and translation respectively as the Gauswits or Rapid Rustling River.⁽⁶⁾

On 9th December they forded the Gouritz at 6.30 a.m. and then by their account struck out W by N and then W.N.W.. Until 8.30 a.m. they kept along the banks of the Gouritz, but presumably at least a mile from and high above that deeply entrenched stream. On leaving it they must have changed direction to south of west, for at 12.30 they forded the Valsch River "bij Rijnsburg". This was probably Jacobus Jansz van Rensburg of the farm Valsche Rivier mentioned in the Van Plettenberg Journal⁽⁷⁾ and shown on the Priderici Map at the elbow of this stream on the right bank where Weltevreden is now situated.⁽⁸⁾ This identification is supported by a remark that a half-hour's ride to the south of this farm lay a saltpan,⁽⁹⁾ presumably that which is indicated 5 miles south of Weltevreden on the Riversdale Division Map of 1926. They make no mention of crossing the Soetmelks River (which was probably without running water) but next mention the farm of Renier by the Kaffertuils River that they passed at 7.40 p.m. and was probably within 4 miles above its confluence with the Vette. The farm of Lombard, also by the Kaffertuils, where they arrived at 8.50 p.m. was probably within 1½ miles above the confluence. Their host was presumably Daniel Lombard mentioned here in Van Plettenberg's Journal and shown hereabouts in Priderici's Map. In these parts this map is, however, most inaccurate, and since it gives only the names of the farmers, is here of less assistance than further east where it usually shows the names of the farms as well, which enables some of these to be traced on modern maps. Nor must it be forgotten that Priderici's Map was made over 10 years after the journeys of Swallengrobel and of Van Plettenberg.

On the 10th at their departure they crossed the Kaffertuils

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1. Mossop 1951 p.218.
 2. See above p. 158.
 3. Paterson p.25.
 4. Cartier & Van Reenen p.144.
 5. Molsbergen 1932 p.110.
 6. Backhouse p.121.
 7. Molsbergen 1932 p.59.
 8. (Riversdale Division Map, 1926.
(Thunberg 1795 I, 171. He too passed through Weltevreden.
 9. Acc. 447 p.34 & Molsbergen 1932 p.85.

River and in under an hour, or within a distance of not much more than 2 miles, passed the farm of the Widow Michael Mulder or Muller near the point where they forded the Vette River. This farm was probably Zeekoesgat, about 2 miles north of where Riversdale now stands. The eldest son of Widow Mulder was Hillegert who later accompanied two expeditions in search of survivors of the Grosvanor.⁽¹⁾ West of the Vette River the route approximated to that followed to-day by the railway where "the level floor of the Uitenhage beds" offers the easiest travel, as Dr. Muir has pointed out.⁽²⁾ They climbed their Kragga Hoegte⁽³⁾ just west of the railway siding of Groot Kragga and descended W.S.W. to Kroubeks River whence they proceeded to the Widow Louis Fourie at Duivenboks River where they spent the night. This may have been on or near the site of the present Heidelberg, for Friderici's Map, made some 13 years later, shows hereabouts a Louis Fourie who might have inherited this farm by then after the decease of his widowed mother, or upon attaining his majority.

It is strange that on 9th and 10th December whilst the Cloete version of the Journal omits the initials of all the owners of the farms they passed, the Swellengrebel version gives them each and all the same initial, namely N,⁽⁴⁾ except the two widows who are simply given their surnames as in the Cloete version. Because of the improbability that the initial to the name of five consecutive farmers could have been the same, the baptismal names given in Van Plettenberg's Journal that clearly apply to the same persons in Swellengrebel's account, have been relied upon here.

From the vicinity of the present Heidelberg the main road (de groote weg) to the Cape seems to have run S.W. at first, and to have kept some 2 or 3 miles south of where the railway is now situated, so that it passed through or near Kinko to ford the Buffeljagts at Rotterdam. However, our travellers on setting out from the vicinity of Heidelberg on the 11th probably left the main route at the outset, for they state that they set off N.W. A journey of about 1½ hours took them past the farm of Doris Kleyhans which lay to the south of them. This was Theodorus Klijhans at Slange Rivier,⁽⁵⁾ probably that shown on the Swellendam Division Map as "in de Slange Rivier" on the direct route now taken by the road from Heidelberg to Zuurbrak. An hour and a half later at 11 a.m. they came to D. Steyn's hospitable

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1. (De Villiers 1893-4, III, 341.
(Blommaert & Wild p.52.
 2. Mossop, 1931 p.216.
 3. Thunberg 1795, I,171. Krakous Heights.
 4. Perhaps standing for Naan or Nomen.
 5. R.L.R. 23 p.365.

home where, although they came late and unexpectedly, they were treated to an excellent meal in spacious surroundings. This was probably the farm Tradouw, now Melkhoudboom, belonging to the Old Heersaad Jacobus Steyn⁽¹⁾ and it was presumably in his absence that his third son Douw acted as host.⁽²⁾ It was probably here that Sparrman and Imelman had stayed in 1775, having "ordered matters so a-propos that we arrived at dinner-time at the house of a wealthy farmer who was a captain in the militia".⁽³⁾ And it was here that Van Plettenberg was to be a guest in 1776.⁽⁴⁾ From this farm in the afternoon Swellengrebel visited the forest of Grootvadersbosch, on which occasion Schumacher Drawing 7 was doubtlessly made.⁽⁵⁾ At D. Steyn's the night was spent.

On the 12th a journey of nearly 2 hours, and thus about 4 miles, brought them by the farm of Old Burgerraad Jacobus van Reenen.⁽⁶⁾ This seems to have been Rietkuil⁽⁷⁾ part of the original farm Swellinggift aan de Rietkuil, which had been originally a loanplace, but in 1748 became an eigendomsplaats.⁽⁸⁾ It belonged to Petrus Botha in 1772 as recorded by Thunberg.⁽⁹⁾ Botha sold it to Burgerraad Sr Jacobus van Reenen in 1776⁽¹⁰⁾ and the latter's ownership is also recorded on a contemporary map.⁽¹¹⁾ It was here that William Paterson spent the night of 25th October 1777.⁽¹²⁾ This too, is presumably the farm of Jacobus van Reenen referred to hereabouts by Van Plettenberg as being by the Buffeljagts River⁽¹³⁾ though it is now considered a tributary of that stream and is named the Rietkuils River. It is strange, however, that these travellers seem to have swung south of the direct route between Grootvadersbosch and Swellendam, that would have taken them north of Rietkuil through Coesters Vlei, now Idemere; but no evidence has been found that Jacobus van Reenen ever rented or owned the latter.

From Rietkuil, Swellengrebel probably proceeded N.W. and then recorded passing a small Nottentot kraal which may have been that which was later to become the village of Zuurbrak. This grew upon

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1. Burrows 1952 pp. 200-1.
 2. (Molsbergen 1932 p.42, Douwe Steyn, (De Villiers 1895-4, III 341. If this was Douw Gerbrand Steyn, (he was then under 18 years of age.
 3. Sparrman, 1786, I 235.
 4. Molsbergen 1932 p.59.
 5. Burrows 1952 p.190 reproduces this drawing & identifies the view.
 6. Beyers p.65.
 7. Swellendam Division Map 1901, but not in 1928 edition.
 8. R.L.R. 10 p.309.
 9. Thunberg 1895 II,45.
 10. Deeds Office, Cape Town, Deeds of Transfer 1776 Vol.II, No.142.
 11. V.C. 179.
 12. Paterson p.22.
 13. Molsbergen 1932 p.59.

"the site of a native kraal or village of Hottentots from which they had never been driven when the London Missionary Society took them under its care" in 1809.⁽¹⁾

West of Zuurbrak they had to cross a steep hill, as the road still does, shortly after which they reached the Company's Post at Rietvlei. After a rest here of nearly 2 hours, a journey of 1½ hours brought them to the ford through the Buffeljagts River where by their account there lay to their left the farm of the late landdrost of Swellendam. This was Bakkeleys Plaats of the late Jan Andries Norak,⁽²⁾ and the ford they took through the Buffeljagts was thus probably within a few hundred yards south of the present railway bridge.

At 5.30 p.m. on 12th December they arrived "aan de Drostdijs van Swellendam alwaar wij bij onze komst met eenige schoten uit veldstukjes werden begroet, onder het waayen der vlag voor 't huis van den Landdrost",⁽³⁾ Sergeant Pieter Diederik Boonacker. These civilities were a compliment to the son of the illustrious parents after whom the seat of the drostdy had been named: and the fact that this salute was not meant for young Cloete may explain why this incident is omitted from his version of the Journal.⁽⁴⁾ Swellengrebel was, however, less appreciative of the drostdy building than of the manner of his welcome to it; for he described it as "een matig groot huis doch 't geen zeer slegt is getimmerd". Schumacher Drawing 6 which depicts the drostdy, closely resembles Drawing 44 of the Gordon Collection,⁽⁵⁾ and is an important feature of the material evidence suggesting that the draughtsman who assisted Colonel R.J. Gordon may have been Johannes Schumacher.⁽⁶⁾ Gordon and his draughtsman were to visit Swellendam in October 1777 accompanied by W. Paterson, who was however not with them on their visit in March 1778 on their return journey from the Orange River near Bethulia.

From Swellendam they visited the north bank of the estuary of the Breede River, their description of which suggests that they were considering its suitability as a harbour. They also visited Cape Agulhas as well as the coast near Gansbaai on the peninsula terminated by Danger Point but referred to by them as Ambrosiushoek. They came here to visit the cave now known as Die Kelders and described in the

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1. (Backhouse p.108.
(Burrows 1952 p.146.
 2. R.L.R. 19 p.327.
 3. Acc.447 p.68.
 4. Lindsay III, 455 & Barnard 1924b, p.207. A similar salute with cannonshots and flag marked the departure hence of Secretary Andrew Barnard and Lady Anne in 1798.
 5. Nolsbergen 1916 II, frontispiece.
 6. (Burrows 1952 pp.7 - 9.
(See below p. 334.

pages of several early travellers.⁽¹⁾ It would be superfluous, however, to follow them further on their journey, as they were now in regions which even then were well-known and remote from frontiers. Modern maps enable their route here to be followed without such difficulty, and another recent writer has made observations upon the old main roads in these parts.⁽²⁾

On the evening of 25th December 1776 Swallowgrebel, Cloete and presumably also Dr. Hagt and Schumacher, returned to Nootgedagt near Stellenbosch, thus terminating a journey of unique interest. For it is the first round trip that reached the eastern Cape through the Great Karroo and returned by the coastal route of which a full journal survives; and moreover a journal in two versions which often clarify and enlarge each other. Two contemporary maps portray the route followed,⁽³⁾ whilst a collection of drawings provides illustrations of scenes viewed by the travellers. Thus this journey is in some respects better documented than any other made into the eastern Cape in the 18th century.

It is not only a valuable account of travel, but also a considered assessment by a discerning individual of the economic potentialities of the districts through which he had passed. Notes on the soil, climate and vegetation provide a picture of the natural environment confronting the settlers with the problem of how best to use it. Current practices and trends in stockfarming, cultivation and forestry are carefully discussed, and he shows that the evil consequences of overgrazing had already begun to manifest themselves on an extensive scale. He throws valuable light on the manner of existence of the settlers on the frontier, and beyond it visited the Kaffirs of whose customs he recorded all that he could gather in a brief stay.

His gloomy assessment of the prospects of the frontiersman is understandable. Life there was then hard and unremunerative, and little remedy was in prospect. Nurtured himself in culture and comfort, the gap between his standards and the minds and manages of his hosts must have seemed incapable of ever being narrowed by their respective descendants. It is not surprising that he failed to foresee how an increasing population and the march of technical invention would stimulate economic progress in the Colony, thus enabling the virile frontiersmen to cope with cumulative success with their intractable environment. Nearly two centuries have

1. (Barnard 1924 b, p.174.
(Koonan p.154.

2. Mossop 1929 Chap IV.

3. Cape Archives Map 463 & Koonan 1952 b, plate V, as well as partially in plate VII.

passed since Hendrik Swellengrebel rode up into the Sneeuwberg and laagered his waggons in the vales of Kaffirland. What little promise he saw in these lands has been fulfilled far beyond his expectations, and achievements have immeasurably surpassed his dreams.

WILLIAM PATERSON.

1777 - 1779.

William Paterson was the first to write and publish in English a book entirely devoted to a description of experience at first hand of travel in South Africa. His work entitled, A Narrative of Four Journeys into the Country of the Hottentots and Caffraria, consists of 175 pages with 19 plates and a map. It was first published in 1789, and a second edition and French and German translations followed in 1790. ⁽¹⁾

Masson's short account preceded by 13 years the publication of Paterson's book, which was also forestalled in English by the translation of Sparrman's volumes which came out in 1765. Paterson refers briefly to Masson, but not at all to the travels of Hop (narrated by C.F. Brink) or of Thunberg, published first in Dutch in 1778 and in Swedish in 1788 respectively. Upon Sparrman's work, however, he drew heavily from the English translation to supplement his own book. Acknowledging the source, Paterson gives voluminous footnotes on the Hottentots and Bushmen which comprise some 17 pages of the English edition of Sparrman.

He also reproduced Sparrman's map, almost facsimile for the greater part, but with the addition of some features, particularly in the regions beyond the Great Fish River in the east, and north of the Olifants River in the west. He did not alter the positions of features that he must have known were wrong. To give but one example, he faithfully copied Sparrman's error of placing the hot springs of the Wannwatersberg south of the Plattekloof Pass over the Langeberg instead of to the north of those mountains, though he (Paterson) had visited these springs in July 1778. ⁽²⁾ The latitude values shown marginally have been shifted about 20' northwards in Paterson's map, and he has placed the mouth of the Orange River to accord with Gordon's observation there. ⁽³⁾

The book is written in plain, concise language, and it is stated in the preface that it consists of a "series of facts,

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1. Theal 1912 p.229, mentions a Dutch edition, and this may have been the source of the same information in Moritz 1915 p.184. No Dutch edition has been traced, however, in the leading libraries in South Africa, in the British Museum, the Library of Congress or the Koninklijke Bibliotheek, the Hague.
 2. Paterson p.42.
 3. See below pp. 263 - 4.

noted down upon the spot, without any after additions, with no ornaments of rhetoric." As it was published ten years after these journeys ended, he may have felt it unwise after so long an interval to work up his notes from memory. Dr. John Muir has recently suggested that Paterson refrained from printing a detailed account lest this should cause the Dutch authorities to cancel Masson's permission to continue collecting at the Cape, where he then was upon his second visit.⁽¹⁾ This suggestion rests on the fact that such cancellation would have offended Masson's patron, Sir Joseph Banks, to whom Paterson dedicated his book. Whatever the reason may have been, the book is as disappointingly deficient in detail as it is unadorned in style.

Paterson's extraordinary spelling of many names of people and places, bitterly commented upon by Muir, may be condoned to some extent by the fact that they were in a foreign language, and that when they were written in his journal he may have had no intention of publishing it. When he did so ten years later in England, there was no means of checking his spelling, if indeed he recognized the need for it. The orthography of proper names, especially those in distant lands, then received scant attention; and Paterson was by no means unique in the originality of his spelling of Cape names.⁽²⁾ However, there is other evidence that his spelling and grammar were poor,⁽³⁾ presumably from lack of sufficient formal education.

Biographical Outline.

Some details of his parentage and birth have recently been brought to light by the Reverend D. Duckworth, who has ascertained that "he was born on 10 August 1755 in Montrose (Parish of Kinnettles, by Forfar), Angus, Scotland, and was the son of a gardener in the employ of a Mr. Douglas of Brighton."⁽⁴⁾ It is unknown how he came to the notice of the eccentric Countess of Strathmore,⁽⁵⁾ under whose patronage and promised financial support he was sent as plant collector to the Cape, where he

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1. Muir 1952, p. 61.
 2. (Sparman 1785 I, ix.
(Franken p. 142.
 3. Duckworth p. 193.
 4. *ibid.*
 5. (Dict. Nat. Biog. Vol. 6, Bowes, Mary Eleanor.
(L'Estrange, Vol. II, Chap. X.

arrived in the Houghton⁽¹⁾ in May 1777 at the age of twenty-one. What his qualifications were for this undertaking is unknown, but there is no doubt that Lady Strathmore made a wise choice when she opened the door of opportunity to this energetic and able young man.

His life is briefly sketched in the Dictionary of National Biography, whilst his financial troubles arising from his travels at the Cape are mentioned in William Hickey's Memoirs.⁽²⁾ Further details of his career in Australia, where he became Lieutenant-Governor of New South Wales, are given in various works on the history of that Continent.⁽³⁾ A number of his letters is preserved at the Mitchell Library, Sydney, N.S.W., and a collection of over 300 of his South African drawings is in existence.⁽⁴⁾ The bulk of the facts recorded in the above sources is not pertinent to this investigation, for his travels here were at the very outset of his career. A reproduction of his portrait has been published recently.⁽⁵⁾

Allegations of Espionage.

It has been suggested that Paterson's true mission to the Cape in 1777 was one of espionage, and that having been thus prepared he was afterwards sent with Johnstone's fleet to Saldanha Bay in 1781.⁽⁶⁾ His book records no overland visit there during his sojourn at the Cape, but he could easily have made one during the months not occupied by his four major journeys. His claim that his intentions were innocent⁽⁷⁾ may have been an answer to the suspicions entertained regarding his behaviour. Whilst these may have been well-founded, the contrary view, perhaps, is better supported: for contemporary documents seem to show that he was suspected less of having been a spy than of having attempted to put to dishonourable use his innocently acquired knowledge of the Cape.⁽⁸⁾

It is not unlikely that when in 1781, after his return from the Cape, he took a commission in the army, his knowledge of the

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1. Jeffreys, 1928 p.22.
 2. Hickey, Vol.II, see index.
 3. (Historical Records of Australia, Series I.Vol.7 & Ser.III,Vol.I. (Australian Encyclopaedia).
 4. Gordon-Brown p.111, & Dyer p.59.
 5. Mackaness, Vol.II. (Information gratefully acknowledged to Miss M.D. Gunn, Division of Botany & Plant Pathology, Pretoria)
 6. Muir, 1933a, p.61.
 7. Paterson p.3.
 8. (Britten 1884 p.120. (Leibbrandt 1906 p.788.

Colony was recognized as being of potential value to the troops assigned for the contemplated landing and invasion. Acting under orders, he had no other choice but to obey, however repugnant to his feelings may have been the prospect of guiding an invading force to the conquest of a people who had so lately treated him with such hospitality. This, admittedly, is mere conjecture.

On more solid ground is the fact that on his return to England from his travels at the Cape, he was seriously embarrassed financially, because an unexpected turn in the domestic affairs of Lady Strathmore made her unable to honour the bills drawn by him upon her for his travelling expenses. Had he been sent to the Cape as a spy, his expenses would surely have been paid by the government either in a direct or else in some devious manner. Actually the major part of his expenses, a sum of £900 plus interest, was eventually paid by the nabob, William Kickey, who had only the slenderest acquaintance with Paterson. By a strange concatenation of events, the indiscreet kindness of that engaging rake, Kickey, apparently caused him to become the unacknowledged financial patron of Paterson's travels in Africa. (1)

Though Paterson has been accused of base betrayal of the hospitality he had received from the colonists in general and from the Van Reenen family in particular, his subsequent behaviour gave no evidence that he had a guilty conscience in this respect. If the Van Reenens were resentful at his conduct, their feelings were not so strong as to prevent all semblance of friendliness. For in 1791, when Paterson stopped at the Cape on his way to Australia, he came from Simonstown to stay in Cape Town. There he must have resumed his acquaintance with the Van Reenens, since it was on his introduction to them that Mrs. Mary Anne Parker visited them at their brewery in Newlands. (2)

1. Forbes 1947b.

2. Parker, 56 - 58.

His Reputed Discovery of Gold.

It was on Paterson's second journey when he first visited the Orange River that he was said to have found gold, a rumour that had a wide circulation at the Cape,⁽¹⁾ even if it was not universally believed.⁽²⁾ No mention of his having found gold appears in his book, but if he had indeed made such a discovery, he would probably have wished it to remain a secret. Whatever the truth of the matter, evidence supporting belief in this discovery was considered sufficiently reliable for official permission to be given to Willem van Rensen to make his journey northwards in 1791 - 92 for the ostensible purpose of searching for this gold. This was shortly after Paterson's stay at the Cape on his way to Australia, when he was said by Sebastiaan van Rensen to have discussed again the possibility of finding a harbour from which to work the goldmine.⁽³⁾

It is remarkable that Willem van Rensen did not linger south of the Orange River where Paterson had spent most of his time in those regions. Instead, he made direct across the river, and ultimately penetrated to the vicinity of Rehoboth in S.W. Africa. It is extremely unlikely that Paterson had ever been anywhere near that locality. On his second journey he claimed only to have gone a few miles beyond the Orange.⁽⁴⁾ Much the same applies to his fourth journey,⁽⁵⁾ in case it be said that the reputed date of his discovery of gold might mistakenly have been given as 1778 instead of 1779.

Unless the details and dates of these journeys given in his book are largely fictitious, he could not in the time available on either of them, have performed the additional 900 miles travel beyond the Orange River to the Rehoboth area and back, especially when the difficult nature of the country is taken into account. Internal evidence strongly suggests that his narratives of these journeys adhere closely to fact in respect both of dates and places visited. Thus it would seem that if he did indeed discover gold, it could not have been far north of the Orange River. Nor was it necessary for him to go as far as Rehoboth to find it, as traces of that metal have been reported from several scattered localities in Namaqualand.⁽⁶⁾

1. (Le Vaillant, 1796 II, 182 (& III, 408. (Franken p.190.	4. Paterson, p.62.
2. Theal 1911 p.67.	5. ibid. pp.124 - 128.
3. Franken p.197.	6. (Dunn. (Scully pp.197 - 200. (Green p.125.

It seems unlikely that Sebastiaan would have misinformed his brother Willem upon the whereabouts of the gold strike, and misdirected him upon so long and arduous a journey. If gold was indeed Willem's chief objective, then it is more probable that he acted upon information derived not from Paterson's travels but from some other source that he was unwilling to divulge. A convenient pretext was afforded by the current rumours regarding Paterson's discovery, which Willem was able to reinforce by references to the recently (1791) renewed discussion of the matter by Paterson and Sebastiaan, which the latter claimed had taken place. Sebastiaan's report of Paterson's find may have been true, but apparently it was not in search of this place that Willem travelled so far.

Unless Sebastiaan's motives were largely self-laudatory, it is not easy to understand his claim to have prevented Paterson from searching for a nearby harbour to use as a base for mining the gold.⁽¹⁾ For if this gold had been found in Namaqualand, Sebastiaan's claim must be rejected on the grounds that he actually accompanied Paterson and Gordon along that very coast. But it is unlikely that it was to this coast that he referred, since Gordon was a member of the Acting Governor's Council, before which this evidence presumably was given. Hence his reference was more probably to the coasts of Great Namaqualand or Damaraland, in which latitudes it is unlikely that Paterson discovered gold. Thus Sebastiaan's claim appears equally untenable if applied to the coasts far north of the Orange River. Paterson's book (published 1769) was then available, but it is not known whether any of the persons concerned in the planning or sanctioning of the expedition had read it. Had they done so, some of the reflections might then have been provoked that are now here expressed.

Whatever the truth of these speculations, the fact is that Willem van Keenen visited the Rehoboth area from which he is only known for certain to have obtained copper ore, though it may have contained some gold.⁽²⁾ If it did, it would explain the officially sponsored search for gold, when in 1795 another expedition was despatched, this time by sea.⁽³⁾ One of its aims was to reach from Walvis Bay those interior regions where Willem had found copper. The latter's brothers, Sebastiaan and Dirk, who went on this expedition, claimed to have been prevented by drought from

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1. Franken p.197.
 2. Acc.455 No. 8 p.5.
 3. Franken pp. 190, 207.

penetrating thus far inland. However, Francois Durny suspected otherwise, and hinted that the Cape Government had been deceived about the mine by the Van Reensens, whose real interest lay in elephants' tusks.⁽¹⁾ Perhaps that is why no hunting of elephants is mentioned in Willem van Reensens's journal, whilst he records having bagged on his journey no fewer than 65 rhinoceroses and 6 giraffes.⁽²⁾

Geographical Value of his Book.

His book added but little information about the Cape interior that could not have been derived from attentive reading of earlier works. Though he was probably the first to publish an account of personal observations on an inland journey in the territory between the Great Fish River and the Keiskama, his claim must be rejected that he was the first European to visit that district.⁽³⁾ This claim is hard to understand in the light of the fact that Sparrman's book (portions of which are quoted by Paterson) contains references to the visit to Kaffirland in 1736 of Hermanus Hubner and his companions.⁽⁴⁾ Moreover, it is strange that some account of Bontler's expedition of 1752 into that territory had not reached Paterson's ears. Indeed, the frequency with which the territory then had been visited is indicated by the fact that by 1770 it was reported that there was already a beaten waggon track to Kaffirland,⁽⁵⁾ made no doubt by colonists anxious to obtain cattle, elephants' tusks and seekoespek (hippopotamus bacon).

It has been suggested that the term "European" was used by Paterson for one born in Europe as distinct from an African who was a white person born in the colony.⁽⁶⁾ Whilst this terminology is used by some later writers, it is uncertain whether he used "European" in this sense. It is possible that he did so, for he and his sole white companion, Jacobus Kok,⁽⁷⁾ had been both born in Europe. But it was obviously not this fact but their white skins that astonished the Kaffirs of whom Paterson wrote that, "we were certainly the first Europeans they had ever seen".⁽⁸⁾

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| 1. Frankan pp.198,285,295. | 5. Moodie 1858 III, pp. 3, 6. |
| 2. Mossop, 1935 p.319. | 6. Reawood p.396. |
| 3. Paterson p.77. | 7. See above p. 217. |
| 4. (Sparrman 1765 II,152.
(See above pp. 25, 48. | 8. Paterson p.90. |

However, perhaps these difficulties can be reconciled by supposing that in this case he employed the term European to denote racial characteristics, whereas in his claim, made earlier, to have been the first European in Kaffirland, he may have considered the adjective to indicate birthplace. Even in the latter case, however, he was wrong, as Bantler and several others upon that expedition had been born in Europe.

In view of Paterson's claim to priority it is strange that he was content to convey in less than 2,000 words his entire account of his travels and impressions in this territory. Of these words, only a few sentences are devoted to geographical description which is singularly meagre. It would have been an assertion more difficult to contest had he claimed instead that he had visited the mouth of the Orange River with the first white men ever to reach that spot overland from the Cape.⁽¹⁾ His account of the country further upstream on the Orange, near the present Goodhouse, had of course been forestalled by the publication of Hendrik Hop's journal maintained by G.F. Brink.⁽²⁾

Paterson's book contains so few references to matters of direct geographical interest either known or new at the time of publication, that these topics now require but scant comment. To the modern geographer, perhaps, the chief interest of the book lies in tracing his routes. Often these can be seen to have responded to the suggestions of the topography, and in many cases it is clear that the modern highway follows the early wagon-track where it struck out between distant mountains, or held its course for the kloof hidden in the ranges beyond. Where new routes are shorter than the old, the cause is often to be found in our increased ability to surmount natural obstacles, or in the diminished importance of the waterhole in these days of mechanical transport. The study of his routes is thus part of a study of the evolution of our communications.

The following attempts to trace them will describe in outline only, the more clearly indicated and better-known portions of his journeys. Attempts at more detailed descriptions will be chiefly in those parts most remote from the Cape, a process often difficult and sometimes impossible because of the dearth of clues. In those regions few place-names he recorded now survive even in altered form, and fewer still now remain unchanged from his day.

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1. Mossop 1947a, p.89. Journey of Giebel in 1759.
 2. Allsani & Klockner.

In identifying the places he visited, long-forgotten names are sometimes discovered and old forms of modern names are recognized.

His connections with historical persons and events are of geographical interest when they throw light on the progress of contemporary exploration. Consideration of his narrative and of his early career may yield further evidence on the motives underlying the journeys of the Van Rensselaers into what is now S.W. Africa, and of the landings from the Naam at Kromme Bay, events which have a bearing upon economic and on military geography respectively.

First Journey, October 1777 - January 1778.

On 6th October 1777, some five months after his arrival, he set out on his first journey. He was accompanied by Captain R.J. Gordon who in this, and succeeding journeys, established himself as the most outstanding traveller in the Cape at that period. There was at least one other European in the party, Gordon's draughtsman⁽¹⁾ whose identity is discussed below.⁽²⁾ They may also have been accompanied by an Englishman named Martin who many years later claimed to have travelled with Paterson.⁽³⁾

Proceeding to Muizenberg they then skirted the shores of False Bay as far as Cape Hanglip. The wreck of the Colahbrooke on its east coast, which Paterson mentions, has been described in much detail by one of the survivors.⁽⁴⁾ Paterson's account of the names they gave to inlets on the eastern shores of False Bay is confusing,⁽⁵⁾ and moreover disagrees with Gordon's map,⁽⁶⁾ which is mentioned here by Paterson.⁽⁷⁾

Paterson's Baaytje on this map is apparently now Rooi Els, and may be that to which Gordon, according to Paterson, originally gave the name Van Plettenbergs Bay. The position of Gordons Bay on this map has now been supplanted by Pringle Bay, whilst the former name is now applied to what was then Vis Roek, which is not to be confused with the place of that name near Kalk Bay. It is

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| 1. Paterson p.26. | 5. Botha 1926a, pp.159 - 160. |
| 2. See below p. 334. | 6. Molsbergen 1916 I,
reproduced at p.120. |
| 3. Thompson, II, 85. | 7. Paterson p.8. |
| 4. Forbes, 1952d. | |

unknown when and why the name Gordons Bay migrated to its present position where it appears first in Barrow's maps of 1797,⁽¹⁾ though Burchell referred to it as Vischer's-hoek in 1811.⁽²⁾

They passed the Caledon Baths, as they are now called, and continued eastwards past Swellendam. It is quite clear from his narrative that on the outward stage of this, as well as of his second journey, he crossed the Langeberg at Platte Kloof. Paterson's map makes it appear that these crossings were at the Tredouw Pass, but this is due to his having drawn his routes on an unaltered copy of Sparrman's map which here needed considerable correction.

Passing east through the Little Karroo they crossed the Olifants River "at a place where it is about half a mile broad", an unfortunate phrase since it was unqualified by the statement that this width referred to the river-bed and not to the actual stream. On 2nd November they visited the hot springs near Toverwater Poort where he recorded the temperatures as 105° to 108° F which were probably correct for the pools, though the actual source is now stated to be at 112° F. Thunberg, who visited these springs five years earlier, omitted to mention their temperature in his account.⁽³⁾

Since Paterson gave their course as easterly the whole of this day, their afternoon's journey from the hot springs would have brought them to the vicinity of Zuurberg Poort. It was therefore presumably in or near this poort that they outspanned for the night at a place that he stated was called by the Kottentots, Tsineko or Ostrich Leg. It is perhaps more than a coincidence that here is shown in the Willowmore Division Map of 1906 a farm of the unusual name Schildpad Been (Tortoise Leg or Tortoise Shell). Tschereagon, the Kottentot word for tortoise according to Kolb, resembles Tsineko more closely than the word he gives for ostrich, ammi.⁽⁴⁾ Perhaps Paterson erred in his translation of this place name. At the Zuurberg Poort and near Schildpad Been is the Keurfontein, which has been used as an outspan from early times, and marked the end of a thirst-racked journey by John Barrow across the Karroo in 1797.⁽⁵⁾ Perhaps this spring is at the place that Paterson called Tsineko. Alternatively it could be the spring called Struysfontein on the

1. Barrow 1801 <i>Frontispiece & 1804 at p. 258.</i>	3. Thunberg II, 98.
2. Burchell 1953, I, 64.	4. Kolb, I, 434.
	5. Barrow 1801 p.333.

Gordon Map 3.

The route they took on 3rd and 4th November is not at all clearly described by Paterson, but his account when taken in conjunction with the map of his companion, Map 3 of the Gordon Collection, points to the following particulars. On the 3rd they travelled all day and probably outspanned near Willowmore. De Qua, mapped N.W. of this position by Gordon as a mountain of rectangular plan, is almost certainly the present Aasvogelberg whose contours on the modern map⁽¹⁾ do not suggest its actual straight-sided appearance from the S.E. nearly as well as does Gordon's pictorial representation. The latter's Saansee Kloof,⁽²⁾ mapped by him with a road winding through it, is probably the present Perde Poort through which they seem to have passed before reaching Beervlei on 4th November.

Paterson marked Bier (sic) Valley far more accurately on his adaptation of Sparrman's map than did the latter, who had not been anywhere near that place. When Paterson marked Sparrman's Seahre Valley River and his own Bier Valley upon his map, it is unlikely that he realized that they were probably the same place.⁽³⁾ At Beervlei Paterson had to turn back as he was unwell. Gordon, probably accompanied by his draughtsman, continued his journey to the Sneeuwberg and beyond. This seems to have been the occasion on which he reached the Orange River near where Bethulie now stands.⁽⁴⁾

From Beervlei, Paterson returned to Tsimeko where he "met with Mr. Iyster [Christoffel Hieronymus Leiste] surveyor from the Cape with other gentlemen, who were making a survey of that country for the government, which they extended to the Great Fish River."⁽⁵⁾ A photographic copy of a map that seems to have resulted from this survey may be seen in the Cape Archives⁽⁶⁾ whilst other of his maps have recently come to light.⁽⁷⁾

C.H. Leiste, who was born in Germany in 1747 and matriculated in Gottingen came to the Cape as a ship's butler in 1775.⁽⁸⁾ He obtained employment as a landsurveyor in which capacity he is mentioned in contemporary writings.⁽⁹⁾ He eventually married a rich widow, and an amusing picture of his domestic felicity in

1. Oudtshoorn Sheet, 1/4 - Million Series, U.D.F. 1943.	6. V.C. 178.
2. Is this named after the Sarner See, a Swiss lake?	7. (Koeiman 1952a, p.85 etc. & (1952b, plate VI. (Forbes, 1952b, p.99.
3. See above pp. 143 - 4.	8. (Moritz, 1938 p.268. (Hoge, 1946 p.237.
4. See below p. 274.	9. (Leibbrandt, 1906 pp.720, 721, (724. (Jeffreys, 1926, 1928, 1931, (1938, see indexes. (Molsbergen, 1932, (pp.58, 246.
5. Paterson p.29.	

prosperous retirement is given by Lady Anne Barnard,⁽¹⁾ who also drew or obtained his portrait.⁽²⁾ She visited him at his farm Gelukwaard in the Four-and-twenty Rivers district. He is mentioned in terms of warm esteem by his compatriot, Lichtenstein, who visited him in the course of De Mist's tour.⁽³⁾

Paterson spent a few days at a farm named Good Hope which he said was at the source of Olifants River. On its banks abundant grain was grown after the flooding of its waters, an early example of the saaidam system of irrigation, or warping. This practice is still followed in this locality to the north of the Couga Mountains. Perhaps it was here that was situated the farm Goede Hoop, "geleegen aan de Kangasberg" (sic) which was granted to Jacob Joubert in 1773.⁽⁴⁾ Under this most likely identification of the locality in which Good Hope was situated, Paterson was wrong in implying that it lay north-east of the hot springs near Toverwater Poort.⁽⁵⁾ A glance at his map explains his error as due to the faulty orientation of the upper course of the Olifants River. Wyld's map of 1844 shows Good Hope lying N.E. of the hot spring near Toverwater Poort,⁽⁶⁾ but this position may have been derived from his interpretation of Paterson's narrative.

Continuing his return journey, he crossed the Attaquas Pass (some 5 miles west of Robinson Pass) and then went east as far as the Witte Els River to view the forests of the Outeniquas. His journey westwards from here is dismissed with the words; "As the country from this to the Cape is well known and described in both Mr. Mason's [Mason] and Dr. Sparrman's narratives, any further account of it would only be repeating what has already been published by these two gentlemen." He reached Cape Town on 15th January, 1778, having covered about 900 miles in rather more than three months.

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1. Lindsay, III, 467.
 2. Barnard, 1924a, plate at p.126.
 3. (Theal, 1911 p.126.
(Lichtenstein, 1928 p.71 & 1930 p.126.
 4. R.L.R. 22 p.391.
 5. Paterson p.34.
 6. Backhouse, end map.

Second Journey, May - November 1778.

Accompanied by Sebastiaan van Reenen he set out on 22nd May 1778, and travelling eastwards to Swellendam, reached one of the Van Reenen farms near the Buffeljagts River, spelt by Paterson with typical originality, Buffalye Agte Rivier. This farm may have been Rietkuil.⁽¹⁾ He states that they intended to cross the Langeberg west of Swellendam by the Groena Kloof which is now unidentifiable and is probably an error. This conjecture seems supported by the fact that it is given as Cocksanskloof (Cognanskloof) on p.13 of the Paterson manuscript found in London in 1956 by the Reverend Dennis Duckworth, by whose kindness the present writer was enabled to examine it shortly after its discovery.⁽²⁾ In fact, Paterson was prevented by flooded rivers from reaching Cognanskloof, so instead he and his companion crossed the Plattekloof in long. $21^{\circ} 3'$ east. North-west of this pass they visited the hot spring at the Warmwatersberg which he was the first author to report upon, and whose temperature he gave as 110° F, though it is now known to be 114° at the vent.⁽³⁾ Their route then lay W.N.W. up the valley of the Toms River to the Straet River and Verkeerde Vlei, near the head of the Hex River Pass. This vlei, Paterson says, "is thus denominated from the river which courses through it, taking a direction different from that of any other in this country".⁽⁴⁾ Perhaps he meant by this that travellers from the Hex River Pass who had crossed the watershed at its head, would here find a feeder-stream of the vlei flowing in the reverse (verkeerd) direction to that of the Hex River.⁽⁵⁾

Their lodging on the night of 20th July he said was on the N.E. side of the Whitson Berg, when it is clear that they were near Karroo Poort. The reference is thus not to the Witzenberg but the Witteberg in which the cleft of Karroo Poort lies.⁽⁶⁾ Thence they struck N.E. across the Tanqua Karroo by the usual route. At the base of the Roggeveld escarpment, probably near Verlaten Kloof, they met farmers who had descended to the Karroo for the winter. This

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| 1. See above p. 230. | 4. Paterson p.45. |
| 2. Duckworth p.191. | 5. Burchell 1953, I, 142. |
| 3. Kent. | 6. Mossop, 1929 p.160. |

practice of transhumance had been commented upon before,⁽¹⁾ but Paterson noted an additional cause of the movement. This was the scarcity of firewood above the escarpment, where the additional degree of winter cold due to elevation would then make the lack of fuel particularly felt. Paterson and Van Reenen then skirted the base of the escarpment in a northerly direction till he reports that they came to the Rhinoceros River, probably the present Eberoster, an east-bank tributary of the Tanqua. In these parts they met a woman who had long suffered from a wound made by a Bushman's arrow,⁽²⁾ an incident which was to have a curious cartographical sequel.⁽³⁾

From this vicinity they ascended to the Roggeveld summit, probably up Ganaga Kloof, where an early route existed, named the Gannaggas Wagenpad on the Gordon Map 3. This seems also to have been the line of ascent taken by George Thompson in 1824.⁽⁴⁾

Paterson's comments here and elsewhere⁽⁵⁾ on the plateau-step arrangement of the relief in the interior forestalled the publication in English of Thunberg's remarks on this topic.⁽⁶⁾ Paterson observed that, "there is no descent on the inland side of these mountains equal to the ascent which we encounter as we proceed from the sea; in general, a slight descent terminates an extensive plain till we come to the next; and thus the farther the traveller proceeds inland, the higher he finds the situation". He gives useful indications of two of the heights concerned, in estimating that the Roggeveld is not less than 2000 ft. above the Tanqua Karroo and the Bokkeveld Mountains 2000 ft. above the Van Rynsdorp Karroo.⁽⁷⁾

On 4th August he says that they crossed at noon another Rhinoceros River, presumably near the present Louwsdrift 12 miles N.E. of Calvinia, and came at evening to "a very decent house" where they were well received. It is possible that this was the home of Christiaan Bok or Bock whom Paterson was to visit in this locality nearly 3 months later⁽⁸⁾ and is shown on his map hereabouts by the Hartans River at a spot now identified as Welbedagt⁽⁹⁾ and still so called. But his map

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| 1. See above pp. 91, 124, 166. | 6. See above p. 87. |
| 2. Paterson p.48. | 7. Paterson pp.50, 53. |
| 3. See below p. 362. | 8. Paterson p.71. |
| 4. Thompson II, map. | 9. (R.L.R. 22 p.47. (See above p. 116. |
| 5. Paterson pp. 50,53,125. | |

complicates matters by showing Bok's farm by the Rhinoceros River flowing north and then west to join the Doornboom River, now the Zwart Doorn. This is the correct course but not the present name of the stream at Welbedagt. Supporting Paterson's map is the Gordon Map 3 which shows the present Hantans River as the Renoster, but confuses the position still farther by placing at the head of the latter, De Hoek, J. van Reenen. This seems a clear reference to Renosterhoek⁽¹⁾ at the head of the Renosterhoek River that flows east to the Fish River.

Perhaps these difficulties can be diminished if we assume that Paterson's cartography, which is never careful, is here wrong in showing the Renoster as the stream by which Christiaan Bok then dwelt. It is a more difficult assumption to make that Gordon erred here too, for his mapping usually is meticulous. However, it is unlikely that he had actually visited the region beneath the eastern slopes of the Hantansberg.⁽²⁾ Thus his mapping of this part was probably on hearsay, and though correct insofar as he showed De Hoek, J. van Reenen, by the Renoster River, it was incorrect in respect of the course depicted for this stream.

On 5th August Paterson proceeded to "a very good house under, or rather near the foot of Hantans Berg, belonging to the father of my companion." This was presumably on Jacobus van Reenen's farm, De Geserikte Karrechoot Boom⁽³⁾ also called De Hoek, adjoining Welbedagt upstream on the Hantans River.⁽⁴⁾ Another modern map shows this farm as Van Ryns Hoek⁽⁵⁾ but this was presumably originally Van Reenen's Hoek. Leaving here on the 9th, they crossed westwards over the mountains, probably on the path shown here on the Gordon Map 3 and now called the Voetpadakloof. This led them to the foot of the Toringkop called by Paterson "the Torn or Tower which is a hill of pyramidal figure where we stayed all night." From here they went at first W.N.W. past the Baviaansberg which he called the Baboons Hill, and then crossed his Thorn River, presumably that which is now the Klein Doorn or Klein Toren, near the present hamlet of Hantans on the farm Rietfontein.

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1. (R.L.R. 14 p.181. Also called Tweefontein.
(See Calvinia Division Map 1900.
 2. See below p. 302.
 3. (R.L.R. 15 p.193.
(Cape Archives, Map 877.
(Kaapse Geschiedenis, IV, 53.
 4. Calvinia Division Map, 1900.
 5. Calvinia Sheet, $\frac{1}{2}$ - Million Series, U.D.F. 1943.

Thence they proceeded west to the Bokkeveldberg where they "came to a farm belonging to Mr. van Renan", presumably that which was then known alternatively as Avontuur or Grasberg⁽¹⁾ though these names now seem to apply to adjoining farms. Near the northern extremity of the Bokkeveldberg they descended by a track that "was really steep and dreadful", and was probably one of the routes suggested as having been used by Thunberg and Masson.⁽²⁾ Near the northern termination of these mountains they crossed their Great Thorn River (now the Doorn) which they had encountered earlier and was then called the Thorn by Paterson. A few miles north of this river he recorded that "the country is in most parts covered with a very curious sort of cubic iron ore. On digging down, I found the cubic ore formed in a sort of freestone." This was probably a reference to limonite pseudomorphs after pyrites which are not uncommon in the sandstones and shales of this region.⁽³⁾

He now travelled N.W. to join S.W. of the Kamiesberg the main S to N route into Namaqualand. The first place he mentions on this leg of their journey is his Lieur Colle (Leeuwkuil), still so called and visited by Barrow in 1798⁽⁴⁾ and by Backhouse in 1839.⁽⁵⁾ The other springs Paterson names on this stretch are now probably unidentifiable, but the rivers he states that he met are unchanged in name, the Hartebeest, the Black Thorn or Zwart Doorn, and the Green or Groen. About 8 miles N.N.W. of Garies he came to Eye Fountain or Oogfontein,⁽⁶⁾ thus named "by the natives, from one of them having had his eye struck out here in a quarrel with others."

Hence they travelled north and so "came to the house of one, Jan van der River". A man of this name is mentioned in Wikar's map⁽⁷⁾ whilst his house appears on the Gordon Map 3 about 10 miles upstream from Alces Kloof on the Kouwsie or Groete Sand River. Alces Kloof is now Wolwepoort and the Kouwsie in its various spellings is the Buffels.⁽⁸⁾ However, he is described by Paterson as living then beyond the Cousie by the Copper Berg River which name must have been applied to a watercourse, perhaps the Droogedaap, up whose valley they travelled and which flows south to the Buffels from the vicinity

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| 1. <u>Kaapsche Geschillen</u> , IV,45. | 5. Backhouse p.515. |
| 2. See above pp. 113-4. | 6. See below p. 354. |
| 3. Rogers 1911 p.45. | 7. Mossop 1935 at p.192. |
| 4. Barrow 1801 p.381. | 8. Mossop 1947a, pp.21,22. |

of Springbok. Their route then led them past the spot where this town now stands, and continuing northwards they reached the Great River (Orange) near Goodhouse in the first week of September 1778.

Here they found "a kind of shed, which had been built by an European who had lived some time on the banks". It seems not unlikely that this reference is to Hendrik J. Wikar whom Paterson was to meet the following July, but whom on this occasion he must have missed by a day or two at most, since Wikar set out on his journey up the river on 4th September 1778.⁽¹⁾ Concerning its course near Goodhouse, Paterson wrote thus: "The river assumes a westerly direction in this part; and I found it to be the same that Captain Gordon had visited the year before, and had named the Orange River, in honour of the Prince of Orange".⁽²⁾ A possible explanation of the first part of this sentence is that he contrasts its westerly course here with its northerly direction of flow further upstream as was then rumoured in the colony, as can be derived from reports by Sparrman⁽³⁾ and by Swellengrebel.⁽⁴⁾

They were at the Orange River for about three weeks, and Paterson records having been for one day only on its north bank, where he reported the existence of copper ore. In this, however, he had been forestalled by the publication of G.C. Rykvoet's account of the ore found in this locality on Hop's journey.⁽⁵⁾ Van Reenen was across the river for five days hunting giraffes. The only place at or near the river which Paterson mentions by name is Zabras Mountain. This may have been Ezelfontein,⁽⁶⁾ since the zebra was also known as the ezel at the Cape,⁽⁷⁾ and there is nothing which points to these names as applying to different places. It was their point of departure from the vicinity of the river on the difficult trek S.S.W. across the arid plains surrounding the Koa Valley to the uplands where Concordia now stands. This stage was only accomplished at the cost of considerable suffering from thirst.

During a stay of a few days in the region of the present position of Springbok, he recorded several excursions into the adjacent country and a visit to the "Copper Mines" which, however, cannot have been much more than prospecting pits. Here he

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| 1. Mossop 1935 pp.2,25. | 5. Allamand & Klockner, Part II pp.92 - 5. |
| 2. (Paterson p. 61 & (see below p. 285. | 6. Mossop 1935 p.300. |
| 3. See above p. 156. | 7. Le Vaillant, 1796 III, 34. |
| 4. See above pp. 202-3. | |

collected several specimens of ore which he pronounced very rich, though he was silent on the subject of the gold that he was said to have found on this journey. From here he travelled south through his Caspers Kloof from which he took a day's excursion "to the Camis Berg". Hence his Caspers Kloof probably lay beneath the western slopes of the Kamiesberg about midway between Kamieskroon and Garies. His next named halt was at Cogfontein from which he made his way back to the Bokkeveldberg, with some variations from his route on his outward journey. His Two Fountains, mentioned also by Backhouse,⁽¹⁾ though far too common a name to be identified with certainty, is likely to be the Tweefontein which lies 2½ miles S.E. of the summit of Klein Kamiesberg. Stinkfontein is shown on modern maps just north of the northernmost bend of the Doorn River but appears south of this bend in the maps of Barrow and of Wyld.

They ascended the Bokkeveldberg on whose northern parts they stayed at the house of the Widow Rijk on the farm Swellengrebel.⁽²⁾ After a brief trip to the Hantam, where as related above they visited Christiaan Bok at Welbedagt, they returned to Mrs. Rijk's. Proceeding thence in a westerly direction they descended the mountain front, presumably at Die Hel, at whose base they came to Lion's Dance,⁽³⁾ and then making their way to the Olifants River, apparently crossed it at Vredendal, the farm of Pieter van Zyl.⁽⁴⁾

They called at Heerenlogement, but he does not state whether he inscribed his name there in the cave then or on the two other visits that he made here.⁽⁵⁾ If he did, no trace of it has been reported by modern investigators.⁽⁶⁾ Near Cape Town he mentions the Camis Berg (his spelling of Kamiesberg) by which he obviously meant the Koeberg, since it lay near his Fishers Hook (Vissere Hok). And it appears correctly as the Cow Berg in his recently discovered manuscript.⁽⁷⁾ He reached Cape Town on 20th November 1776 after a journey of about 1400 miles covered in 6 months.

Throughout this journey he maintained an unbroken weather record which occupies 24 pages of the appendix. Temperatures

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| 1. Backhouse p.516. | 5. Paterson pp.101, 131. |
| 2. See above p.113 & below p.302. | 6. Kirby, 1941 p.352 & 1943 p.334. |
| 3. See above p.113. | 7. See above p.246,n.2. |
| 4. Mossop, 1938, p.23. | |

in degrees Fahrenheit are recorded daily in the shade and in the sun at 8 a.m., noon, 4 p.m. and 8 p.m. With each of these observations is stated the direction, and often the strength, of the wind, together with a brief remark on the weather. This record, covering an extensive journey in the interior during a period of six months, was a valuable supplement to the somewhat fragmentary records printed from the observations made at and near the Cape by the Abbé de la Caille a quarter-century earlier.⁽¹⁾

Third Journey, December 1778 - March 1779.

Again accompanied by Sebastiaan van Reenen he went east to Swellendam where they were joined by Mr. Tunies, who was probably Maartin Theunisz or Theunis, overseer of the Company's post Rietvlei at Buffeljagts River.⁽²⁾ They crossed the Attaquas Pass to the Little Karroo and followed down the Lange Kloof to St. Francis Bay. Here he wrote of the Krome; "At the mouth of this river is a kind of bay, which may afford a safe harbour for ships."⁽³⁾ This merely repeated Sparrman's published observations,⁽⁴⁾ so that Paterson was not the only source of information regarding this anchorage and its fertile surroundings. Nevertheless the possibility cannot be excluded that even if he was not actually a spy at this time, as has been suggested,⁽⁵⁾ his knowledge of the country may have been used later.

He could have been consulted in India, before his book was published, by the leaders of the landing in 1785 from the Pigot at Krome Bay (not Algoa Bay as sometimes stated), if, as appears possible, the landing was planned and not an unforeseen necessity.⁽⁶⁾ This conjecture is strengthened by the fact that Lieut.Colonel William Dalrymple, who was amongst those who landed at Krome Bay, was in the 73rd Foot,⁽⁷⁾ the regiment to which Paterson became attached in 1787. From the farm of Frederic Potgieter on the south bank of the Krome River about 2 miles from its mouth,⁽⁸⁾ Colonel Dalrymple, stated to have been fused for his

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| 1. La Caille, 1755. | 5. Long, p.xi. |
| 2. Moodie, 1838, III, 34,
Blommaert & Wiid, p.84. 35,42. | 6. Chase p.58. |
| 3. Paterson p.80. | 7. Macartney Papers, autograph diary
18th October, 1785. |
| 4. Sparrman 1786, I.346. | 8. (Acc.455, No.26.
(Gordon Collection Map.12, which is an
(equivalent copy of map by
(Friderici, Cape Archives M.178.
(See below p.328. |

geographical knowledge,⁽¹⁾ travelled overland to Cape Town. He thus had an excellent opportunity of studying the eastern approaches of the settlement⁽²⁾ which he utilised by writing a detailed plan for attacking Cape Town from that quarter.⁽³⁾ Two detailed maps of the anchorage and surroundings of Krome Bay were also made on this occasion.⁽⁴⁾ This landing led to instructions being issued in 1786 to the landdrost of Graaff-Reinet for immediate report to be made in future to the authorities of all unusual events on this coast.⁽⁵⁾

Resuming the account of Paterson's journey, they continued eastwards to cross the Gamtoos River and reached Swartkops Saltpan and River. He fell into the common error of over-estimating the distance he had travelled, and put this locality at 900 miles from Cape Town, an excess of at least fifty per cent. His map shows that he here followed as far east as Assegai Bush the same route as Sparrman had taken in 1775. By combining the accounts of these travellers, the route they took can be followed with some certainty.

At Algoa Bay Paterson passed Coega, which he spelt Kow Cha, and according to his map crossed the Sundays River near the present Sunland above its junction with the Coerney River, spelt by him Curnow and by Sparrman, t'Kurenei.⁽⁶⁾ The place from which this stream is named was first mentioned by Boutler and is shown in the Alexandria Division Map a mile north of the present position of Woodlands railway siding and $4\frac{1}{2}$ miles N.E. by E of Coerney station. Both travellers followed up the Coerney River, then known also as the Little Sundays River, though this latter name was afterwards to be applied to a stream closer to the sea, but apparently not always to the same one.⁽⁷⁾

There are indications in Paterson's narrative that he probably passed through or near the present position of Sandflats, which had been referred to as Zandvlakte the previous year, 1778, when the farm was registered in the name of Jacob Kok,⁽⁸⁾ who accompanied Paterson on this part of his third journey. The latter refers to this farm as "a plantation called the Sand Fleet,

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1. Theal 1911, p.42.
 2. Cape Archives, C.77 p.491 etc. 17 June 1785.
 3. Acc. 455 No.14.
 4. (Dalrymple 1798, I, 32, 40. Charts by R. Torin (Koenan 1952a, p.89, Map 262.
 5. Leibhrant, 1906 p.499.
 6. Sparrman 1786 II, 27.
 7. (Koenan 1952b. Plate X, Lichtenstein's Map. Arrowsmith 1848. (Hall, Map of 1856, calls it also the Usekici R.
 8. R.L.R. 25 p.505 & R.L.R. 34 p.269.

belonging to our fellow traveller, Jacob Kook". If this is not just another example of his inattention to correct nomenclature, then either Sandvliet (sandy stream) was an alternative name for Sandvlakte or was in that vicinity.

From the Coernay or Little Sundays River, Sparrman says he travelled S.E. to the Little Bushmans River, according to him called alternatively the Keusi Kunni aati, which he mapped as a west-bank tributary of the Bushmans River.

The Little Bushmans River is likely to have been that which flowed E.S.E. in the broad shallow valley now known as the Sand Leagte, which leads from near Sandflats to the Bushmans River. The upper course of this stream is now choked by windblown sand due to overstocking of the veld. In its lower course it now dwindles and disappears, as shown in the Alexandria Division Map, being absorbed by sand, and only reaches the Bushmans River after exceptionally heavy rain. Up to about a century ago, however, if not later, it apparently flowed into the Bushmans River, for thus it is shown in the map of the District of Albany by J. Knobel, 1820. The broad valley containing this watercourse is clearly the line of easiest travel between Sandflats and the Bushmans River. Portions of the old waggon route between these points are still visible near the south bank of the watercourse.

In the upper part of this valley, a mile or so east of Sandflats, there are to-day several vleis of permanent water. It was probably by one of these that Paterson outspanned "at a lake of brackish water called by the Hottentots, Kys Guna Kie Katie".⁽¹⁾ Perhaps this is the same name as Sparrman's Keusi Kunni aati which the latter, however, gave as an alternative name for the Little Bushmans River. As this river originates near these vleis it is probable that after good rains they overflow into the stream by whose name they became known, or to which they gave their name, since they are part of the same drainage system. The name Kys Guna Kie Katie may have been abbreviated to Kyakadie, a name that appears on the Albany Division Map of 1899 as an alternative to Brakfontein, the farm on the west bank of the Bushmans River at Neutenbachs Drift. This farm was granted first in 1776 as the following extract from the landgrant register certifies; "de plaate genaant de Brakkefonteyn gelegen aan deese zyde van de Bossiemans Rivier aan de wagen

1. Paterson p.86.

weg, van oude genaamt Kys hadie". This farm passed into the hands of Frederik Rautenbach in 1777 who gave its alternative name as Kykadie.⁽¹⁾ Besides being at the drift, it contained the major portion of the Little Bushmans River (Kyskadie?) in the upper part of whose valley lay the waggon track leading to the drift. This became known as Rautenbachs Drift⁽²⁾ which is about half a mile above the present bridge on the farm Long Lee⁽³⁾ on the road from Sandflats to Assagai Bush, between which points both Sparman and Paterson seem to have travelled.

The first record that we have of this route being used between the Sundays and Bushmans rivers is in 1752 by Beutler's party, and it seems to have been followed also by Sparman in December 1775 according to his map. Swellengrebel in November 1776 also came this way except that he apparently forded the Sundays some 2 miles upstream from Addo. This somewhat circuitous course between the Sundays and Bushmans rivers was probably taken because a crossing of the former any further downstream would be hindered in most parts by vertical banks (sometimes as much as 50 ft. high on one side of the river or the other) and then by its deep tidal portion. In the latter years of the 18th century this route along the Coerney River was probably the one usually taken between Algoa Bay and the Knurveld, as well as to and from farms in the present Somerset East district.⁽⁴⁾ By the end of the century, however, this route seems to have been short-circuited by a ford across the Sundays River just above its tidal limit, whence the track led over Addo Heights and Quaggas Flats to rejoin the old route at Rautenbachs Drift on the Bushmans River.⁽⁵⁾ General Janssens also came this way and not by the route indicated in a recent work, which also errs in stating that Zoetemelksfontein was the site of Uitenhage instead of Sidbury.⁽⁶⁾ The old trail along the Coerney, however, has never fallen into entire disuse, and though no longer on the direct route between Algoa Bay and the Knurveld, its general line is followed by a local road to this day.

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1. R.L.R. 24 p.215 & R.L.R. 25 p.255.
 2. Ianham pp.20, 22.
 3. East London Sheet, $\frac{1}{4}$ - Million Series, U.D.F. 1943 gives this incorrectly as Langley.
 4. A more direct but less used route between Algoa Bay and the present Graaff-Reinet district probably existed then. See above p.207.
 5. (Lichtenstein 1928, p.416.
(Molsbergen 1932, p.240.
 6. Blommaert & Wiid, p.152 and end map.

Paterson says that about 20 miles east of the Bushmans River, he "arrived at a place called the K'a Cha Chow, which is one of the branches of the Bushman's River." His words do not make it clear whether the locality as well as the stream bore the former name, though this seems the more likely meaning. Guided by his rendering of our present Coega as Kow Cha, the pronunciation of K'a Cha Chow becomes Kaghaghoo. This is likely to be the Kaggakoe of the Arrowsmith maps of 1847 and 1848,⁽¹⁾ shown between Sidbury and Assegai Bush, but unidentifiable to-day. This point cannot have been more, and is likely to have been less, than 15 miles east of the Bushmans River; but Paterson frequently overestimated his distances. It is perhaps of some significance that near K'a Cha Chow there dwelt, according to him, a chief named Mahhotie,⁽²⁾ whose followers stole, and later returned, his oxen. Two years afterwards, two chiefs of these parts whose suggestively similar names were spelt Tha Thoe and Magote respectively, were in conflict with Adrisan van Jaarsveld.⁽³⁾ Since Kwa (K'a) used before the name of a chief could indicate "at the place of" or "within the territory of", the name K'a Cha Chow might indicate that this place lay within the domains of Tha Thoe. What may be the same name, and in a spelling very similar to that used by Paterson, appears again in t'Chachow, a chief met in this locality by General Janssens.⁽⁴⁾ However, this place name has now vanished from modern maps without a trace and is quite unknown locally. The river near the head of which Kaggakoe was mapped by Arrowsmith, is indeed a tributary of the Bushmans River as Paterson stated, but it was mapped by Knobel as the Coega (Kongha) as early as 1820, by which name it continues to be known.

From Kaggakoe, or from Assegai Bush a mile or two further east, they must have ascended the hills to the north, later called the Rietberg.⁽⁵⁾ At this point only is there easy access to their summits, for this is provided here by a gently inclined ramp named the Zwarthoogte (or Zwaarhoogte) that forms

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1. Arrowsmith 1848.
 2. Gordon Collection Drawing 69: Mahotti, Caffer Captain.
 3. (Jeffreys 1930, pp.539 - 40.
(Moodie 1838 V, 9. Teachoo and Mahota.
(Kirby, 1955 p.114, notes 8 & 19. Tahatshu and Mahote.
 4. (Molsbergen 1932 p.147.
(Barrow 1801, p.180.
 5. See below p. 421.

the watershed between the head of the Kariega River to the east and of the Spitskop River system to the west. Shown on the Albany Division Map, 1899 on the eastern portion of the farm Boekenhoutfontein, this ramp was used by the main road between Algoa Bay and Grahamstown until superseded in about 1840 by the pass through Howisons Poort.

Early travellers climbed these hills because their grassy undulating summits offered far easier going than the country beneath their southern slopes which is deeply dissected by densely bushed kloofs. Moreover, on the grassy hilltops grazing cattle were easily kept in view, thus minimizing the danger of their going astray or being stolen. This upland route was the line later to be followed by the early road to Grahamstown. (1)

On these hills Paterson halted the next evening at his Now Tu or Now Tio. This is probably the old farm Noutoe, now Table Farm, some 3 miles W.N.W. of Grahamstown, situated on the Noutoe River, a tributary of the New Years River. It is not to be confused with the Nautu, Kaap or Kap River mapped by Sparrman and by Burchell, a stream from the N.W. joining the Great Fish River near its mouth. The country around Noutoe is described by Paterson as quite uninhabited, the grass so high that it reached the horses' bellies, and the aspect agreeably diversified with little pleasant woods upon the declivities of the hills. It was here at Noutoe in 1783 that the expedition under Heligert Muller assembled before proceeding to attempt to rescue survivors of the Grosvenor. (2) Muller had also followed the route from the west through Coerney, Rautenbachs Drift and Assegai Bush. In 1810 preparations were made at Noutoe for the establishment of the first permanent military headquarters in the Zuurveld, but the site was abandoned shortly afterwards in favour of the position where Grahamstown now stands. (3)

The Great Fish River was crossed about 20 miles from the sea, probably at Trumpeters Drift, since he says that where they crossed "the river assumes a southern direction." Continuing in an easterly direction, he next day described seeing to the north the Bamboo Berg, now known as the Hogsback and Amatola peaks. Contemporary travellers recorded the same name for these mountains as Paterson did, (4) but it does not seem to have been used in 19th century accounts of this area.

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1. Ianham p.26.
 2. Kirby 1953, p.165.
 3. Cory 1910, p.247.
 4. See above pp.41,156,206.

They then came to a village by a stream, but ambiguity of language makes it impossible to decide to which of these he intended the name Mugu Ranie to apply. However, it is given on his map to a village situated by an unnamed stream. It is possible that his Mugu Ranie is a variant of M'Gualana, since the l sound in Xhosa might easily have been mistaken for g by Paterson, who in any case paid little attention to the spelling of unfamiliar proper nouns. The locative prefix M' might indicate "at the Gualana", a river that he could easily have visited on his way to his Becha Cun or Milk River. This is likely to have been the Pyga-Tgame of the Freiherr Franz von Winkelmann, who visited it in 1789,⁽¹⁾ the stream known as the Becha to-day.

On the banks of the Becha Cun Paterson visited the kraal of Khouta, a chief well-known in the history of the frontier.⁽²⁾ "Allured by the pleasantness of the country", he stressed the richness of its soil and grasslands in the few paragraphs he devoted to its description. He noted that though it seldom rained there except in summer, it was well supplied with water from the high land to the north. His account concluded with his belief that this territory was "greatly superior to any other known part of Africa." Somewhere short of the Keiskama, which he spelt Kys Coma, they turned back and travelled to the Cape by much the same way they had come. They reached Cape Town on 23rd March 1779 after an absence of three months, during which they must have covered at least 1300 miles.

Fourth Journey: June - December 1779.

His companion throughout this journey was again Sebastian van Reenen, whilst the latter's brother, Jacobus, accompanied them part of the time. Frequent contacts were also made, and sometimes maintained for days on end, with the party led by Captain R.J. Gordon. From Cape Town, Paterson and S. van Reenen went north to cross the Olifants River at Peter van Zyl's, now

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1. (Holmberg 1932 p.63.
(Forbes 1948 p.43, 47.
 2. (Woodie 1838, V, 8.
(Theal, 1910, III, 92.

Vredental.⁽¹⁾ They then ascended the Bokkeveldberg, presumably to one of the Van Reenen farms stated earlier by Paterson to have been situated there.⁽²⁾ Thence they seem to have proceeded N.W. by much the same route followed here on his second journey. Thus they approached the farm of Hermanus Engelbregt, not far from which they met the deserter, Hendrik J. Wikar, who was then returning to the Cape.⁽³⁾ From him, no doubt, Gordon obtained valuable information for the trip up the banks of the Orange River⁽⁴⁾ on which he was to set out some two months later.⁽⁵⁾

The dwelling of Hermanus Engelbregt at that time is shown on the Gordon Map 3 as Ellenboogfontein, which is 4 miles W by S of the present position of Kamieskroon. The dwelling is portrayed in Gordon Collection Drawing No.31 which has been reproduced recently.⁽⁶⁾ Paterson gives the altitude of this farm as derived from a barometric observation, probably the first elevation to be published of a S. African station since those of the Abbé de la Gaille obtained by angular measurements on mountains near Cape Town.⁽⁷⁾ The observation mentioned by Paterson was made by Gordon who determined from it that Engelbregt's farm was 2,080 feet above sea-level. These are presumably English feet since he is known to have owned a barometer made by Ramsden.⁽⁸⁾ The accuracy of the figure has not been checked by the present writer though modern maps suggest that it may be about 500 ft. too low. The mountains portrayed in the background of Drawing 31 and stated in the legend to be of unstratified rock, the highest being 5262 ft., must be the granite summits of the Kamiesberg such as Ezelskop, some 15 miles to the S.E.

The latitude at Ellenboogfontein was found to be 30° , this observation also probably having been made by Gordon, as Paterson's three statements of his latitude positions were all given when he was in Gordon's company.⁽⁹⁾ And Ellenboogfontein is in approximately this latitude in the Gordon Map 3. The actual latitude however, is about $30^{\circ} 13'$ so that the error here is larger than that which is usually present in Gordon's observations. Paterson's statements of the values for the altitude and latitude of Engelbregt's farm are probably the source of these figures on Burchell's map.⁽¹⁰⁾

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| 1. Mossoy 1938 p.23. | 6. Nolsbergen, 1916 II, at p.148. |
| 2. { Paterson p.53.
{ See above p.249. | 7. Maclear I, 63; & see above p.88. |
| 3. Mossoy 1935 pp.199,
201,321. | 8. See below pp.332-3. |
| 4. Paterson p.121. | 9. Paterson pp.104,110, 117. |
| 5. See below p.303. | 10. Burchell 1822. |

From Engelbregt's they struck N.W. to the coast as a preliminary to their journey along it northwards to the mouth of the Orange River. The motives that may have inspired this difficult undertaking are purely conjectural; but perhaps Gordon wished to ascertain whether "a settlement might be formed at its mouth, and a bay or harbour be established where ships might remain in safety".⁽¹⁾ Brink's map of Hop's route in 1761, with which document Gordon was familiar,⁽²⁾ certainly showed no lack of harbours on this coast, where fantastically exaggerated indentations appear. These he must have been anxious to investigate, probably suspecting that they were in fact non-existent; for he must have known that neither Brink nor perhaps any other cartographer, had ever travelled along that coast. It is said to have been visited overland from the Cape in 1739 by J.P. Giebler⁽³⁾ but further details are lacking, and so far as is known Gordon and Paterson were the first Europeans to reach the Orange River mouth. It is possible that a private motive may have actuated Paterson to make this hazardous trek, for he was said by Sebastiaan van Reenen to have wished to search for a harbour from which to work the gold that he had discovered.⁽⁴⁾

From Ellenboogfontein their route to the mouth of the Koussie, Saad or Buffels River may have been that which is shown on the Gordon Map 3 passing through Kookfontein, now Kookfontein, in the valley of the Swartlintjes River. This was probably the Cook Fountain at which Paterson halted on his return from this trip.

At the mouth of the Buffels River they found water at Rhinoceros Fountain or Renosterfontein in whose vicinity Grootmist is now situated. This identification rests on the Gordon Map 3, on the map illustrating Captain Owen's survey⁽⁵⁾ and on a modern large-scale map.⁽⁶⁾ Walking along the shore

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1. Stavorinus p.453.
 2. Below, pp.323-4. Note also that at least three equivalent copies of this map exist, preserved in the Rijksmuseum, Amsterdam, in the Van de Graaff Collection, Delft and in the Africana Museum, Johannesburg.
 3. (Mossop 1931, p.184 & 1947a, p.89. (Mentzel, 1944 p.310.
 4. Franken p.197.
 5. Steedman I,
 6. Jencken.

north of and near this spot, Paterson recorded the most beautiful rocks he had ever seen; some of them as white as snow and others veined with red and other colours.⁽¹⁾ These were probably the rocks described as Stinkfontein Series by Rogers.⁽²⁾

"This was not a country that flattered us with the expectation of pleasure", wrote Paterson at the commencement of the struggle with heavy sand and thirst on their coastal trek to the mouth of the Orange River, which took nine days. Leaving the Buffels River on 6th August, he made this journey with Gordon whose Map 3 is a valuable supplement to Paterson's account since few features the latter mentions here are now identifiable from his brief descriptions alone.

"Goewaap, good water" on Gordon's map, and not far from the present Gooap Point, does not answer to the description of the next potable water they found, which Paterson states was a very brack seepage on the beach below high water mark. This applies better to the Syper [Syfer?] Fontein of Gordon's map which is probably at MacDougall Harbour where brack water in a well on the beach is reported in The Africa Pilot.⁽³⁾ Mr. P. Carstens,⁽⁴⁾ in conversation with the present writer has confirmed that the only spring answering to Paterson's account is at MacDougall Harbour, and that the water from it grows progressively fresher the longer it remains above tide-water. Since the latter describes the spring as very brack, he must have reached it shortly after it had been uncovered by the receding tide.

The day before a noon observation for latitude gave their position as $29^{\circ} 5'$ Paterson says that they saw a small island about a mile from the shore. This can only have been Robbe Islet at Port Nolloth in $29^{\circ} 15'$ since there is not another island on this stretch of coast. It is, however, not much more than a couple of furlongs from the shore. The Gordon Map is more accurate in this respect and bears the legend, "Ilheos Sieces, drie drooge eylandjes een paar schuysman schoot van de wal, vol robben", (three dry islets a couple of musket shots from the shore and full of seals). Since one of these must

1. Paterson p.106.

2. Rogers 1915, p.87.

3. Africa Pilot II, 1910 p.337.

4. See below p.265 & 266, note 2.

have been Robbe Islet, the second was probably Black Jacob Rock (also at Port Nolloth),⁽¹⁾ whilst the third was presumably Matthew Rock at MacDougall Harbour.⁽²⁾ Several eighteenth century atlas maps show in about latitudes 29° or 30° the Ilheos Siccos (Arid Islands) in various spellings, which name in the form Socco Reefs is now applied to rocks in latitude 26° 53'.

The inscription at Koesaas on the Gordon Map which reads "sontijds water in een klip gatt", probably refers to the "fresh water in winter" at Jackals Pit shown on the Admiralty Chart⁽³⁾ and described similarly in The Africa Pilot.

Near Port Nolloth they saw on the shore heaps of seashells near huts, abandoned, presumably by Strandloopers, a small group of whom they were to encounter later. The significance of this mention, however, is that it clearly distinguishes the shells of recent middens from those far older shells he observed the next day. There they found along the shore, "which was much elevated, in the highest rocks ----- several petrifications of shells, some of which were about an hundred and fifty feet above the surface of the sea." Gordon's map indicates here "versteende schulpen" at 100 ft. above sea-level. It is likely that these references were to a locality near what was later to be known as the Cliffs Fields, where diamondiferous raised-beach deposits containing Ostrea prismatica and other fossil shells are conspicuous, at levels, however, considerably lower than these estimates of 150 ft. and 100 ft. respectively.⁽⁴⁾ This is probably the first record of the finding of fossils in South Africa and antedates by nearly 25 years the discovery by Lichtenstein in 1803 of "the impressions of an innumerable multitude of fish" near Downes 11 miles east of Calvinia.⁽⁵⁾ Moreover, it precedes by 26 years the discovery of a fossil by Enslie to whom Rogers has assigned probable priority.⁽⁶⁾

The day following this observation they reached a fountain described by Paterson as situated between two precipices and about 9 miles from the sea. This is clearly the "Diepe Kloof, good water" of the Gordon Map and can be none other than the dry bed of the Holgat River some 6 miles inland, where a spring

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1. Admiralty Chart, 1234, Port Nolloth or Robbe Bay, 1946.
 2. Admiralty Chart, 897, Milkbosch Point to Orange River, 1943.
 3. *ibid.*
 4. Wagner & Merensky p. 24.
 5. Lichtenstein, 1928, p.118.
 6. Rogers 1937, p. 13.

appears in modern maps. (1) The distance to the sea, which they visited from this fountain, would be increased by following the winding streambed, and in addition the heavy going would have weighted their estimate. Two days later they passed the hills now known as the Buchu Twins. Paterson relates of them that "as they were situate at a very small distance from each other, and were very similar in their figure and size, we gave them the name of the Two Brothers, and in this desolate region there was no one who could dispute any denomination by which we chose to distinguish whatever we met with." Three miles north of the Two Brothers, according to Paterson, a large dry valley was named Benting's Valley by Gordon, after Graaf Charles Benting (Bentinck) as his map reveals. However, it shows that this feature was not a valley but a "zout water valeij" or salt-vlei which is probably the salt pan now called Jem Pan 2 or 3 miles inland from Alexander Bay. (2)

Next day, 17th August 1779, they reached the mouth of the Orange River, on whose waters they embarked that evening in a boat brought on one of Gordon's waggons. The well-known passage describing this event merits repetition. "In the evening we launched Colonel Gordon's boat, and hoisted Dutch colours. Colonel Gordon proposed first to drink the States' health, and then that of the Prince of Orange, and the Company; after which he gave the river the name of the Orange River in honour of that Prince." As has been mentioned above, Paterson states elsewhere that this name had already been bestowed by Gordon upon the river, presumably in its middle course. (3) A possible explanation of this second naming ceremony is that Gordon was not then sure that the appellation had in fact been given before by him to the same stream, the Groote Rivier, which he wished to bear the name of his Prince. According to Stavorinus, Gordon seemed to have been uncertain whether the river he had reached north of the Sneeusberg flowed into the Atlantic. (4)

The latitude of its mouth is given by Paterson as $28^{\circ} 35'$ and it was no doubt ascertained by Gordon. In the latter's Drawing 61 of the river's mouth it is given as $28^{\circ} 32'$, and its

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1. (Admiralty Chart 897, Milkbosch Point to Orange River 1943. (Orange River Mouth Sheet, $\frac{1}{4}$ - Million Recon. Series, Geog. Sect. Gen. Staff, 1907.
 2. Alexander Bay Sheet, $\frac{1}{4}$ - Million Series, U.D.P. 1943.
 3. See above p. 250.
 4. Stavorinus p.453.

position in the Gordon Map 3 is the mean of these figures. Paterson writes that the latitude was obtained "by a very accurate observation", presumably meaning that it was taken with the utmost care. As the latitude of the mouth is about $28^{\circ} 38'$ in the Alexander Bay Sheet, $\frac{1}{2}$ - Million Series, 1950, Gordon's result was not more than $6'$ in error, depending upon the exact point where his observation was made. Greater accuracy than this was probably unobtainable with the instruments available to Gordon, so that even the utmost care was unlikely to yield an answer less than about $5'$ from the truth. A less careful observation must have been made when he placed Ellenboogfontein some $13'$ too far north. ⁽¹⁾

Paterson's statement that the longitude of the mouth differed but little from that of the Cape must have been derived from their estimate of their course during their long journey, whose generally northerly direction would have added to the difficulty experienced in ascertaining longitude from dead-reckoning.

Here they were rejoined by Pieter Piensar ⁽²⁾ who had separated from their party for a week, and only reached the river after great suffering from thirst. They crossed in their boat to the north bank and there encountered a group of eleven Strandloopers. The plate illustrating these people published by Paterson is said to have been derived from one of Gordon's drawings ⁽³⁾ whilst another opinion has it that these are the source of all of Paterson's plates. ⁽⁴⁾ It is possible that Paterson obtained from Gordon's draughtsman (Johannes Schumacher?) equivalent copies of his drawings with his master's consent.

From the river's mouth they then made excursions eastwards which were insufficient to reveal to them the full extent of the great northerly bend it describes shortly before it reaches the sea, for only a small northward deflection is shown on the Gordon Map 3. After about ten days in this locality they retraced their steps southwards along the coast. Paterson's "Deepe Kloaf or Water Val" which is similarly named on the Gordon Map 3 is almost certainly the Holgat River again, as indicated also by its being reached at the end of the second day's trek. No other valley or drinking-water than this is

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1. See above p. 259.
 2. Franken p.213.
 3. Oliver p.21.
 4. (Dyer p.51.
(Britten 1914 p.76.

marked hereabouts on Gordon's map: and it is indeed unlikely that they would have failed to visit a spring in a stretch of country where on their northward journey they had suffered severely from lack of water. Major I.F. Jonker of the S.A.F., at Port Nolloth in 1947, then confirmed that at the place on the Holgat River about 6 miles from the coast where there is a spring, there would be a waterfall of 25 ft. on those rare occasions when the stream is flowing.

Another two stages totalling perhaps 30 miles brought them to their next halt whose name is given in Paterson's book as the Great or Sea Fountain. However, the Paterson manuscript gives it as the Quasp or Sea Fountain⁽¹⁾ which is the "Goewaap, good water" of the Gordon Map 3, shown on the landward side of the coastal dunes at the termination of the watercourse (now the Kamma River) coming from the Aughrabies Hills. This good water they evidently missed when going north. The present writer has been told by Mr. P. Carstens, a graduate of Rhodes University, whose home is at Kleinsee, that it was on a pan near the mouth of the Kamma River that his father, J.E. Carstens, in 1926 found the first Namaqualand diamond, and that adequate drinking water was available there to support the party that worked the panning plant.

Two more stages brought them back to the Buffels River, and so through Kookfontein to Ellenboogfontein once more. Paterson records that here he and Gordon parted company. The latter now set out on a journey which is presumably that whose route is shown on the Gordon Map 3 along the course of the Orange River to the vicinity of Prieska.⁽²⁾

Accompanied by S. van Roenen and H. Engelbregt, Paterson then set out from Ellenboogfontein northwards to the farm of a Van der Heever, but he gives no indication whether this was the man mentioned on his second journey. At this period there dwelt in these parts at least two Van der Heevers, Pieter and Johannes.⁽³⁾

Our travellers were evidently following the usual route to the Orange which was the one of least difficulty, and is still substantially the line taken to-day by the road between Springbok and the river at Goodhouse or at Ramans Drift. About 10 miles

1. See above p. 246,n.2.

2. See below p. 303.

3. Mossop 1935 pp.197, 321 and remark on map at p.192.

north of where Concordia now stands they would have encountered the unnamed dry watercourse directed N.N.E. Following this down for another 8 miles they would have come to the spring in its bed named Sabies or Tsabies, which is probably Paterson's Small Brack Fountain. Further north they came to their Great Brack Fountain which is probably /Us,⁽¹⁾ a permanent potable spring of rather brack water 4 to 5 miles downstream (N.N.E.) in the same watercourse.⁽²⁾ The Grootte and Kleins Brak Fontein appear on the Gordon Map 3. Though Sabies and /Us, the latter shown as Aus, were mapped in 1910⁽³⁾ and mentioned by Mossop in 1935⁽⁴⁾ their relationships to each other and to Geselkapbank are not clarified in the Names Sheet, $\frac{1}{4}$ - Million Series, U.D.F. 1945 which omits /Us. However, it is shown as Ouss in the Port Nolloth & O'okiep Sheet, $\frac{1}{4}$ - Million Recon. Series, Geog. Sect. Gen. Staff 1907; but the watercourse in which it is situated is omitted here as well as on the adjoining Little Bushmanland Sheet.

Paterson narrates that about 4 miles N by E of his Great Brack Fountain, across a sandy plain, they came to "a large rock of conical figure where was a small fountain of fresh water." As he elsewhere calls a 500 ft. koppie a "rock of conical figure"⁽⁵⁾ there is no difficulty in applying this description to a hill that presents a conical form to the traveller from the south, and that lies close to and east of the southern end of the Geselkapbank, a granite whaleback ridge. This is called Platteklipp on the Gordon Map 3 and still bears either of these names. Mossop notes that it was also known by a Hottentot name meaning Shouting Rock, referring to an incident when "two chiefs afraid to engage in battle shouted insults across the rock."⁽⁶⁾ A manuscript reference to this incident has it that the opponents were a commando of the Engelbrecht family and a band of Bushmen.⁽⁷⁾ About a half-mile N.W. of the conical hill and at the foot of the Geselkapbank is a spring, presumably that at which Paterson halted. From this point $1\frac{1}{2}$ days' travel brought them to the Orange River on 1st October 1779 either at Goodhouse or at Ramans or Company's Drift.⁽⁸⁾

They did not, however, ford the river here, but travelled

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1. The oblique bar represents the dental click.
 2. Paterson's route between Concordia & Geselkapbank investigated for me during a journey in 1955 by Mr. P. Carstens of Kleinsee who kindly provided me with these and other particulars.
 3. Pearson at p.620.
 4. Mossop 1935 p.298.
 5. Paterson p.58.
 6. Mossop 1935 pp.156,299.
 7. Meyer.
 8. Mossop 1935 p.16.

eastwards for a few days, the number not being specified. On 7th October he reached a point that was probably at least as far east as Marten Island (about 25 miles upstream from Goodhouse), which on map evidence is the first point where he could have found the river divided into three streams as he described,⁽¹⁾ though his estimate that each of these was a mile wide is greatly exaggerated.

Apparently this was not the place where he crossed, however, for this must have been west of the junction of the Houns River with the Orange. He left his waggons on the south bank and only took pack-oxen for his excursion northwards, so that their crossing need not have been at a recognized ford. Having crossed with difficulty, they travelled by his account N at first and then E.N.E. which brought them in less than two days to his Idens' River, or the Houns as it is now called.⁽²⁾ Crossing this watercourse, they then went "through a narrow path between two high mountains" which may indicate the ascent of a ravine leading to the plateau east of the Houns River. This is supported by a further reference to travel in a N.E. direction to a spring, from which they made an excursion in an unspecified direction to "country which is level and high". From this elevated area they "had an extensive view to the southward of the Orange River; and to the northward of a large plain, bounded at a distance of four days journey by a range of mountains in a direction from east to west." These are the Great Karrae Mountains whose orientation could not be accurately ascertained at so great a distance. Here also he states that the hot bath (Warmbad) lay in a W.N.W. direction. These indications combine to suggest that the northernmost point that they reached on this day's excursion was probably near the Velloor Kuppen 17 miles E.S.E. of Warmbad.

Thence they retraced their steps to cross the Orange where they had left their waggons, after an absence of only eight days. His return was hastened by fears that the river might rise and cut off his escape. Thunderclouds to the eastwards occasioned this apprehension, since the natives on the river banks said that the river might now (October) be expected to rise and remain impassable till May. He was thus correctly informed that in the regions to the east, the rainy season was

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1. (Warmbad Sheet, 1/4 - Million Series, U.D.F. 1943.
(S.W. Africa - South, H - 34/1. 1/2 - Million Series,
Surveyor General, Windhoek, 1927.
 2. Mossop 1935 p.279.

at a different time of year from the rains usually experienced in Namaqualand. ⁽¹⁾

He returned southwards through Ellenboogfontein, and thence made his way to Swollengrebelfontein on the Bokkeveldberg, the farm of Widow Rijk whom he had twice visited on his second journey. He relates that from here a day's journey in an easterly direction brought them to the house of Jacobus van Reenen. Because of the distance and the direction of this side-trip, it is probable that this house was at Rietfontein by the Klein Toren River ⁽²⁾ rather than at one of the Van Reenen farms further east or south such as Gemerkte Kareekhoutboom, Tweefontein-Renosterhoek or Buffelsfontein. From Jacobus's house a day's journey northward brought them to the Camdini River, and the following day they visited the Kubiskow Mountains N.N.W. of Loeriesfontein. He describes "a species of flint here, which is used by the Hottentots in making their harpoons, and esteemed by them as preferable to iron for the purpose". This is a reference to the chert in the Upper Dwyka Shales. ⁽³⁾ He reported of this region that the water was everywhere bad, and its climate and produce similar to those of the territories near the Orange River.

Some compensation for these defects was afforded, however, by encountering vast herds of springbok which upon pursuit "divided themselves into large flocks of at least twenty or thirty thousand in each flock." This estimate lent some support to the account, given by Masson of the same region, of herds whose numbers must have seemed incredible, especially because of the scarcity there of water and grazing. ⁽⁴⁾

He returned to the Bokkeveldberg and thence went S.S.W. past Windhoek (10 miles S.S.W. of Van Rhynsdorp) to cross the Olifants River and journey southward to the Cape, making a side trip into the Tulbagh Valley. He reached Cape Town on 21st December 1779 after a journey of at least 1,400 miles accomplished in six months.

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1. Paterson pp.64, 128.
 2. See above p. 115.
 3. Rogers 1937 p.5.
 4. See above p. 124.

Conclusion.

When Paterson sailed from the Cape in the Held Woltenade on 10th March 1760, he had travelled at least five thousand miles in South Africa, which was considerably more than any other author-traveller had then accomplished. It is regrettable that the contents of his book, a bare but honest outline of events, were not expatiated upon by him in proportion to the length of his travels. He probably lacked the training which would have enabled him to take the fullest advantages of the unusually rich opportunities of collecting and observing that were afforded him in his four journeys. Thunberg may have sensed accurately Paterson's parentage and lack of formal education in summing him up as "a mere gardener";⁽¹⁾ but in dismissing him thus he apparently failed to recognize the young man's qualities, that were to gain for him posts of some distinction and Fellowship of the Royal Society.⁽²⁾

Another contemporary impression is provided by Francois le Vaillant, who gives this probably overcoloured picture of Paterson's conviviality at a farm in the region of the Kamiesberg. "Everyone was eager in the praise of this traveller, who, while he had supplied claret for their entertainment, had shown himself an invincible competitor in the rivalry of smoking as well as of drinking."⁽³⁾ In this land celebrated for its hospitality, it is gratifying to learn that he responded generously and was remembered as an appreciative guest. The fleeting impressions he made upon his contemporaries are, however, of little account compared with the character of his writings, by which his travels here will continue to be judged. In spite of the defects of his book it has indubitably fulfilled the modest aim of its author, that it would add "a few facts to the general stock of natural and geographical knowledge."⁽⁴⁾

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1. Thunberg IV, 271.
 2. Diet. Nat. Nieg.
 3. Le Vaillant 1796 II, 92, 123.
 4. Paterson, viii.

R. J. GORDON. 1773 - 1774 & 1777 - 1795.

Robert Jacob Gordon, Commander of the Dutch garrison at the Cape 1790 - 1795, is an outstanding figure in the history of South African geography. His width of interests in this field is attested by his travel and exploration as well as by his collection of maps of this country and of drawings of its scenery, inhabitants, fauna and flora.⁽¹⁾ As several recent studies of aspects of his life and work make clear,⁽²⁾ contemporary writers eulogised his scientific attainments, his linguistic capabilities and the cultured charm of his hospitable personality. Matching his mental stature was his tall and robust physique. Fired with a restless zeal for personal investigation, his journeys were to a considerable extent voluntary exertions in excess of the requirements of his official duties. His personal acquaintance with the interior of the colony probably exceeded by far that of any other well-educated man of his day.

A man of his versatile intellectual accomplishments must have been outstanding in the small community of the outpost that Cape Town then was. Hence it is natural that visitors with similar tastes should have met him, and that a number of them should have made appreciative references to him in their writings. No more detailed and lively account of his manner and appearance is known than that written by Lachlan Macquarie (who later became Governor of New South Wales) at Simonstown on 18th June 1788 on his way to India. The original manuscript diary is in the Mitchell Library, Sydney and typescript extracts from it are in the Gubbins Library, University of the Witwatersrand.⁽³⁾ Macquarie narrates how there came aboard his ship, the Dublin, Colonel Gordon, Commandant of the Dutch Troops with Mr. Bligh,⁽⁴⁾ Mr. Van Camsen⁽⁵⁾ and Mr. Mason. The latter is obviously a reference to Francis Masson, for he is described as "a Famous Botanist sent out by His Majesty to collect Strange Plants etc." These visitors, says Macquarie, "dined with us and staid on board till very late at Night. We had a very merry Day of it and a great deal of dancing with the Ladies in the

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1. Molsbergen 1916 II, 64.
 2. (Oliver 1918 p.17.
(Dyer p.44.
(Barnard 1950 p.321.
 3. Information supplied to me by Miss M. Rammeyer.
 4. Bligh p.38. The Bounty was at the Cape about this time.
 5. Hickey II, 220. Perhaps a Cape Town lodging-house proprietor.

Evening to fine Moon light on the Quarter Deck. Colonel Gordon is a very fine jovial Fellow, and a most agreeable Companion as can be. He has resided long in this Country, and has very much studied the manners and customs of most of the Savage Nations of Africa - especially of all those lying within the Distance of One Thousand Miles from the Cape. He has frequently travelled this distance into the interior Parts of the Country and his Descriptions of the Savage and Wild Inhabitants of the different Nations he has visited are very entertaining. He sang a number of their Songs to us in their own real Manner and Language. This Gentleman has so great a facility at learning Languages, that to my very great astonishment he entertained us with a Gaelic Song altho not born in the Highlands or even in Scotland, being born in Holland but of Scotch Extraction. He is very communicative and extremely well informed - in short, as agreeable and facetious a Companion as I ever met with. In figure Colonel Gordon is a tall, stout, Soldierlike Man. He spent the greatest Part of two Days with us, and we were not a little sorry when he went away from Simon's Bay."

Not all visitors were as openly appreciative of Gordon, however, for it is said that some avoided mentioning him since they took from him not only facts about the Cape, but also his drawings, and published them without acknowledging the source to which they were indebted.⁽¹⁾ This being so, new evidences of Gordon's work, acknowledged and unacknowledged, will probably continue to be found from time to time in documents of his period; whilst drawings made by him or by his draughtsman may be found whose authorship was previously unknown or attributed to others.

The brief biographical particulars in this paragraph are taken largely from an account printed shortly after his death,⁽²⁾ but now amended in the light of later knowledge. R.J. Gordon was born at Doesburg in Gelderland in the year 1743.⁽³⁾ Of Scots extraction, his family had long been settled in Holland, as suggested by the fact that his paternal grandfather had been burgomaster of Schiedam, a post unlikely to have been held by one considered a newcomer to the country. The burgomaster's son, James Gordon, first entered the Dutch army as a cornet in the Dragoon Guards, but later, through the influence of his father, obtained command of a company in the Scots Brigade in Holland. It is said that the Scots officers of

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1. (Edwards & Hamilton p.170.
(Dyer pp.48 - 56.
 2. Gentleman's Magazine, May 1796 p.442.
 3. Gunn 1954 p.135.

this corps resented this appointment, since they regarded Gordon as Dutch in all but name. However, in spite of the persistent antagonism he aroused on this account amongst his brother officers, he rose to the rank of Major General in the Scots Brigade. In his regiment his son Robert Jacob obtained a commission as a lieutenant, probably in 1765⁽¹⁾ and rose to the rank of captain in 1774. "But the stationary life of a soldier in peace, serving in the garrisons of the United Provinces ill accorded with the activity of a mind thirsting for a variety of knowledge. Having, therefore, visited such parts of Europe as his leisure would admit, he obtained leave of absence to make a voyage to the Cape of Good Hope."⁽²⁾

It was thus as Captain R.J. Gordon, a soldier on furlough that he first made his appearance upon the South African scene, when he arrived at the Cape in the Holland in 1773.⁽³⁾ Paterson records this visit,⁽⁴⁾ and remarks that Gordon then had learnt the language of the Hottentots and had travelled inland 1500 miles from the Cape. This is a palpable exaggeration as it stands, but it could correctly record the total distance travelled in the interior. Amongst the animals he shot apparently on this occasion, was the passar or geesbok, secured "at a great distance from the Cape." This may have been within the confines of the present Namaqualand or Bushmanland, though this animal could probably then have been found considerably closer to the Cape in karoo regions that are its natural habitat.⁽⁵⁾ He also took back with him to Europe a dozen springbuck which were placed in the menagerie of the Prince of Orange. These facts connected with his first visit are recorded by Professor J. Allsmand of the University of Leiden in a supplement published in 1776 to Buffon's Histoire Naturelle.⁽⁶⁾ Elsewhere in that work Allsmand acknowledges Gordon as the source of his information on a number of other South African animals, some of which will be noticed subsequently; but only the two species mentioned above seem to have been indisputably obtained in the period 1773 - 74. A remark he wrote on a map of Table Bay that he drew, probably in 1778, suggests that he may have been to Plettenberg Bay in 1773, and perhaps even as far as the mouth of the Great Fish River which is presumably his Rio Infante.⁽⁷⁾ For the rest his movements on his first visit are unknown save that in May 1773 he made

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1. Scottish Historical Soc. Vol. 35 pp. 122, 240.
 2. Gentleman's Magazine, May 1796 p.442.
 3. Leibbrandt 1906 p.480.
 4. Paterson, p.4.
 5. Sargent pp. 41, 44.
 6. Buffon IV pp. 142, 148.
 7. Below p. 287, note I.

a week's journey "on foot round the mountains situate between the Cape and False Bay" with the botanists C.F. Thunberg and F. Masson.⁽¹⁾ In 1774 he presented two works on astronomy to the public library in Cape Town.⁽²⁾ He sailed thence for Holland in the Asia in May 1774⁽³⁾ but must have been so attracted by the Cape that he determined to return here. In realisation of this ambition he was sent out by the Chamber of Seventeen as military captain of the garrison at the Cape, where he arrived in June 1777 in the Willems de Vijfde.⁽⁴⁾

In 1780 he was promoted to be Commander of the Dutch garrison at the Cape, in which post he continued until his suicide,⁽⁵⁾ shortly after the surrender of the Cape to the English in 1795. Torn between his lifelong devotion to the Prince of Orange, and the requirements of his official position which demanded allegiance to the Dutch Republic, his conduct during the period following the English landing was said to have been irresolute in the extreme. The day of the capitulation he was grossly insulted by the men of his own regiment. This public exhibition of a widespread feeling of condemnation of his conduct, added to the fact that he was weakened by illness and was perhaps unhappy in his domestic life, probably combined to bring about his self-destruction. By this act, the captors of the Cape must have believed that he had thought to expiate the ignominy of his surrender. In honour therefore to one who had paid honour's debt, nearly forty English officers attended his funeral. Thus passed R.J. Gordon, a man remarkable for his humanity and philanthropy - - - traveller, antiquarian and natural philosopher.⁽⁶⁾

Unfortunately, no journals of his travels are known to survive. Hence an account of them must be based primarily on evidence furnished by his collection of maps and drawings, which are often inscribed with notes of considerable length. Secondary sources of information on his achievements are provided by references to him in both official and unofficial contemporary documents, published and unpublished.

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1. Thunberg 1795 I, 265.
 2. Varley pp. 22, 23.
 3. Barnard 1950 p. 328.
 4. Jeffreys 1928 p. 24.
 5. (Borchards p. 36.
(Quarterly Review, London, VIII p. 376.
 6. Paston p. 228.

Journey to the Orange River in 26° East Longitude, Oct. 1777 -
March 1778.

Shortly after his arrival at the Cape he must have met the young English plant-collector William Paterson, also newly arrived, for in July 1777 these two climbed Table Mountain with a party of which William Hickey was a member.⁽¹⁾ Perhaps the Directors of the Company had granted to interested persons in Holland a request that Gordon's post would not prevent him from prosecuting his researches as a naturalist.⁽²⁾ Certain it seems that his superiors at the Cape cannot have required him to devote continuous attention to his new duties, for on 6th October 1777 he set out, accompanied by Paterson, on what was destined to become a momentous journey of exploration. The details of the opening stages of this journey have been discussed above.⁽³⁾ Briefly, they passed through Swellendam, crossed the Platte Kloof to the Little Karroo, made their way through the Zuurberg Poort and parted at Beervlei, the confluence of the Kariega and Salt rivers. Here Paterson turned back on account of illness, a misadventure that probably deprives us from reading in his book what would surely have been a most clarifying account of Gordon's experiences during the next four months. On about 5th November, Gordon, presumably accompanied by his draughtsman⁽⁴⁾ "proceeded on towards the Snow Berg or Snow Mountain."⁽⁵⁾ In this surprisingly brief phrase Paterson summed up his companion's eventful journey, though he must have known that it had made Gordon the first effective discoverer of the Orange River north of the Sneeuwberg.⁽⁶⁾ From this date in early November, Gordon's movements must be based on a study of his map, of his drawings and on a few paragraphs in a volume by Stavorinus.

Wherever reference is made here to Gordon's map, it is Map 3 of the Gordon Collection, preserved at the Rijksmuseum, Amsterdam, that is meant. This is by far the most important map in the Collection, and it will receive considerable discussion in the ensuing pages. Parts of it have been reproduced in the Van Riebeeck Society Vol. 15 at page 288 and in Vol. 28 at pages 18, 34 and 50. However, these are not always satisfactorily clear, so that the

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1. (Hickey II, 107 - 112.
(Forbes 1947b.
 2. Buffon IV, 142.
 3. See above pp. 242-4.
 4. Paterson p. 26.
 5. *ibid.* p. 29.
 6. *ibid.* p. 61.

portions particularly necessary for the study of Gordon's travels to and along the lower Orange River have been re-drawn and reproduced in the accompanying Plate : whilst Plate is of a re-drawing of those parts of Map 3 that illustrate his movements on his way to the middle course of that stream.

From Beervlei Gordon probably went on this occasion to the farm marked on his map as occupied by Basson and named Brak River. It is placed in a position that corresponds with the farm Brakke Fontein on which the town of Aberdeen was founded in 1855. The inference that he called here in 1777 and not in 1778 when accompanying Governor van Plettenberg, rests upon the fact that the latter's journal makes no mention of either Basson or Brak River.

On Gordon's journey from Beervlei he probably had time for sketching and other activities that was denied him when travelling here with Van Plettenberg the following year. Thus it seems likely that it was either in 1777 that his Drawing 63 was made, or in 1778 after he had parted from the Governor and was travelling westwards on his journey to the Hantam. This drawing measures no less than 18 ft in length by 8 inches wide, and is one of the largest of his panoramas. It is entitled, "Gesigt van de Candabe vartonenende den heelen Cirkel van den horisont en de Strekking van de sogenasnde Sneeuwbergen." Comparison in the field of a photograph of this remarkable drawing with the scene it represents shows that it was made at a point which lies about 5 miles E.N.E. of Aberdeen. Here, 150 yards south of the National Road to Graaff-Reinet is an isolated low cone-shaped koppie which is nevertheless a prominent object on the wide expanses of featureless plain. There can be little doubt but that this is the Gordons Kop shown here on his Map 3. And it may be surmised that he gave his name to it, and not to one of the many tall and distinctive peaks visible from there, because its summit had provided him with a viewpoint where he and perhaps his draughtsman had spent many hours at work on this drawing. At the base of this hillock an inscribed stone tablet bearing its long forgotten and now restored name was unveiled on 14th October 1955, on the occasion of the Aberdeen Centenary Celebrations. ⁽¹⁾

Continuing on his way, he probably took the route through the Sneeuwberg to be described below in discussing Van Plettenberg's journey. ⁽²⁾ If Gordon climbed the Compassberg as he is said to have done, it was probably now that he did so and not in 1778 when accompanying the Governor on an itinerary that seems to have left no

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1. (Aberdeen Post, 20 May 1954: 13, 20, 27 Oct. 1955.
(Forbes 1955 p.4.
 2. See below pp. 291-2.

time for such excursions. On the latter occasion Gordon is actually said by Lichtenstein to have accompanied Van Plettenberg to its summit⁽¹⁾ which is improbable. From Hickey's account of his ascent of Table Mountain there is no doubt that Gordon enjoyed mountaineering⁽²⁾ and the top of the Compassberg offered him in unmapped territory an obviously advantageous viewpoint from which to comprehend the lie of the land. Barrow stated the Compassberg was so named by Gordon because streams flow from it in all directions⁽³⁾ whilst Lichtenstein said it was because of the fine all-round view afforded from its summit. When Lord Macartney wrote during his visit to the Cape in 1785 that "7,000 ft. is the highest land in the country, 32° S Lat. 6° E Long. from the Cape, observed by Col. Gordon"⁽⁴⁾ there is no doubt that the reference is to the Compassberg which is roughly in this position on Map 3, where however no indication of its height is recorded. This statement does not clarify whether or when Gordon climbed the peak; but it is worthy of note because it probably was the highest point he had seen in South Africa, and because it shows that he was not prone to exaggeration, its actual height now being given as 8215 ft.

In his entire map, the only dated feature inland is Gordon's Keeron Bergen, 22nd November 1777. Amongst these is the Mosque, a terraced conical mountain which he drew on his map in easily recognizable elevation, and is seen again in his Drawing 66 that he made a year later.⁽⁵⁾ The Mosque, as will be explained subsequently, is the feature shown on modern maps as either Chinanans Hat or Boesmanshoed. These alternatives probably arose since the Bushmen of these parts used to be known in the 18th century as the Kleyne Chinesen, Chinesesjes or Snee Kottentotten⁽⁶⁾ because of their yellow skins and almond-shaped eyes. Boesmanshoed is a distinctively shaped eminence that lies 4 miles west of the Zeekoe River and 20 miles W by N of Colesberg. The journey from Beervlei to Boesmanshoed could have been accomplished in the period 5th to 22nd November without difficulty. This visit is mentioned in statements on three of his drawings. Numbers 197 and 200 record the shooting of hippopotami in the Plettenbergs (Zeekoe) River on 20th November 1777; whilst on Drawing 66 he records that near the Mosque in his Keeron Bergen he had shot nine of these beasts in 1777. It is unknown whether this is the same Keeron visited in 1775 by a commando against the Bushmen in this vicinity.⁽⁷⁾

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| 1. Lichtenstein 1930 pp.2,23. | 5. (Molsbergen 1922 at p.302.
(Bernard 1950 at p.345. |
| 2. Hickey II, 107 - 112. | 6. (Molsbergen 1922 p.324
& 1932 p.48. |
| 3. Barrow 1801 p.243. | (Sparrman 1766 II,145,265. |
| 4. Macartney Papers.
Page from Macartney's Diary. | 7. Moodie 1838 III, 44. |

There can be little doubt that he was in search of the Groote River, reports of whose existence north of the Sneeuwberg have been discussed above.⁽¹⁾ In crossing these mountains and encountering a north-flowing stream he must have felt that there was a probability that he had entered the basin of the Groote River. The Zeekoe River certainly answered to the description of flowing "strait on towards the north",⁽²⁾ but its size must have been disappointingly small for one who sought a great river. Why he seems to have abandoned this search and turned back at Boesmanshoed must remain conjectural. The Groote River was about 30 miles distant and easily accessible across the plains to the N.E. though hard to reach by following down the Zeekoe River with its three poorts, as Barrow was later to testify.⁽³⁾ Probably Gordon lacked a guide, for he comments in a remark below his Drawing 29 on the unapproachability of the sole inhabitants of those parts, the Bushmen, who were "shyer than any wild animal".

He may have retraced his steps southwards across the Sneeuwberg as far as the Moordenaars or the Swarte River, there to turn E.S.E. and thus pass where Pearston now stands, until he reached Bruintjes Hoogte. This would have been an occasion on which he or his draughtsman had time to produce his Drawing 59, "Gesigt van de Camlebo van Bruinijns Hoogte af gesien na de west eyde."

Another occasion would have been in 1778 on his journey west after he had parted from the Governor at the Great Fish River. This excellent representation of the view has been identified on the spot by the present writer as having been made facing W.N.W. at a point about half a mile south of the summit of the present road over Bruintjes Hoogte.

From here he continued east to Agter Bruintjes Hoogte in which district on the spot where Somerset East now stands a farm belonging to a Prinsloo appears on the Gordon Map 3. Here on either this occasion or with Van Plettenberg the following year, Drawing 34 was made, inscribed thus in Gordon's hand, "De plaats van Willem Prinsloo, Agter Bruintjes Hoogte, tegen het noorden te zien, bij de Bosberg, vier uren west van de Caffer natie en Grote Visrivier." This drawing is more characteristic of Gordon's own hand than for example are Drawings 63 and 59, discussed above, which may have been worked up or finished by his draughtsman, if they were not entirely the product of the latter's hand. This drawing was made from a point

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1. See above pp. 156, 202-3.
 2. Sparrman 1786 II, 152.
 3. Barrow 1801 p.243.

about 3 miles S.E. of Somerset East, showing in the position now occupied by that town, the farm of Willem Prinsloo. The size of its buildings has, however, been exaggerated, so as to enable detail to be inserted. A note in Gordon's writing gives the height of the farm and of the mountain beyond as obtained by barometric observations. Whilst it is impossible from a modern contoured map to check his figures properly, it would appear that his result for the mountain is about 400 ft. too low and for the farmhouse about 400 ft. too high. These discrepant results were probably due to difficulty in reading the instrument and to the impossibility of applying corrections for variations in atmospheric pressure, temperature and humidity, and are no more than might be expected under these circumstances.

It was probably at Willem Prinsloo's farm that Sparrman stayed in January 1776 and heard the rumour of the position and direction of flow of the Grootte River;⁽¹⁾ whilst Swallengrebel visited this farm in October 1776 and reported that an expedition thence to that river was being planned.⁽²⁾ This was probably the expedition recorded in a Declaration made on 17th January 1778 that Joshua Prinsloo with three sons of old Willem Prinsloo and two other colonists from the vicinity of the Great Fish River had made a journey northwards in these longitudes to the Grootte River to shoot elephants.⁽³⁾ However, they had found this river impassable due to floods and thus had been compelled to return south again. The only river that could have denied passage to the north was that now called the Orange, with which their Grootte River is thus confidently identified.⁽⁴⁾ It is clear from the Declaration that this expedition must have been made before Gordon reached Agter Bruintjes Hoogte at the beginning of December 1777. On the site of Somerset East he would therefore have found colonists able to guide him to the great river for which he was probably searching.

If it may be assumed that the route shown on the Gordon Map 3, north from the present vicinity of Cookhouse was the one he followed on this occasion, it is now appropriate to attempt its description. Near this town he shows the house of Jacob Erasmus, and where he maps a tent to indicate the temporary dwelling of Esterhuyjsen is now situated Esterhuizens or Esterhuis Poort.⁽⁵⁾ Three or four miles north of this he maps Koks Kraal⁽⁶⁾ still so called, where he crossed

1. (Sparrman 1766 II, 140, 152.
(Thompson 1827 I, 55.

2. See above p. 203.

3. Cape Archives, Swellendam
3/14 of 17/1/1778.

4. See above pp. 156, 203.

5. (Bedford Division Map 1905.
(Somerset East Division Map
1929.

6. See below p. 346.

the Great Fish River at the well-known ford near its confluence with his Prehn's River. This was named after the then commander of the Cape garrison and is probably now the Ravians, whilst J. Durand's Kom is the basin in which Iynloch now lies.

He turned N.E. up the Tarika River with the Compagnies Welvarens Gebergte (now the Winterberge) on his right hand, and on his left the Pisceal Doers Gebergte which are those summits east of Gradock such as the Blandsberg, Michausberg and Barbersberg. His Starings River, named for the head of the naval establishment at the Cape, is now the Gunsteling. He then swung north up his Oereble's River, now the Vlekpoort, near whose west bank he marked in latitude 32° his Barometers Heuvel, which seems to be the Modderfontein mountain shown very nearly in that latitude in the Irrigation Department Map, $\frac{1}{2}$ - Million Series, 1936. His undated Drawing ~~17~~¹⁷, a panorama whose chief feature is the Bamboesberg, was made about 550 yards east of the bridge over the Vlekpoort River on the road between Tarkastad and Hofmeyr, and about 12 miles S.E. of the latter.⁽¹⁾ Continuing up the banks of this watercourse, he marked Chinesefontein (named for the Bushmen) in latitude $31^{\circ} 39'$ which accords with the present position of Hofmeyr. His longitude here is not far enough east, being in defect by about $22'$. The three salt pans W by S of Hofmeyr are well represented on his map. East of this town are hills between which and the Bamboesberg he went north through his Lesuw Poort which is now the Maraisburg Irrigation Scheme.

Beyond the northern front of this westward projection of the Bamboesberg he mapped the solitary Tooren van Babel, easily identifiable as the present Spitskop. This peak marks the beginning of his exaggeration of distances travelled northwards, since he placed it $5'$ north of its true position. At the Orange River near Bethulie his exaggeration was $30'$. Hence between the Bamboesberg and Bethulie the latitudes he assigned to features cannot be used for their identification without modifications. These have been effected by the present writer by re-drawing the section of the Gordon Map 3 between Hofmeyr and Bethulie so as to bring the latter into its true position in latitude, with proportionate adjustments in latitude of the features represented between these two localities. Lengthy investigation of maps supported by two field trips have led to the following suggestions regarding his route on this section which is more difficult to trace than anywhere else in all his travels.

1. Viewpoint kindly identified by J.C. Sampson, Esq., a director of the National Salt Corporation Ltd., that works the saltpans near Hofmeyr.

His Gebergte Dwaars in de Weg are the mountains south of Steynsburg which he entered at his Hartebeestpoort, now probably that which lies between Dragoespoortjie and Strydpoort. In that case his Groenen Daal is the valley at Groenvlei (Groenfontein). Thence he struck north through his Reusen Metselwerke (Giant Masonry) Poort which was presumably one that displayed aural jointing, a phenomenon common in these parts where dolerite dykes with numerous rectangular joints cause them to resemble the walls of cyclopean builders. These may occur in Strydpoort or in another of the kloofs that give access to the Steynsburg valley from the south, though search by the present writer has failed to find them. The valleys of Sir Archibald and of Lady Campbell are likely to have been portions of the valley in which Steynsburg is now situated. Emerging from the Steynsburg valley, perhaps to the N.E. of Shanks, he passed through his Schep Moet (Moed) or Take Courage Poort whose name may indicate that it was here, as would have been the case if this identification be correct, that he first encountered a northward-directed watercourse, suggesting that he had entered the basin of the Orange River. He then apparently bore off in a direction N by E so that his "diepe droege gragten" (deep dry ditches) would be the channels of the head of the Broekspruit and of its western tributary that passes through Gelligenfontein.

From this locality north to the Orange River it is far less easy to suggest the way he probably followed. When this project of identification was initiated by the present writer it seemed that the discovery of Gordon's twin peaks, Castor and Pollux, offered the best prospect of pinning down near its midpoint his trail between Steynsburg and Bethulie. A personal search of the area for these features was made by the present writer in 1948 and 1951. He was assisted by several persons resident in the area who enthusiastically maintained the quest for the elusive twin koppies after his visits. A full record of these activities by residents of the district would occupy several pages of print, and their investigations received some notice by the local paper, The Midland News. The protagonists in this search, whose aid is gratefully acknowledged, were Mr. W.H. Campbell of Steynsburg who was formerly Principal of the Cape Town Training College, Mr. Morné du Plessis of the farm Broekspruit about 20 miles N.E. of Steynsburg, and Mr. P.H.S. Engelbrecht, attorney of Burgersdorp.

On the adjusted re-drawing of Gordon's map, Castor and Pollux fall in about latitude $30^{\circ} 58'$ or somewhat north of west of Burgersdorp.

In spite of such search within this area, including an aerial reconnaissance by Lieut.-Col. Pat Murdoch, no twin peaks of the expected degree of similarity and prominence have been recognized. However, because of the faithfulness of detail generally found in Gordon's map and drawings, it would be unwise to cast much doubt upon the existence of his Castor and Pollux. The Heavenly Twins are usually represented as infants, so he may have applied their names to a pair of very minor features which for some reason unknown to us assumed an importance for him quite incommensurate with their topographical insignificance. Twin hills, one might almost say hummocks, less than 50 ft. high (so that they are mapped by a single oval contour comprehending their common base) exist on the farm Roosterhoek in latitude $30^{\circ} 54' 45''$ and longitude $25^{\circ} 59' 25''$ at the northern exit of a small poort that offers a natural route to the north. ⁽¹⁾ Indeed, this poort was on the main road from Steynsburg to Bethulie at the turn of the present century, ⁽²⁾ then continuing to offer the traveller the obvious gap in the hills, just as it may have presented itself to Gordon. This cannot have been his Ver Gesigt Poort, however, since the twins are mapped at its southern entrance. It could, perhaps, have been Vaalpoort on the Brandspruit just a mile S by W of Murrays Kop, which would therefore be his Eijkuijt.

Admittedly these tentative identifications do not agree in all respects with Gordon's cartography, but they appear to do so better than any alternatives that have been considered. ^{It seems certain that} [^] Murrays Kop would ~~seem to have been certain~~ to have been included in his map even if he had only glimpsed it in the distance; for it would be hard to find anywhere a more strikingly symmetrical spitzkop, and hence it is an excellent landmark. On this suggested identification of Castor and Pollux, as well as on the less satisfactory one (Polkop and its neighbour 6 miles S.S.E. of Venterstad) made elsewhere by the present writer, ⁽³⁾ the stream to the north of the twins called by Gordon the Buffons River after the Count de Buffon, is likely to be the Broekpoortspruit that flows N.W. to the Orange River as depicted on his map.

The nomenclature assigned to some features north of his Hartebeest Poort is interesting. The names of Sir Archibald Campbell and Lady Campbell of Ramsay present an unsolved chronological puzzle,

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1. Venterstad Sheet, 3025 DD, 1:50,000, Trig. Survey 1945.
Grid reference NBJ. 535585.
 2. Burgersdorp Sheet 1 - Million Series, Imperial Map of S.A. 1900.
 3. Forbes 1949a p.7.

since they were married (1779) and he knighted (1785) long after Gordon had completed this journey. From the Dictionary of National Biography it appears that Sir Archibald and his wife passed through the Cape together for the first time in January 1786 on their way to India where he assumed office as Governor of Madras. Thus it is hard to understand why their names feature on a journey made presumably in 1777 - 78; and though the matter is considered again below⁽¹⁾ no really satisfactory solution to the difficulty has yet been found.

Griffier Pagel was the Secretary to the States General whose interest in travel was perhaps testified by the fact that in his library was found the missing manuscript account of Simon van der Stel's journey to Namaqualand in 1685 - 86.⁽²⁾ Professor J. Allmand not only used communications from Gordon in editing supplements to Buffon's Histoire Naturelle as we have seen above,⁽³⁾ but also was one of the compilers of the Nieuwste en Beknopte Beschryving van de Kaap der Goede-Hoop published 1778, in which appeared, Part II p.57, an account of the gnu or wildebeest communicated by Gordon. He also sent a giraffe skin and skeleton to Allmand at a later date.⁽⁴⁾ Ambassador Joseph Yorke was English Ambassador at the Hague until 1780 (Dict. Nat. Biog.) Graaf Bentings Pontein was probably named after Graaf Willem Gustaaf Frederik Bentinck, 1762 - 1835, a fervent supporter of the House of Orange.⁽⁵⁾ The Robertsons Strouan Mountains were probably named after a family long connected with the Scots Brigade in Holland.⁽⁶⁾ Gordon's son Alexander was baptised in April 1786 with Alex Robertson of Strouan as godfather.⁽⁷⁾ H. de Beer, H. Meintjes and J. Durand are probably the names of farmers who accompanied Gordon on his journey. His map shows the name of H. Meintjes E by S of the Compassberg whilst J. Durand's name appears by the Prehns or Bavisans River. A Jan Durand living by the Great Fish River is mentioned in the account of Van Plettenberg's journey.⁽⁸⁾

From his map it appears that he reached the Orange River near the great bend it makes a few miles south west of Bethulie. He called the spot De Fraaye Schoot, probably a reference to good shooting of hippopotami there. When Admiral Stavorinus met Gordon at the Cape in March 1778 shortly after his return from this journey, the latter gave an account of this discovery which Stavorinus

1. See below p. 318.
2. Waterhouse p.vii.
3. See above p. 272.
4. See below p. 307.

5. Winkler Prins Encyclopaedie, Amsterdam, 1948.
6. Scottish Historical Soc. Vol.35 p.319.
7. Barnard 1950 pp.336,305.
8. Molbergen 1932 p.49.

published, part of which requires comment.⁽¹⁾ According to this account Gordon "met with the river very accidentally and unexpectedly" which, if it be true, disposes of the suggestion made above that he was accompanied by colonist guides who had visited it there before.

The latitude assigned by him to the river at this point according to Stavorinus was about 29° . This figure agrees with that given on Drawing V at the Netherlands Topographical Service, Delft, which, together with two maps and four other drawings, are attributable to Gordon.⁽²⁾ The style of Delft Drawing V particularly suggests that it was drawn by Gordon himself. It depicts the Orange River near Bethulle and carries in his handwriting a long signed inscription dated 4th May 1778. This states *inter alia* that it depicts the point he reached on 23rd December 1777 and that the latitude there was 29° . However, it is given as 30° in the very similar Drawing 29 of the Gordon Collection which will receive further discussion below. The latter position agrees with his Map 3 where the confluence of the Orange and Caledon is put at $30^{\circ} 1'$ whereas its actual latitude is $30^{\circ} 51'$. It will be shown later, however, that evidence may be adduced for supposing that the inscription below Drawing 29 could have been written on or after 4th May 1778. If this is so, then Gordon subsequently decided to reduce by 1° the distance he claimed to have travelled northwards. Perhaps damage to his instrument was responsible for his uncertainty of his latitude at a point that otherwise he would surely have ascertained with all possible accuracy. It is indeed surprising that when so much of his Map 3 is nearly correctly placed in latitude, his then most important discovery should be in serious error in this respect, and that there should be contradiction in his notes on this topic.

According to Stavorinus, Gordon was uncertain whether the Groote River he had reached here, flowed into the Atlantic Ocean. No trace of this uncertainty is to be found, however, in his Delft Drawing V or Drawing 29 of the river near Bethulle, on both of which he states it to be the same as that which reaches the sea in Namaqualand. But his journey from the latter locality up the Orange in 1779 to the vicinity of Prieska may have aimed at establishing the matter beyond doubt, as is indicated by the inscription on his map below the dotted portion of the Orange along which he did not travel. Stavorinus relates that Gordon found the river so flooded as to be

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1. Stavorinus III, 453.
 2. Forbes 1949a, p. 33 note 29. These 2 maps & 5 drawings were in 1949 temporarily at the Rijksarchief, The Hague, but have now been returned to the Netherlands Topographical Service, Delft, where they are listed thus:- Archief van Oorlog, Buitenlandse Kaarten, Litt. A5.
See Koeman 1951a.

impassable, and that he made a day's journey along its banks until "ascending a hill he saw that it divided itself into two branches towards the east". These statements are confirmed by a study of the Gordon drawings and their inscriptions.

On both the panoramas, Delft Drawing V and Drawing 29, which represent the identical view of the Orange River at or near the spot where he discovered it, the date of this event is given as 23rd December 1777, just a month after the date on his map presumed to be that on which he began his return journey from his Keerom Bergen, now Boesmanshoed. The panoramas are large (Drawing 29 measures 18 ft 6 ins by 13 ins.) and embrace about five-eighths of the horizon, from S.E. through E. and N. to West, a total of about 225°. Disregarding for the present which of the two drawings has the better claim to be considered the original and which the copy, the scene they both represent so faithfully was taken from the south bank at a point that can be ascertained accurately by viewing the position of the prominent rounded hill in the centre foreground, relative to the flat-topped hill-mass behind and to the right (east) of it.⁽¹⁾ The present writer has ascertained from a visit to the spot in 1948 that the position occupied by the artist was on a rock-strewn knoll within 100 yds of the river and some 300 yds east of the homestead of the farm Herste Stap. This house is 3½ miles upstream from the Bethulia roadbridge and is situated on the extreme N.E. portion of the now subdivided farm Bosjessens Poort of the Albert Division Map of 1902.

In the panorama the river is seen flowing from the east through what is still called the Orange Poort, just as Gordon named it. The flood waters show the presence of several transverse reefs of rock caused by dolerite dykes, whose accurate placing in the drawing is immediately recognized when viewed on the spot. On the opposite bank immediately below the prominent rounded hill in the centre foreground is now the house of the farm which in 1948 was named Florence, but is now mapped as Borderlands. Slightly left of centre of the panorama in a space between the hills the town of Bethulia is now situated. Further to the left again, the high flat-topped hill in the middle distance is now known as Krugers Kop, but is called Hertog L. Brunswijk's Berg in the panorama and Prins Willen's de V Berg on Gordon's map. Duke Lewis of Brunswick was the guardian and instructor in statecraft of William V.⁽²⁾ The left hand margin of

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1. (Koenan 1951.
(Forbes 1951.
 2. Rose p.306.

the panorama is at about the position of the railway bridge.

There is but little difference in the written remarks exceeding 600 words that appear below Delft Drawing V and Drawing 29. Differences in the given latitude have been noted above and will be discussed again below. In both the longitude of the viewpoint is estimated at about 7° east of the castle at the Cape. Actually it should be about $7^{\circ} 36'$; and in Map 3 it is placed in $7^{\circ} 20'$ which is a surprisingly accurate estimate. On this map and the two drawings the respective results of an observation for altitude are stated to have shown that the river there was 4125 ft, 3920 ft and 4020 ft. above sea-level. These are presumably English feet since he quotes the scale of Ramsden who made the barometer that accompanied him on his travels.⁽¹⁾ The figure 4125 ft. is precisely the height shown at the railway bridge on a modern map.⁽²⁾

He records his belief that this river is the same that reaches the sea in Namaqualand, but is doubtful whether it could be navigated between these points because of the great cataract (Aughrabies Falls) of which he had been told by the Namaquas at an unspecified time and place. He states that in honour of the House of Orange he gave this name to the main stream, whilst the northern tributary (now the Caledon) he named after Princess Wilhelmina, wife of the Stadholder. The name of the latter, Prince William V, is given in Gordon's map to the Orange above this confluence. He admits his ignorance of whether the river is equally full at all seasons, and comments on the summer maximum rainfall in these parts. He describes the country there as all grassveld through which a waggon easily passes over the flats between the hills. The river abounds in hippopotami, and his attempt to cross it by swimming was abandoned when three of these creatures approached him. On the banks are numerous game-pits, some 18 ft. deep, dug by the Bushmen to catch hippopotami. At a spot marked b, near the entrance to the poort, Gordon records that he fell into one of these pits. Could this have been the true origin of the story narrated to Barrow of a similar accident said to have befallen Gordon at the First Poort on the ~~Zeekoe~~ ^{Zeekoe} River?⁽³⁾

Next day Gordon visited the hilltop at the eastern end of the southern rim of the Orange Poort. Looking east from this viewpoint two closely similar rather rough sketches were made, both apparently by Gordon himself, one on 24th December 1777, Drawing 68, and the other undated, Drawing 60. They show the confluence of the Orange and the

1. See below pp. 331-3.

2. Bethulia Sheet, 1:125,000 O.F.S. Topo.Series, Geog.Sect.Gen.Staff 1914

3. (Barrow 1801 p.293.
(See below p. 295.

Caledon rivers; and their accuracy is immediately apparent when the spot is visited where they were drawn. The two reefs depicted in the river-bed are formed by dolerite dykes. When Gordon made these sketches the confluence was apparently west of its present position, and the Caledon was controlled on its west bank by the obstacle presented by these dykes. Since then the Caledon has meandered to a position a few hundred yards farther upstream (east) from the position it occupied in 1777.

Some of the drawings in the Gordon Collection have been executed in a manner far inferior to others, and it seems likely that the rougher drawings are attributable to Gordon himself. This conclusion is reached because they often bear inscriptions in Gordon's highly individual but rather untidy writing. As stated above, he was probably accompanied on this and on some of his other journeys by a draughtsman who may have executed the better drawings in the Collection and inscribed his neat and regular script beneath them, as well as on Maps 3 and 19 for example. On some other drawings a far less tidy writing appears which is clearly Gordon's since it is the same as his signature. It is possible, however, that the neat script is also his, and was executed by him when lettering carefully. The opinion of an expert upon handwriting might give valuable assistance in this matter.

Though as noted above there is but little difference in the inscriptions on Delft Drawing V and Drawing 29, the details in which they do differ are perhaps of some significance. Drawing 29, here attributed to Gordon's draughtsman, contains in its neat and regular script these mistakes:- verweskeren for verzeskeren, niet dan noorden for niet den noorden and contasy for contrey. Whatever the history of these two drawings may be, it seems virtually certain that the neat inscription containing these curious errors was copied on to Drawing 29 by the draughtsman from the notes in Gordon's hand beneath Delft Drawing V. But there is nothing to show whether both or only one of these drawings was made on the river's banks; and in the latter case which of the two it was. Perhaps the simplest explanation is that only Delft Drawing V was made at the river in December 1777, and that it was after his return to the Cape that Gordon added the inscription to it in May 1778. At some later date he then handed over the drawing and inscription to his draughtsman for copying, and told him to change the latitude to 30° . For by this time Gordon may have realized that 29° was an extravagant claim.

Another, but by no means the only other, explanation is that Drawing 29, here attributed to the draughtsman, was the original done on the spot in December 1777. After their return to the Cape, Gordon could then have copied it in May 1778 to produce Delft Drawing V and have added the long inscription. These remarks could then have been

neatly but inaccurately copied by his draughtsman on to Drawing 29, and the latitude purposely altered as suggested above.

Of the earlier stages of Gordon's return journey from the Orange River nothing is known save that the portion of it between his Riet Reebokke Fontein and Griffier Sagels Fontein was not the same as the route followed on his way north. The names on his map suggest that he returned by the western route, since the eastern contains the names Ver Gesigt Poort, Kijkuijt and Kijk Ver Berg. These are more likely to have been given when searching for a new route than when returning to known parts. He then probably retraced his footsteps to the Great Fish River and followed it south until he diverged from it to pass Komnadagga and the present vicinity of Alicedale. In 1778 he wrote at Cape Town that he had "journeyed along the beach to the Rio Infante in Kaffirland,"⁽¹⁾ and it may have been on this occasion that he did so, though he could have made the trip in 1773.⁽²⁾ By the Rio Infante he almost certainly meant the Great Fish River, though there is in fact some doubt whether this was the Rio do Infante of the early Portuguese voyagers. It is strange that no record of this side trip appears on his Map 3 which is largely a record of his own travels. On his return from it he probably met, and made his Drawing 79 of, the Gonaqua Captain Ruyter "aan dese eyde Bosjessans Rivier, 1778"⁽³⁾ as well as Drawing 81 of the same year, that gives the additional information that he was called Toena by the Hottentots and Kooahoo by the Kaffirs.

The drawing next in chronological order was apparently executed by Gordon himself, and was made three weeks after his visit to the confluence of the Orange and Caledon rivers. This is his Drawing 39 dated 15th January 1778 which depicts his Baaij de Lagoa (Algoa Bay) from the mouth of the Coega River.⁽⁴⁾ Made the next day, 16th January, his Drawing 22 is of the Zwartkops Saltpan. Beneath it he wrote that its salinity, as well as that of localities much farther inland, was due to general oceanic retreat, an explanation that seems to be derived from orthodox Neptunian views.

Drawing 42 and its description, dated simply January 1778, is also entirely Gordon's work. It is another panorama of Algoa Bay but now from the west, near Buffelsfontein trigonometrical survey beacon S.W. of Fairview. On this drawing he notes that at a point

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1. Koeman 1951a, p.455, whilst on p.454 the inscription is erroneously said to be on Map I listed on p.453, whereas it is on Map II of that list, reproduced opposite p.455.
 2. See above p. 272.
 3. (Nolsbergen 1932 p.18 plate 2.
(See above p. 210.
 4. Nolsbergen 1922 frontispiece.

on the coast which must be somewhere between Cape Recife and Schoemakers Key he found vestiges of an old wreck. There in the dunes he discovered huts built by the survivors who had apparently died of hunger as the land was then uninhabited. He found a few skeletons which he buried with the aid of his Hottentot servant. Here too lay the remains of a beautifully carved ivory box which seemed to have been the library of a Roman church. He saw on the rocks two rusty anchors and a cannon, but because of the waves he was unable to identify their country of origin. There were also pieces of black ebony wood. These indications suggest to the present writer that it was probably a Portuguese or French ship and not one from a Protestant country such as Holland or England. The presence of ebony suggests that she was homeward bound when she struck. Cannon balls and a brass cannon salvaged hereabouts in recent times⁽¹⁾ may have come from this wreck; but of this there can be no certainty, for the Zeepaard was also wrecked in this vicinity⁽²⁾ and probably others too of which no record survives.

The other drawings in the Collection that give evidence of his homeward progress parallel to the southern coast are these. No.198 dated 27th January 1778 is of a hippopotamus that he shot near the mouth of the Gantoos River, stated by him to be 200 hours by ox-wagon east of the Cape.⁽³⁾ Drawing 37 of 14th February 1778 is of Plettenberg Bay⁽⁴⁾ in the description of which he states that he named it after the Governor. This may be supported by a rather obscure remark by Paterson.⁽⁵⁾ The claim is of interest because of the generally accepted view that it was Van Plettenberg who first gave the bay its present name.⁽⁶⁾

Drawing 40, which is undated, was probably made on this journey and is the view at Knyana from the landward side of the lagoon looking seaward towards The Heads. Drawing 62 of 22nd February 1778 is of Mossel Bay⁽⁷⁾ whilst No.165 is of a bushbuck drawn on 30th February 1778 at a distance at least 60 hours east of the Cape, or about a week's journey. Hence he probably returned to Cape Town in the second week of March 1778.

There he must soon have met Rear Admiral Stavorinus and related to him the story of his journey. Stavorinus left the Cape on 2nd April 1778, and it is his account of Gordon's discovery that confirms the latter's date, December 1777, that appears on his three drawings

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| 1. (<u>Eastern Province Herald</u> , 6th & 13th November, 1948, in "The Old Spot;" & (17th September 1951. (<u>Evening Post</u> , Port Elisabeth, (15th September, 1951. | 4. Molsbergen 1922, frontispiece. |
| 2. (Theunissen p.111. (Thompson I 21. | 5. Paterson p.8. |
| 3. Buffon V. p.8. | 6. { Molsbergen 1932 p.56. { See below p. 426. |
| | 7. Molsbergen 1922, frontispiece. |

(Delft Drawing V and Nos. 29 and 66) of the Orange River near Bethulie. The casual reference to this discovery by Paterson⁽¹⁾ who left the Cape in March 1780 also supports the belief that it was made in 1777 and not at some considerably later date, as is perhaps suggested by Van Plettenberg's failure to reach the Orange as well as by other evidence to be discussed subsequently.

Journey with Van Plettenberg, Sept. - Oct. 1778.

In September 1778 Governor van Plettenberg set out from the Cape on his well-known journey to the north-eastern and eastern frontiers of the colony. The journal of this expedition was kept by Olof Godlieb de Wet⁽²⁾ and has been printed by Theal⁽³⁾ as well as by Godee Molsbergen.⁽⁴⁾ Gordon was one of the party, and marked on his Map 3 most of the route followed on the outward journey. They ascended the Hex River Pass and proceeded eastwards at the foot of the northern slopes of the Zwarteberg along the usual route to Candebo. The Gordon Drawing 65 is of Kweekvlei⁽⁵⁾ on which farm Prince Albert is now situated. This drawing shows the farm as it then was, and the faithful representation of its background of hills and mountains can be attested to by the present writer who in 1953 compared a photograph of the drawing with the actual scene. This comparison shows that the drawing was made from the top of a koppie about 100 ft. above the town and immediately on its S.W. outskirts. The artist faced E.S.E., and the site of the farmhouse he depicted must lie amongst the houses now scattered within the town's southern boundary.

Continuing to follow such the same route as that described above as having been taken by Swellengrebel, they came to Beervlei at the confluence of the Salt and Kariega rivers, and then followed up the latter to Ganna Leegte up which they went north-eastwards past Kraan Vogel Kuil (Aberdeen Div. Map 1912, Sheet 1) till they came to the Kraai River - then the Karoo - on which Aberdeen now stands. At one of the headwaters of this drainage system they spent the night of 23rd September with Gerrit Lotteringen. Next day they went east to the Candebo River on whose banks they visited the farm of C. de Clerk. A little further downstream they camped near a grazing farm of Abraham Overholster named the Zoekoegat, probably the same still so

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1. Paterson p.61.
 2. Rijksarchief, The Hague, Plettenberg Collection No.28.
 3. Theal 1896 I.
 4. Molsbergen 1916 II 61 & 1932 p.39.
 5. (Molsbergen 1916 II 66 and plate 6.
(Barnard 1950, p.343.

called at the confluence of the Gandebe and Kleine Brakke rivers. Overholster's chief establishment, which they did not visit, was probably that which is mapped by Gordon at the source of the Gandebe River. They then travelled N.N.E. between Vuilkop and Perdeberg to Christiaan Opperman at the farm Uijtkomst⁽¹⁾ that is still so called and is by the Swarte River. Up its valley the party then turned to the N.W. and so came to De Vrede (now Vrede) the farm of Johannes de Beer,⁽²⁾ which is represented in the pencil sketch, Drawing 27.

From this point the Governor made a side trip northward accompanied by a reduced party and only the most necessary baggage. Drawing 66 made at Boesmanshoed of the Governor's camp shows that only his carriage and 7 waggons made the trip.⁽³⁾ Thus unencumbered, and furnished no doubt with the best oxen and horses that the district could provide, the daily distances covered by this small party were considerably longer than usual.

The two days spent at Vrede would have enabled lightly laden waggons to proceed ahead. It may be felt that this is a necessary assumption because of the great distance covered by the Governor on his first day's journey north from Vrede; and because of two places he must have encountered en route which are difficult, but perhaps not impassable, for waggons. These are the mountains north of Tweefontein and of Doornplaats. Hence the waggons may have gone ahead by the longer but easier route through the vicinity of the present position of the town of Graaff-Reinet. Alternatively they may have proceeded ahead slowly along the direct route that the Governor's party was later to follow on horseback.

The opening stage of this journey has been described above in discussing Swallengrebel's ascent of the Sneeuwberg, for there is no doubt that the route he took here was also followed by the Governor. Briefly, Van Plettenberg set off at 7 a.m. on 28th September northward through Tweefontein, still so called though it has also appeared as Avonleigh and Awendlig on some modern maps. Here began the steep climb up the escarpment on the west bank of the gorge of the Drooge River through the present farms Perskeboom Hoogte and Kleinfontein, which brought them to Houd Constant on the summit. Before reaching the latter farm they must have crossed the Drooge River somewhere above the escarpment's rim. From Houd Constant they went N.E. over a low pass to Doornplaats. The route to this point all the way from Vrede is that shown as a road in the Graaff-Reinet Sheet, $\frac{1}{4}$ - Million Scale, 3rd edn., Imperial Series, circa 1900, so that it remained in

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1. R.L.R. 20 p.169.
 2. R.L.R. 25 p.29.
 3. Molsbergen 1922 p.303.

use for well over a century. Between Vrede and Trefontain it is still a public road; the next section as far as Kleinfontain is now a private road; whilst the portion over the pass between Houd Constant and Doornplaats is closed, having been severely eroded.

This was upon the farthest frontier of the young colony, officialdom was remote and Bushman attacks were frequent. Hence it is less surprising that the records at this time of land-grants here are few and confusing than that any are recorded at all, since a journey of hundreds of miles to Cape Town and back was necessary to complete such formalities. Thus no record seems to exist of where Carel van der Merwe Davids dwelt when the Governor halted briefly at his farm "on the other side of the Sneeuwbergs River", now the Drooge. Possibly it was at Houd Constant which this same Van der Merwe was granted in 1784.⁽¹⁾ Alternatively it could have been at Doornplaats. Thence the party could have continued on horseback N.E. over a low pass. The waggons and carriage, probably but not certainly, would have avoided this steep and occasionally rocky upward step by going round by an easier pass 2 miles further east at Ofontain Hoogte. About 8 miles N.N.E. of Doornplaats is Riviertje on the Blaauwkrantz River where, after a journey of nearly 12 hours, they may have spent the first night of this side trip "at the place of Widow Hendrik Venter named the Rietfonteyn, lying over the Riviertje." The direct distance for this day's journey was thus about 24 miles and probably not less than 30 miles by the route followed.

At 8 a.m. on 29th September they left Rietfonteyn and probably proceeded over Michielshoogte to the Diepkloof River up whose valley they certainly made their way west of the Compassberg. About 5 p.m. they stopped for the night at the farm of Barend Burgers which the Gordon Map 3 shows was over the watershed of the Sneeuwberg. The height of this farm is given, presumably from Gordon's observations, as 4,800 English feet above sea-level. How far this result is accurate is unknown because of the uncertainty regarding the place where the observation was made. In what was probably much the same locality Barrow gave this same figure for the elevation quoted from "a Dutch manuscript journal", which suggests that he had read an account of Van Plettenberg's journey.⁽²⁾

Map 3 shows Burger's farm N.W. of the Compassberg which suggests that they crossed the watershed by the Elandskloof. This would have

1. R.L.R. 32 p.5; but see also R.L.R. 22 p.13.

2. Barrow 1801 p.238.

brought them down to the farm called Kraanvogel Vallei on the Richmond Division Map of 1901 whose position agrees tolerably with that given on Map 3 to Kraane Valeij, Steph Suidt, de laatste plaats. The position on the latter of the Tafelberg, which is the present Klein Tafelberg, also fits in with this assumption. But the acceptance of these points as proofs that they followed this route creates more difficulties than it removes. In particular it makes nonsense of Gordon's portrayal of their track as following down the east bank of his Plettenberg River (now the Zeekoe) east of which he correctly placed his Wonderheuvel, still so called, and east of which they passed. It will therefore be assumed here that they crossed the axis of the Sneeuwberg by the pass, the Wagensped Poort,⁽¹⁾ that leads down to where Lucernvale and Valsdrif now lie. Thus the farm of Barend Burgers was perhaps in the vicinity of Dwarsvlei near the boundary between the farms Krugersbaken and Oppermans Kraal.⁽²⁾

On 30th September a journey of 5 hours could have brought them perhaps as far as The Willows where may have been situated "the farm of Stephanus Smit at the end of the Sneeuwbergen", the Kraane Valeij of Map 3 and Kraanvoogels Valleij of the Oud Wildschut Boek.⁽³⁾ As this was the last farm, they are likely to have been north of Cephane's Poort⁽⁴⁾ (about 5 miles S.S.E. of The Willows) which had been granted in 1772 to David van der Merwe, the elder.⁽⁵⁾ That evening they arrived at Van Heijdens Fontein, named after Capt. van Heiden of the Governor's party. This may have been the present Paardevlei, a conclusion reached from the time travelled and from the position assigned to it on Map 3 between the latitudes of the Klein Tafelberg and the Wonderheuvel. Thus the whereabouts of Van Heijdens Fontein do not seem to be indicated by the appearance on modern maps of the name Madyn at Cephane's Poort⁽⁶⁾ or of Heydon near The Willows.⁽⁷⁾

On 1st October a journey of 9 hours brought them to their Champagne Poorts River, an eastern tributary of the Zeekoe. This is the watercourse on which Gordonsfontein is now situated. The latter name does not, however, appear in the Van Plettenberg journal or on the Gordon Map 3, but is mentioned first by Barrow.⁽⁸⁾ On the evidence now available, the identification of the Champagne Poorts

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1. Graaff-Reinet Sheet, $\frac{1}{4}$ - Million Series, Imperial Map of S.A. 3rd edn circa 1900.
 2. Naauwpoort Sheet, $\frac{1}{4}$ - Million Recon. Series, Geog.Sect.Gen.Staff, 1909.
 3. R.L.R. 22 p.259.
 4. Middelburg Division Map 1901, Sheet I.
 5. R.L.R. 22 p.171.
 6. See map named in note 2 above.
 7. (Sheet 6, $\frac{1}{2}$ - Million Series, Irrigation Dept, 1936.
(Beaufort West Sheet, $\frac{1}{2}$ - Million Series, Trig. Survey 1949.
 8. Barrow 1801 p.253.

River as being at Cephane's Poort is quite untenable.⁽¹⁾ Barrow maps the latter as Cephane's Poort which suggests its origin as the Biblical name Zephaniah. A further hour's journey beyond the Champagne Poorts River brought them to camp for the night at a place they named De Wetsfontein, probably after Olaf Godlieb de Wet, the member of the party who wrote its official journal. The position of this camp remains unidentified.

On 2nd October they covered rather more than 30 miles in just over 8 hours. Midway on this day's journey as regards both time elapsed and distance covered, they were due west of their Schuilhoek, still known by this name. At 1.30 p.m. they reached their terminus, having covered about 150 miles in a journey of 4½ days from De Beer's farm, De Vrede. They named their turning-point Seydafontein, presumably after Johan Michiel Seyd⁽²⁾ the Upper Surgeon of the Governor's suite, though Map 3 cryptically assigns the alternative name Bronken Fontein to this spot, perhaps with reference to the celebrations that marked the attainment of their farthest north.

Here or hereabouts the next two days were spent, and the celebrated Plettenberg Baaken or Beacon was erected to mark the northern boundary of the Colony in these parts. The plaque and modern beacon placed by the Historical Monuments Commission on the site of the old beacon ~~is~~^{are} 400 yds. from the east bank of the Zeekoe River in the N.W. corner of the farm Quaggas Fontein⁽³⁾ and hence lies due west of Colesberg. Gordon Drawing 66 shows the Governor's encampment at the point where he erected his beacon⁽⁴⁾ which the journal states correctly was S.S.E. of the Mosque. The remarkable form of this mountain caused it to be named thus, and it appears not far in the background of the Drawing that was made facing N.N.W. It has been identified by the present writer on a personal visit to the area as the mountain now known as Chinsmans Hat or Boesmanshoed that lies west of the Zeekoe River, and whose summit is about 4 miles from the nearest point of that stream and about 5½ miles from the beacon near its east bank.⁽⁵⁾

Whilst Drawing 66 serves admirably what was probably the purpose of the artist, presumably Gordon himself, to establish the position of the Governor's camp by showing prominently in the background the unmistakable Mosque, it is not in fact an accurate picture of the scene, but a composite view. The Mosque is not nearly as close to any part of the river, or to a tributary, as it appears in the drawing,

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1. Botha 1926a, p.69.
 2. Molisbergen 1914 p.4.
 3. Colesberg Division Map 1900, Sheet I.
 4. Molisbergen 1922 p.303.
 5. See above p. 276.

but the intentional exaggeration of its size is a justifiable device for easy identification of the locality. Nor can the Mosque be seen from any point by a river in its depicted relationships to its neighbouring mountains. These are shown as they appear from a point not more than 2 miles from, and somewhat west of south of, the Mosque. The appearance of its neighbouring mountains is not exactly portrayed, their features being conventionally exaggerated. A similar but not identical portrayal of these mountains figures in miniature on the Gordon Map 3 where they are shown between latitudes $30^{\circ} 52'$ and $30^{\circ} 56'$. Even the northernmost of these figures is too far south, the true latitude of Boesmanshoed being $30^{\circ} 41'$ approximately on the Bloemfontein Sheet $\frac{1}{2}$ - Million Series, Trigonometrical Survey, 1949. There its longitude is about $10'$ further east than that assigned to it by Gordon.

Probably the next drawings to be made of this scene were by Burchell in 1813,⁽¹⁾ one of which shows the beacon in relation to Boesmanshoed in the background, which he maps as Elandsberg.⁽²⁾ The other is a close-up of the broken shaft that he found measured only 19 inches. The Grahamstown Journal of 12th and 26th September 1844 contains crude drawings of the broken beacon whose fragments are now in the South African Museum, Cape Town.⁽³⁾

The new beacon marks where the old one stood on flat featureless veld, its position there posing an enigma to geographer and historian alike. The journal gives no hint as to why the Governor halted his northward journey early one fine afternoon when no physical obstacle barred his way. The Orange River was but 30 miles distant and could have been reached across the plains to the N.E. by the following evening. Its existence not far north of this area was either suspected by, or known to, some of the frontiersmen. A commando against the Bushmen operating along the Zeekoe River in 1775 asked unsuccessfully for a guide to the Groote River.⁽⁴⁾ And, as we have seen, there are reasons for believing that a party of elephant hunters under Jochan Prinsloo had already reached it in these parts.⁽⁵⁾ There is, moreover, the strong evidence that only 10 months before the Governor placed his beacon, the Orange had been reached by Gordon, who was one of the Governor's party. He had seen it as a wide navigable river, a phenomenon which certainly merited a visit from the Governor. In addition, its position and

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1. Gubbins Collection, Univ. Witwatersrand, in one of Burchell's pocket sketchbooks.
 2. Burchell 1822 Vol. I.
 3. Inscriptions &c. p.43.
 4. Moodie 1838 III, 44.
 5. See above p. 278.

orientation suited it ideally as the natural boundary. Why then did Van Plettenberg stop so little short of this obvious river-line for placing his boundary-stone? His pillar near the east bank of the north-flowing Zeekoe River could have been bypassed innocently in this wide territory that offered so many alternative northward routes. It was indeed a futile act to attempt to fix hundreds of miles of an unspecified and invisible frontier line by a single finger of stone, microscopic in the scale of the vastness encompassing it. Perhaps the Governor was less interested in fixing a boundary than in meeting the Bushmen whose raids had been particularly severe in the Sneeuwberg the previous year. He may have wished to negotiate a peace settlement with them, just as he did with the Kaffirs and as Gordon seems to have done in January 1779 with the Bushmen N.W. of the Hartensberg. In this case the Governor's turning point may have been that at which he felt it was fruitless any longer to attempt to make contact with the Bushmen. They evidently did not show themselves, for they must have attributed warlike intentions to this large body of armed Europeans, similar to that which in 1775 under Adriaan van Jaarsveld in this very area, had misled them by a false show of friendship and had then killed over 180 of them. (1)

Nineteen years later, Barrow came here with C.D. Gerotz, then recently released from his office as Acting Landdrost of Graaff-Reinet, who had been with Van Plettenberg when the beacon was set up. Gerotz related that Gordon had proceeded ahead of the Governor's party and had met with an accident at the First Poort of the Zeekoe River, where he fell into a hippopotamus trap and staked his horse. (2) This may indicate that a search for the Orange was attempted and abandoned on account of this mishap; or it may be a mistaken reference to an event that actually occurred elsewhere. (3) Certainly Map 3 gives not a hint of this reconnaissance. When Colonel Collicie visited the beacon in 1809 he enquired expressly of Veld Commandant Johannes van der Walt why Van Plettenberg had gone no further. Van der Walt, who had accompanied the Governor to the beacon, replied that Van Plettenberg was ignorant of the existence of the Orange River, although at so short a distance, the view of it being intercepted by intervening hills. (4)

In the light of the evidence discussed above, it is extraordinary that the Governor should have been ignorant of the river's proximity; yet this seems the most likely explanation of his failure to visit it.

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1. Moodie 1838 III, 44, 45.
 2. Barrow 1801 pp.238,293.
 3. See above p. 285.
 4. Moodie 1838 V, 2.

Must Gordon, therefore, be suspected of having concealed from the Governor his visit to the river in the previous year; and if so, with what motive? It is perhaps significant that the only dated feature inland on his entire Map 3 is at this point where Gordon's Keerom Bergen are boldly marked and dated 22nd November 1777, just as they are in Drawing 66 of these features. This date may have been given twice to convey the impression that this was the most northerly point he had reached on his earlier visit to these regions. Perhaps he refrained from including in his map his route to the Orange in December 1777 until after the recall of Van Plettenberg in 1785.

Gordon certainly does not seem to have noised abroad his discovery of the middle Orange in 1777. Only two references appear to have been made to this event by contemporary writers both of whom were not resident at the Cape. Moreover, these statements were published in Europe after the lapse of at least 12 years (Paterson 1789; Stavorinus 1797 - 98). It is strange that Paterson omitted from his map the position of the middle Orange as discovered by Gordon, the addition of which would have added considerably to the interest of that document. Le Vaillant, who claimed to have been on terms of intimate friendship with Gordon,⁽¹⁾ seems to have been unaware of this discovery. Le Vaillant made no mention of it when he visited the Sneeuwberg in 1783. Nor did he map it as flowing anywhere near the longitudes of these mountains, but showed it as a short river whose course ran in an almost direct line N.E. from mouth to source. His discussions of its course give not the slightest indication that he had heard of Gordon's visit to its confluence with the Caledon.⁽²⁾

If indeed Gordon concealed his discovery, it may have been with the desire to secure for the Grootte River the name he had given to it in honour of his Prince. When he first so named it, he may not have been quite certain, as appears from Stavorinus's account, whether it was indeed the same that reaches the sea in Namaqualand. Before he was able to verify this fact he found himself near it again, with the Governor who would probably have named it after himself if he had been permitted to visit it. As it was, only its tributary, the Zeekoe, was called after Van Plettenberg, a name which seems never to have been in general use. A year later, 1779, Gordon visited the mouth of the Orange, there again gave it that name, and followed it upstream till he felt certain that it was the same he had named thus in 1777.

1. Le Vaillant 1796 I, 137; II, 466, 470.

2. *ibid.* II 173, 313; III, 96.

Resuming now the tale of Van Plettenberg's journey, he returned from the beacon in four days of hard travel to rejoin on 8th October the main party at the farm of Johannes de Beer, De Vrede. Here the Gordon Drawings 185, 183 and 184 were made on the 11th, 14th and 16th October respectively, so that if these dates are correct, at least two of them were made after the Governor had resumed his journey at 10 a.m. on 11th October. And in that case they must have been made by the draughtsman and not by Gordon who on the 15th was near where Somerset East is now situated.

Van Plettenberg and his entourage then made their way down the Swarte River and proceeded E.S.E. along the base of the mountains on a route which is roughly that taken by the present road between Graaff-Reinet and Somerset East. The names of the farmers met at their respective residences are recorded in the journal and usually agree with those on Gordon's Map 3. Lack of entire agreement may indicate that he mapped this on his previous visit when he diverged in parts from the route taken by the Governor, or when a few of the farms were under different ownership. The Governor and his party came to the farm of Willem Prinsloo, near the present position of Somerset East, referred to above in the chapter on Swellengrebel's visit in 1776, and again in the account of Gordon's journey of 1777 - 78. Here Gordon rode out on 15th October and fetched a petty Kaffir chieftain and his followers to be interviewed by the Governor.⁽¹⁾ The diarist records that the Kaffirs showed great trust in and affection for Gordon who talked to them in their own language. Their attitude was probably occasioned by his tall stature and bearing, admirably enhanced by his military uniform and accoutrements. His conversation with them in their own tongue is further proof of his linguistic ability.

1. Moodie 1838 V. 9.

Journey through the Roggeveld to the Hantaa District,
Oct. 1778, Jan. 1779.

Four days later Gordon parted from the Governor on the west bank of the Great Fish River in the vicinity of the present position of Golden Valley. Van Flettenberg's diarist records on 19th October 1778 that, "Mr. Gordon separated from us here to return to the Gandebo, there to set out on his intended journey to the N.W. and N." The course of this journey can be inferred from the fact that it appears to have been mapped by him, an assumption which is strongly supported by the numerous height-values recorded en route, and by the several dated drawings made at places he passed through. The insertion of figures showing elevation above sea-level at numerous points suggests that Gordon personally traversed this route shown on his map, since he was probably then the only traveller in this country to use a barometer. Again, there is a printed statement that Gordon shot a rhinoceros near the source of the Ganka River⁽¹⁾ which surely must be the animal on his Drawing 205 to be mentioned again below. Thus, though it cannot be taken as entirely certain that these assumptions are correct, the balance of probability is in their favour. Hence they will be taken as proved in the discussion of this journey, in order to avoid wearisome repetitions of suppositional words and phrases.

From the Great Fish River he travelled westwards below the escarpment past the present position of Aberdeen. He then turned N.W. and followed the base of the escarpment in its swing round from that direction to a W.S.W. trend. Here he came to a wood on the Buffels Rivier, now the Kariega, which is one of the only two illegible place-names on his Map 3. However, reference to his Map 19 (to be described below) shows it to be Caree Bos, which was to be visited later by General Janssens and D.G. van Reenen in 1803⁽²⁾ and by Commissary de Mist in 1804.⁽³⁾ Gordon's progress can next be traced from Drawing 205 dated 2nd November 1778, made near the source of the Ganka or Leeuwen River of a rhinoceros bull, probably that which is referred to in the previous paragraph as known to have been shot here by him. Beyond Hooi Vlakte (now Beaufort West) he crossed the Great Karroo by following down the Ganka River where on 7th November he made Drawing 295 of a *Nannopus* dove. On approaching the southern border of the Great Karroo he diverged from the Ganka up the Swarte River to visit the De Beer homestead at Queek Vlei which he

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1. Buffon V 13.
 2. Blommaert & Wiid. pp.242 - 3.
 3. Theal 1911 p.175.

had passed through with the Governor on his outward journey, and is also appreciatively mentioned by several other travellers of this period. This farm figures in one of Gordon's undated drawings, No. 65, which is discussed above. ⁽¹⁾

Thence he proceeded westwards at the foot of the northern slopes of the Swartebergen, Elandsbergen and Wittebergen, through the present position of Laingsburg, and thence to Touws River along much the same route as followed by the railway to-day. On this latter section he made Drawing 255 at his Meintjesfontein on 13th November and Drawings 240 and 298 the following day at his Jagersfontein. These places are now probably Pietermeintjes and Constable respectively. ⁽²⁾ Drawing 309 was made on 16th November at "Hartebeestfontein bij de Straat" which Map 3 shows was at or near the present railway station of Touws River.

The next place mentioned on his dated drawings is not more than a dozen miles from Touws River, namely Verkeerde Vlei, where after a lapse of almost a month he made Drawing 263 on 14th December 1778. ⁽³⁾ How and where he spent this period is purely speculative. He may have returned to Cape Town, though his map does not record that part of the journey between Verkeerde Vlei and Tulbagh. However, this does not prove that he did not make this journey. For example, in 1777 he went with Paterson from the Cape to Swellendam, yet he omitted that route from his map. He may have stayed near Verkeerde Vlei after his long journey to recruit the strength of his oxen for the next arduous trip into the arid interior which he was shortly to undertake. During this month he may have made local excursions; for example into the Klein Rogge Veld along the road he mapped from Wolvefontein, 4 miles S by W of Koup railway station. A recorded elevation of 2000 ft. along this road suggests that he travelled it. He may also have made drawings without recording upon them when and where they were taken.

His movements between 14th December at Verkeerde Vlei and ^k 30th December at the Hantam seem to be easily followed. From near Touws River station he ascended the Pienarsakloof River (his Nangas R.), and then having descended to the valley of the Dwequa, made his way up the Smitswinkel River into the Klein Roggeveld. Here modern large-scale maps show most of the places mapped by Gordon on and near this part of his route. Such are his De Fortuin, Brand Valleij, Bonne

1. See above p. 289.

2. See above p. 184.

3. Unless his Drawing 213, Cape Wild Fig, No [?] 10th December 1778, was made near Koo, some 8 miles N by W of Robertson, in which case a period of over 3 weeks is unaccounted for.

Esperance, Standvastigheid and Oranje Fontein.⁽¹⁾ The period of about 160 years that has elapsed since he mapped these farms is a long one in the short history of this young country. It is an engrossing experience to search new maps for these old names, and to see how many of them in these parts have been preserved unaltered. Original place-names are a vital part of our geographical heritage. They perpetuate the choices made by those who first dared to travel, or to settle, the wilderness. Succeeding generations cannot alter a name without violating the prerogative of the pioneers to bestow enduring titles upon their farms and on the physical features of their surroundings. The alteration of a name may hide a clue indispensable in tracing a route or the locality of an event of those distant days.

He ascended the Komsberg Pass to the summit of the Roggeveld. On the climb up from the Harroo to the rim of the escarpment no less than six heights are recorded, whilst an equal number appear on the next stage of his journey to the Hantaa. As stated previously, there are indications that he may have recorded elevations in English feet. However, the difference between Rhineland and English feet (1ft.Rh. = 1.030etc ft.Engl.) is smaller than the inaccuracies that would be introduced in his observations and calculations by fluctuations in temperature, pressure and humidity for whose proper correction no provision could have been available to him. In addition to this, it is usually impossible to know the exact spot where he made his observation. Even if this is reasonably certain, then modern maps of these parts are insufficiently accurately contoured to enable his figures to be closely checked. However, such rough checks as can be made upon them show that they gave useful indications as to the scale of the scenery, and information upon matters of practical interest such as the heights to be negotiated on mountain passes. For example, the height "boven op Consberg" he put at 5480 ft. The place where he measured this elevation is not clear, but judging from the expansive spread of the lettering conveying this information, he meant it as an indication of the general level there of the escarpment rim. For many purposes this would be sufficiently accurate, since it is in rough agreement with the indications of modern maps even if Gordon recorded Rhineland feet, of which 5480 equal about 5648 ft. English. Evidence that Gordon himself observed heights in these parts is provided by Barrow who there met a farmer who had assisted Gordon in ascertaining the elevation of the Komsberg. There is also a remark by Lichtenstein in a similar vein.⁽²⁾

1. Mossop 1947b, p.211.

2. (Barrow 1801 p.403.
(Lichtenstein 1928 p.137.

Gordon's interest in geology appears from his visit to Saltpetrekop, 12 miles E.S.E. of Sutherland, whose conical form is drawn on his map. Beneath it he wrote in Dutch, "At first I considered this to be volcanic, but on closer inspection found it otherwise, though containing much good saltpetre." This now well-known feature is actually of volcanic origin, being an ancient plug or pipe revealed by erosion of the surrounding sedimentary beds. (1) This phenomenon was then unexplained by science, so that correct identification by Gordon was impossible: but he was right in stating that it was not the type of volcanic cone then alone recognized as such, namely one of erupted lava and detrital material. What he thought was saltpetre is in fact carbonate salts.

His journey through the Roggeveld was along much the same route followed by Thunberg and Masson in 1774, but in the reverse direction. Unchanged to this day, or altered slightly to conform with modern spelling, are the names of nearly all the places mapped by Gordon on his journey north along the Roggeveld. These are Schietfontejn, Tenteldoosfontejn, De Gunst, Hottentotsfontejn, Knolle Valleij, Kruis Rivier, Vogelfontejn, Koornlandskloof, Malanagat, Klipfontejn, Zoekop, Hartebeestfontejn and Elandsfontejn. (2)

Some three furlongs south of the house on the farm now named Onder Downes, which lies $1\frac{1}{2}$ miles S.W. by S of Downes railway siding, Gordon (or more probably his draughtsman) made the drawing which is now preserved at the British Museum. (3) It is of the view seen when facing S.S.E. up the Oorlogskloof River. Perhaps H. Gouws, whose dwelling is marked in this locality on the Gordon Map 3 as having been on the latter's route, was then the farmer here. Whilst the position of this farm on that map accords with this suggestion, it may be contradicted by the record that for at least a short time at this period, Daunis was rented by Andries Gous Pietersz. (4) On the other hand there is the testimony that H.P. Gous was at the Onwetende Fontein aan den Daunis Kloof when visited by De Mist and Lichtenstein in 1803. (5)

This view of the Roggeveld drawn on Onder Downes resembles those of the Collection that are in general better executed, and are in the opinion of the present writer attributable less to Gordon himself than to his draughtsman. The opposite seems to be the case, for example in Drawing 31. "Gesigt van een Veeplants in het Kleine

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1. Du Toit p.390.
 2. Divisional Maps of Sutherland & Calvinia, both 1900.
 3. Forbes 1952a, p.87 & plate at p.85.
 4. Keapsche Geschieden IV, 45.
 5. (Theal 1911 p.134.
(Lichtenstein 1928 p.117.

"Nanacguas Land", which is further identified as Gordon's own work since the inscription is in his handwriting. (1)

From his map we may infer that he visited Akkerendam, the well-known farm on the southern slopes of the Hantamsberg. Perhaps it was here that he made his Drawing 259 inscribed "Elandsvogel, Hantam 30th Dec. 1778". The elevation that Map 3 gives for the summit of the Hantamsberg is at least 250 ft. too low, whilst that of Akkerendam near its base is about 500 ft. too high. The quantities and signs of the errors in these results are reminiscent of those he gives for the Bos^{ch}berg and Somerset East, and were probably due to the same causes.

From Akkerendam he journeyed west to the farm of Mrs. Rijk named Swellengrebelafonteijn on the northern parts of the Bokkeveldberg where Paterson was to be a visitor on at least three occasions. To the N.E. of this locality there appears on his Map 3 the Koebieskouw's Berg with Camdeni Fonteiijn at its base, names now recognizable in the Kabiskow Mts. and Camdeni River, both near Loeriesfontein. An elevation of 1910 ft. inserted at Camdeni Fonteiijn argues that he visited the spot, though his trail is not shown. This is supported by his Drawing 32 which is entitled, "Gesigt van het land op de 31^{ste} graad 3. brete, en 2 gr Oost lengte, van de Caap. Met het gesigt van de Bosjessans Craal van de Capteins Gronjam en Dorcoep, met hunne manier van Vrede Slagten, so als ik met hun maakte den 5 January 1779 bij fonteiijn Camdeni." (2) This, the most northerly point of this journey, he reached in about three weeks from the date of his drawing at Verkeerie Vlei. The drawing of the Bushmen's peace-making ceremony suggests that he travelled as an emissary of the government to endeavour to check by negotiation the raids of these savages which had already been made on the farmers of those parts. His parleys with the Bushmen on the northern frontier were a natural complement to Van Plettenberg's negotiations with the Kaffirs on the eastern boundary. From the Loeriesfontein area, Gordon presumably returned to Cape Town by the quickest route.

1. See above p. 259.

2. (Barnard 1950, reproduced at p. 349. (Wolsbergen 1916 II, 76, 283. The editor says here that the Bushmen's huts are shown in section to reveal their interiors. This is wrong, for in fact their shelters were built open on one side like a half-dome.

Journey up the Orange River to the Vicinity of Prieska,
Sept. 1779 - Feb. 1780.

The journey made by Gordon and W. Paterson to the mouth of the Orange River in July - August 1779 has been discussed above. (1) Thence they returned to the farm of Hermanus Nagelbrecht, Ellenboogfontein, which is about 4 miles west of where Kamieskroon now stands below the western slopes of the Kamiesbergen. On Map 3 the meaning of this name is given as the Grasveldberg which is in conflict with the translations of later authorities. (2) The elevation of the highest of these summits is given on Map 3 as 5265 ft. which again suggests that Gordon's barometric elevations of mountain tops tended to be somewhat low.

Unaccompanied by Paterson, about mid-September 1779 Gordon set off from Ellenboogfontein on a journey on which he "intended to direct his course to the eastward in search of a nation called Braquas, of the Caffre tribe." (3) From the returning deserter, H.J. Wikar, Gordon had already ascertained useful particulars regarding this projected enterprise.

The objects that he may have had in mind in making this trip are these. First would be the desire to ascertain whether the Groote River he had encountered north of the Sneeuwberg in December 1777 was the same as the one he had just named the Orange at its mouth. According to Stavorinus, who saw Gordon in March 1778, the latter was then uncertain into which ocean flowed the Groote River which he had reached three months earlier. This doubt was natural since the only cartographer who had preceded him at the Groote River in Namaqualand, Surveyor C.F. Brink of Hop's expedition, had shown it flowing from north to south and only assuming a westward direction a few miles upstream from Company's Drift. (4) And there were the various reports recorded by Wikar, whom Gordon had just met, of other great rivers north of the Orange, of which one was said to flow northwards. (5) This information had no doubt been given to Gordon by Wikar, who must also have stated that the Orange came from an easterly direction as far up it as he had been. To investigate these conflicting reports, and to lay down correctly the course of the Orange must have been Gordon's primary concern on this journey.

He would also have wished to investigate the navigability of the river, as can be inferred from his remarks to Stavorinus and from his notes below Drawing 29. There too is mentioned the rumored

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1. See above pp. 260-5.
 2. Pettman p.22.
 3. Paterson p.121.
 4. (Koenan 1952b, plate III.
(Mossop 1947a, pp.25,55.
 5. Mossop 1935 pp.26,31, 147,151, 159, 205 & map at p.192.

great cataract, probably the one shown on Brink's map: and Wikar having affirmed its existence, Gordon must have wished to see it for himself. We know that he was anxious to meet the Briquas or Blicquas whose material culture was superior to that of the Kaffir tribes he had met in the Eastern Cape. He probably also wished to shoot or take alive a giraffe.

By whom Gordon was accompanied upon this journey is conjectural, but it is likely that Pieter Piensar, who had been with him to the mouth of the Orange, continued in his party;⁽¹⁾ for Piensar Island on Map 3 between Upington and Buchberg was probably named after him by Gordon. Another member seems to have been his draughtsman who is credited with having assisted in making a drawing of the skeleton of the giraffe shot by Gordon.⁽²⁾ The half-breed Cornelius Kok and the Goenjesan Hottentot Gless Barond were also probably in the party.⁽³⁾

Paterson reported during the latter half of the first week of October 1779 that Gordon was about a day's journey east of him on the banks of the Orange.⁽⁴⁾ Since Paterson's position then is not exactly known, his statement is sufficient only to indicate that Gordon had not proceeded far upstream, for the latter must then have been within four or five days' journey east of Ramans Drift. There are, perhaps, grounds for belief that Gordon had struck E.N.E. along the route shown on his map from the vicinity of Concordia to Pella, from which he could have made at least a side-trip down to the Orange River. This surmise that he may have taken the direct route to Pella rests on the appearance of the results of barometric observations of heights recorded at three points along this route, whereas none appear on the trail marked along the river banks in these longitudes. Heights continue to be recorded upstream along the river as far as about long. 20° east of Greenwich. There they cease, suggesting that his barometer broke or he spilt the mercury. This assumption would explain the absence of recorded heights along the river between Pella and Ramans Drift, and suggests that he followed this riverside route on his return journey when his barometer was out of commission.

His route from the vicinity of the present position of Concordia was apparently in a generally E.N.E. direction to his Queekfontejn, now Kweekfontein. Another stage of about 20 miles in the same direction brought him to Naip or Naib, mapped by him as Heip,

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1. (Paterson pp.111,113.
(Lichtenstein, 1928 p.173.
(Theal 1910 p.214.
 2. See below p. 308.
 3. (Lichtenstein 1930 p.316.
(Mossop 1935 pp.23,199.
 4. Paterson p.123.

graaf water. The latter words indicate a place where water was obtained by digging, and these wells figure on certain modern maps. ⁽¹⁾ On these too are found the well and triangulation point Komassoe spelt Comasauwe by Gordon, and passed by him whilst continuing E.N.E. towards his Soubiesjes ^(1A) or Swart Ebbendoutboom Fontein. This is evidently the present Klein Pella as appears from its position on Map 3 in relation to his Sandfontein, still so called, ⁽²⁾ to his Commas and to his Tafelberg, now Tafelkop. His Vagevuurs Kloof is the ravine E.S.E. of Klein Pella and 6 miles due West of Pella which carries the shortest track between these places. The distance and direction from the Tafelberg (Tafelkop) to his Commas shows it to be the present Pella, an identification that is supported elsewhere. ⁽³⁾ The grazing around Pella had been granted in 1777 to a European, J.L. Riemman, but beyond this point Gordon would have encountered no more loan-farms. Here he swung E.S.E. around the mountains and so came to his Cabas Riviertje, probably near the spot now named Kabas 5 miles north of Pofadder. He continued east some distance before turning north to his Cabous, now Koboop, ⁽⁴⁾ and so came to the Orange at his Haiseses, probably now Nanseep. His route then followed or paralleled the riverbank N.E. to about latitude 28° 34' where he seems to have begun to travel due east, and so reached his Aiasa where water was procurable only by digging, probably the present Nyas. ⁽⁵⁾ Continuing east, his Garies is probably the same as Wilkar's Haris. ⁽⁶⁾ Both these names are likely to be attempts to represent the click-preceded word in Eovenste Harries with which Garies and Haris are now tentatively identified. Some 12 miles further east Gordon's map marks Cameelopardalisdoot, presumably the place where he obtained one or both of the old bull giraffes that he records having shot. ⁽⁷⁾ The elevation above sea-level of 2360 ft. that he records at this point agrees closely with the contours here on modern maps. About 8 miles more in the same direction brought him to his Gan Ny, which is probably the permanent spring now spelt Gonnulp. Continuing another 12 miles E.S.E. he passed the Aughrabies Falls to which further reference appears below. Distances between Pella and the Falls appear to be exaggerated on his map, probably because of the difficult country traversed.

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1. (Namaqualand Division Map 1916, Sheet 5.
(Little Bushman Land Sheet, 1/4 - Million Reconm. Series, Geog. Sect.
(Gen. Staff 1907. The latter series has been largely used in
(tracing the route along the Orange which is covered by the sheets
(named Pella, Schuit Drift, Kakamas, Upington, Langeberg & Prieska.
 - 1A. Mossop 1935 pp. 34, 35 map p. 192; end-map inset. Zabisies R.
 2. Wambad Sheet, 1/4 - Million Series, U.D.F. 1943.
 3. (Mossop 1935 p. 34 & end-map, inset.
(Mossop 1947a, introd. p. ix.
 4. Mossop 1935 p. 35.
 5. *ibid.* p. 54.
 6. *ibid.* p. 59.
 7. Gordon Collection Drawing 149. "Hebbende ik twe der grootsten,
ou beide oude bullen geschoten."

The portrayal of the Orange River on Map 3 is sufficiently in agreement with its true course to inspire the belief that it was laid down from direct observations and not from the account of Wikar or any other person. It far transcends in accuracy Wikar's map, a copied version of which has been recently reproduced.⁽¹⁾ Confidence in the fact that the river was mapped by Gordon and not copied by him from the work of some other explorer seems to be established by evidence that will emerge in the following discussion. The major changes in direction of the course of the main stream, the positions and names of its main affluents and of other identifiable features associated with it all testify to observation and mapping of the order of accuracy to be expected in that era on a journey through difficult country.

Of the many names mapped by Gordon up the river's course only a proportion are now identified. The absence of his travel journal makes it in many cases impossible to fix to definite features long-forgotten aboriginal names he recorded, or Dutch names he gave. Several in the former category have been established by Dr. E.E. Mossop. Most of those in the latter category are unlikely to be, because they depended upon fleeting circumstance alone. Such, for example, are De Gelukkige Val, Cameslopardalis Doodt and Hongerland. The names of the tribes he shows are often identifiable with fair certainty, but most of the marked positions of their impermanent kraals are probably irrecoverable. A personal note is struck by the naming of an island near the position of Upington as Jonge Robbert Gordon's Eijland, presumably after the eldest of his four sons.⁽²⁾ Pinaar's Eijland has already been mentioned. The island named for Sir John Macpherson is a tribute to a personal friend of Gordon who in 1767 became godfather of one of his children.⁽³⁾ They could have met about the end of 1762 when Macpherson was on his way to India where in 1765 he became Governor of Fort William in Bengal. He was superseded in this office in September 1766, and it must have been on his homeward journey that he attended the christening at the Cape in December 1767. Sully Fontein and Koning Hendrik de IV Berg commemorate personages of an earlier era, the Huguenot Duc de Sully and his royal master, the formerly Protestant Henry IV of France.

Two drawings in the Gordon Collection, both of which seem to have been drawn by himself without any assistance of his draughtsman,

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1. Mossop 1935 p.192.
 2. Barnard 1950 p.383.
 3. (Barnard 1950 p.357.
(Carter & Van Reenen pp.138,185.
(Dict. Nat. Biog.

and bear inscriptions in his handwriting, provide additional evidence of his personal participation in this journey, at least as far as the Augrabies Falls. The first, Drawing 64, depicts the hunting of giraffes, and beneath is written, "Gesigt van het land op de 28^{te} graad, 32 min. Zuid brete 3 gr.oost.lengte van de Caap de Goede Hoop; beneden de Grootte Waterval Aukorebis, in Oranje Rivier of Garieb, in het Biniquas land. Hier had ik het schoonste en singulierste gesigt in alle mijne Reizen -----".⁽¹⁾ He then describes the numbers of different kinds of big game simultaneously in view. His longitude statement of 3° east of the Cape disagrees with his map, where this meridian is drawn east of the Augrabies Falls. However, in approximately lat. 28° 52' south and long. 2° east of the Cape his map marks Caneelopardalisdoedt, which name and the drawing probably commemorate one of the outstanding achievements of this expedition in bagging one or both of his specimens of that then little-known animal. Wikar tells of seeing giraffes near Coboopfontein,⁽²⁾ but Gordon was probably the last person to record evidence which survives of having seen them south of the Orange River. The news that he had shot a giraffe must have reached the Cape by letter or by word of mouth before 23rd October 1779, when the fact was included in a letter written at Cape Town to Sir Joseph Banks.⁽³⁾ It was probably this giraffe whose killing by Gordon was recorded by Sparman at a date that must have been several years after the latter had returned to Sweden.⁽⁴⁾

This is likely to have been the giraffe whose skin and skeleton "obtained during his journey to the far north of the interior" he sent to Prof. Allamand of Leiden in 1780 to be mounted for the Cabinet of Natural Rarities of the Prince of Orange.⁽⁵⁾

In 1785 Supplementary Volume V of Buffon's Histoire Naturelle was published in Amsterdam. This volume was edited by Allamand who also wrote the first 60 pages that deal largely with South African animals. He frequently acknowledges Gordon as his source of information as well as of the drawings used in preparation of the engravings of this section. There can be little doubt that it was this giraffe shot in October 1779 whose skeleton was drawn, from which in turn the engraving for Allamand's Plate XI was made. In discussing on p.57 the circumstances under which the original anatomical drawing was made, Professor Allamand says that it was sent to him by Gordon, and concludes thus: "----- it is a monument to the zeal with which

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1. (Nolsbergen 1916 II, 202 & plate 3.
(Barnard 1950 p.356 plate IV.
 2. Mossop 1935 p.47.
 3. Forbes 1952a, p.85.
 4. Sparman 1786 II, 237, 239.
 5. (Leibbrandt, 1906 p.482.
(Jeffreys 1928 pp.45,318.

Mr. Gordon applies himself to all that is connected with natural history. To do it he had no other help than that of a few Hottentots that he was able to attach to himself, and of a soldier who served him as a draughtsman. These are those who helped him in the midst of the deserts of Africa to anatomize this great quadruped."

The second drawing, No. 20, is described beneath as, "De Grote Waterval of Cataract in Oranjes rivier bij de inwoonders Garie of Ein genaamt: hietende zij dese plaats Amkoerebies, op de brete van 28gr. 32mins. Z., lengte 2gr. 12mins. oost van de Stad de Caap."⁽¹⁾ Assisted by the late Mr. M.J. Coethuizen, one time Headmaster of the High School, Kakamas, and by aerial photographs, the viewpoint of this drawing was identified as the result of a visit to the Falls by the present writer in 1951. It was made from the south bank at a point about 1½ miles in a direct line downstream from the Main Falls, looking into the great chasm in which the river there flows. The artist faced east and drew the main stream flowing directly towards him in the gorge whose right-hand side is terminated by a smooth thin rock-buttress that in the drawing resembles a horse-tail fall. The stream that appears from behind the cliff in the right foreground is a subsidiary.

Had Gordon seen the main Augirabies Falls he would surely have drawn them rather than the gorge below them. It is of course possible that his drawing of them is lost. It seems more likely, however, that he lacked a guide to the falls through the labyrinth of islands and streams that guard them on all sides, or that floods then caused these channels to run dangerously swift and deep. On his return journey the same circumstance or combination of difficulties may have prevented him from reaching the Main Falls from either the south or the north bank. The proximity of the falls must have been obvious to him from the great discordance in the levels of the river below and above them; and under certain combinations of stream-volume and atmospheric conditions he would have seen the column of vapour above them.

He crossed to the north bank of the Orange a few miles east of its junction with its southern tributary, the Hartbeest River. His crossingplace he mapped as Takemas, the initial letter of which may have represented a click, rendered now as K, and thus suggesting that his Takemas is the modern Kakamas. This name, according to Mr. M.J. Coethuizen, is still prefixed by a click by some of the local non-Europeans of Korana extraction. It is said to mean "the charging

1. (Forbes 1949a, p.4, where however the marginal letters for identification are omitted.
(Barnard 1950 p.357.

cow" or "the angry cow" and to refer to the many incidents at this long-used and easy ford, when excited cattle attempted to break away from being driven across the river.

Gordon's map shows his trail as two parallel dotted lines south of the Orange, and as a single dotted line north of it. This almost certainly indicates that he left his waggons on the south bank at or near Kakamas, and continued the journey upstream on the north bank with pack-oxen and perhaps horses. Five miles beyond Kakamas, on the south bank, a series of hills commences, which comes right down to the river. These would be difficult for waggons to traverse, and would need a long and waterless detour to pass them. This obstacle would have strongly suggested crossing the river at this easy ford, especially as it would have accorded with his desire to meet the Brikwas whose territories lay north of the river. He may have left his waggons on the south bank because of the flooded state of the river, or in anticipation of summer floods which he feared might long detain his vehicles on the northern bank. Proceeding without them would also have ensured a more rapid advance.

Shortly after his crossing, he passed through his Klip Poort which is likely to have been the gap now used by the railway, and in which Neushak station is now situated. The hill he maps at Moebees is the prominent isolated koppie next to which the village of Keimoes is now situated. His detour away from the river at the northern part of its bend was around the hills 5 miles east of Upington, but they do not offer a sufficient obstruction to account for his avoiding them thus. Perhaps he left the river in search of the Mostjoananas, to which people a road led from that point as his map correctly states. (1) Lack of water probably caused him to return to the river again. His Schoonsigt is near Grootdrink and his Hoog Klip Rug is the Karsboom Hills.

It will be shown below that the latitude positions of the great south and north bends of the river east of Kakamas and of Upington respectively were mapped by him with remarkable accuracy. There is thus support for placing some reliance in the positions in latitude assigned by him to other features on the eastern half of this journey. Thus his latitude is correct for his Draaij Eilande (Turn Islands) which are those at Kheis, the only place on this stretch of the river where islands occur on a bend. His Koraqua Klip Poort on lat. 29° is at the Buchberg, but not at the dam by this name which is some 7 miles further upstream at the Eselberge. From their respective latitudes on Map 3, his Hoekingeis is near the present Zeekoebad (or Zeeko

1. Mossop 1935 p.147 footnote. "At this bend ----- the route to the Blicquas turns away."

Baart) and his Albaster Klip near Pypwater. The Tweede Noekeis at his final bend in the river agrees in latitude with the position of Koegas where just such a curve occurs.

Mossop has identified Hoekingais and Albaster Klip as near Koegas and Kliphuis (4 miles below Prieska) respectively. ⁽¹⁾ Wikar explained why he marked his Husingais (Hoekingais) south of the river. ⁽²⁾ When Gordon reached here, these people must have moved their krasl back to the north bank where he shows it. This may not have been to its previous position, but further downstream, for Wikar put Husingais at 4 skofts from Kouringais (Goeringneis) whereas Gordon seems to have done it in 2 skofts. This impression is derived from the circles on his map which presumably mark his camps, each one skoft or a day's journey apart. ⁽³⁾ Mossop has identified Kouringais (Goeringneis) as near Kheis, which is probably correct, and the distance from here to Zeekoebad, identified above as Hoekingais, is about 25 miles, a distance that could have been covered on foot or with horses or pack-oxen in 2 skofts. Mossop appears to err, however, in placing the point beyond which Wikar did not travel, Hoekingais, near Koegas. Besides the discrepancies in latitude and disagreements in topography involved in the acceptance of this identification, it fails also when a comparison of proportionate distances is made. Gordon seems to have travelled 6 skofts above Hoekingais. The next feature he named is Albaster Klip, identified by Mossop as Kliphuis, about 40 miles upstream from Koegas which is Mossop's Hoekingais. The distance on Map 3 from Hoekingais to Albaster Klip is, however, about one-fifth of the length of the journey mapped by Gordon beyond the former place, so that on these identifications he should have gone 200 miles upstream from Hoekingais, wherever situated. In fact he does not seem to have done so; for a mere 50 miles beyond Koegas (Mossop's Hoekingais) and 10 miles beyond Kliphuis (Mossop's Albaster Klip) the great bend in the Orange at Prieska is reached. Gordon's Map 3 gives no evidence that he reached this long stretch of the river above Prieska that flows from the N.E.

The unusual appellation Albaster Klip, meaning Alabaster Cliff or Rock, suggests that Gordon had noted an occurrence of this mineral, calcium sulphate, or of fibrous calcite which is very similar in appearance. Hoping to verify this hypothesis, the present writer in 1951 made a hurried reconnaissance of the east bank of the Orange between latitudes 29° 10' and 29° 18' but saw not a trace of either of these minerals. However, the probability cannot be dismissed

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1. Mossop 1935 pp.15 - 19.
 2. *ibid.* p. 173.
 3. (*ibid.* p.104.
(Lichtenstein 1928 p.19.

that Gordon may have found one or other of them in this locality; for he encountered hereabouts for the first time on his journey up the Orange River, geological formations that contain these minerals. Alabaster occurs in both the Campbell Rand Dolomite and the Lower Griquatown Series,⁽¹⁾ whilst the latter in places contains veins of fibrous calcite up to 9 inches thick.⁽²⁾

Upstream from Albaster Klip the next identifiable point is his Tweede Noekais which was evidently at the present Koegas; for not only do their latitudes agree within a minute or two, but also they are both just above a significant eastward bend in the river. The point on his map where a long southern tributary joins the main stream at Nancan Eis checks exactly in latitude with the confluence of the watercourse directed N.W. from the railway station at Fransenhof. The Orange River at Arebe Eijs he mapped in latitude 29° 30', and since it seems to have been his turning point, he would probably have made his observation there with particular care. In latitude 29° 29' on the farm Klein Naauwte is situated the poort that is the first point upstream from the Aughrabies Falls where a traveller with pack-animals would find his progress along the river bank barred by impassable cliffs. Only a man can pass there along narrow ledges. This obstacle, it is true, could have been turned by a detour away from the river. But this he apparently did not do; and here where the trail ends on his map it is reasonable to suppose that he turned back at the point now identified as the poort on Klein Naauwte, 15 miles N.W. of the present town of Frieska.

He recorded on the north bank names that appear also, but not always in the same spelling, in Wikar's narrative. These are Naukeijs or Snijkraal, Ogoqua or Smal Wangen, Geisiqua, Koraqua, Coeringneis and Boekingeis. Professor J.A. Engelbrecht of the University of Pretoria has kindly scrutinized the following suggestions for the identities of tribes which Gordon met beyond Wikar's farthest point upstream: and whilst approving some, has stressed that others should not be accepted without further research. The Tweede Noekais are the Swart Volk.⁽³⁾ The Nancan Eis may possibly be the Karoshebbers.⁽⁴⁾ The Koraqua or Kora Eijs are the Korana. The Grootse Toenskoë Eijs are possibly the people of captain Knaughoe of the Tsaibosch Koranas.⁽⁵⁾ The Arebé Eijs, whom he found at his turning point are probably the //? Are-na-//?eis.⁽⁶⁾ Far beyond

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1. Letter dated May 1954 to the author from Mr. R. Greenberg who has done geological fieldwork in this area for a Ph.D. thesis, Univ. of S. Africa.
Geol. Survey Cape Colony Map Sheet 40, Marydale, 1910.
 2. Letter dated March 1954 from Mr. A. King, Manager Cape Blue Mines, Koegas.
 3. Engelbrecht p.48.
 4. *ibid.* p.19.
 5. Maingard 1932 p.154.
 6. (Maingard 1932 p.161.
(Engelbrecht p.47.
(Hosop 1935 p.232.
// = lateral click.

here he shows on the north bank of the Hey Gariëb (Vaal R.) a group of huts marked Hottentotten Taubqua Bordes, who may possibly be the t'Kouwyqua or Zeekoeneemers of Albrecht. ⁽¹⁾

Though the English edition of Lichtenstein says that Gordon met near Prieska a colony of emigrant Bastard-Hottentots, ⁽²⁾ the Dutch edition is probably more reliable in its far less explicit statement that this meeting was somewhere near the Orange River. ⁽³⁾ If this is so, the Bastards referred to may have been those at the kraal of Claas Barend (near Breësend in about longitude $18^{\circ} 40'$) who were visited there by Wikar: ⁽⁴⁾ but nowhere along the course of the Orange are Bastard kraals mentioned as such on Gordon's map.

As we have seen, it is notable that those points on the eastern portions of this journey that can be identified with certainty are remarkably accurately mapped in latitude by him. In this respect the northernmost bend of the river just east of Uppington is correctly placed, whilst the southernmost part of the bend just east of Kakamas is about $1^{\circ} 30''$ too far south, a negligible error at that time and under those circumstances. West of Kakamas he placed the northernmost part of the great bend about $6'$ too far north; but he may not have visited it to take observations, as his track here was far south of the river. Proceeding further west, his latitudes become progressively more defective (too far north), presumably in an attempt to join his work to that of Brink. ⁽⁵⁾ His map and journal give the latitude of Companys Drift as $28^{\circ} 42'$ which seems to have been adopted by Gordon though it is $11'$ too far north, its true position being about $28^{\circ} 53'$.

As we have observed, Gordon seems to have turned back shortly before Prieska. Why he did so may never be known, but it can be suggested that one reason was that he felt positive that he had established that the river whose banks he was on, was the same he had visited near where Bethulia now stands. His exaggerated estimate of the distance he had travelled eastwards must have supported this conviction. It was no doubt the arduous travel over difficult country that principally led to overestimates in the dead reckoning of his longitude positions, whose excess becomes progressively greater as he travelled upstream. At Comas (Pella) his reckoning was $5'$ in excess; at the Anghrabies Falls $30'$ in excess; whilst this figure had increased to $37'$ at the northernmost point of the river just east of Uppington. At his turning point he put himself $5^{\circ} 10'$ east of Cape Town. Since it has been shown

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1. Maingard 1932 p.161.
 2. (Lichtenstein 1930 p.301.
(Hoge 1948 p.88.
 3. Lichtenstein 1815 IV 171.
 4. Mossop 1935 p.25.
 5. (Mossop 1947a, p.27.
(Koenen 1952b, plate III.

that he is unlikely to have been beyond Prieska, whose true longitude is $4^{\circ} 19'$ east of Cape Town, his overcalculation at his turning point amounted to at least $51'$, a distance of about 50 miles in that latitude. By at least this distance, therefore, did he underestimate the difference in longitude reached on this journey and the longitude in which he mapped the confluence of the Orange and Zeeke rivers, which was happily (and probably fortuitously) less than $1'$ in error.

Unsuspecting how great a northward bend the river makes above Prieska - of which Wikar too seems to have had no inkling⁽¹⁾ - he drew its course continuing upstream in an E.S.E. direction to accord with its direction of flow mapped near Bethulie. His observation written along his assumed course of the river confirms this view, and may be translated thus. "This dotted portion is the further supposed course of the river, which is exactly of the same width and with the same vegetation where I have been at the double lined parts." Beyond his farthest point upstream on this journey he shows the Orange forking into two branches, the northern or Ney Gariep being later called the Ky Gariep (Yellow River) and finally the Vaal. The southern or Noe Gariep, meaning the Black Gariep, is the main stream of the Orange, frequently referred to as the Zwarte River in the early nineteenth century. He had certainly demonstrated how erroneous was Brink's portrayal of the course of the Orange: and the reason why this error had arisen is noted by Gordon on his Map 3. Here he explains that because the name of the south-flowing tributary of the Orange, the Gaiab (spelt Kaikaap by Gordon), means Great River in Hottentot, Brink had been led to identify it with the Grootte (Orange) River.⁽²⁾

At the outset of this journey by Gordon it was noted that one of its chief objectives is said to have been to meet the Briquas. That he succeeded in doing so is established by the drawing of these people and the long note describing them that enrich his Map 3. Here they are usually referred to as the Moetjoansas, but the Hottentots called them Birinas or Briquas. These were the Ba-Thlaping a people of mixed Tswana (Bechuana) and Korana blood, the former predominating. This meeting presumably occurred on the north bank of the Orange. "Weg na de Moetjoansas", he marked some 20 miles N.E. of Upington, whence diverges the shortest route to the Tswana territories. However, he apparently did not follow this path, for his route is shown never to have led far from the river. Since he probably did not visit the territory of this tribe, the large water-

1. Mossop 1935 p.146 footnote; p.159

2. Mossop 1947a, pp.38,54.

colour picture on his map entitled "Moetjoanaas Huijshouding" probably depended largely on their descriptions of their activities.⁽¹⁾ Of interest in the picture is a child with a bow, which was not a weapon of the Tswana culture, and thus points to the mixed origin of the Ba-Thlaping. The picture is supplemented by a long written account of about 800 words, describing their customs, possessions and language. His opinions are given regarding the distribution of the two great native races of Southern Africa, now known as the Bantu and the Khoisan peoples respectively. He believed them to be divided by a line drawn from Cape Negro in 14° south latitude on the west coast to about 33° south latitude on the S.E. coast. It seems to have been this statement which, in a garbled version, was attributed to Gordon and criticized by Barrow,⁽²⁾ who probably had it from hearsay since there is no evidence that he had ever seen Gordon's map.

A translation of part of the above-mentioned description follows here, since besides its general interest, the statement it contains that Gordon had himself met the Moetjoanaas, is additional evidence of his personal participation in this journey. "This people is named by the Hottentots the Birinas or Briquas, and they are the most civilized of all those I have found in my journeys in the southern part of Africa. Birina or Briqua means goats in the Hottentot tongue, and these people have many goats, which animals they chiefly barter from the Hottentots for iron which they obtain, after it has passed from hand to hand, from the Portuguese of Mozambique and the Rio la Goa.⁽³⁾ They [the Briquas] are very good ironworkers. They told me that further north were the rivers Khatce, Magesnj and Koang, the last being very big according to their account, on which they travel with canoes made from trees. However, they did not know whether this river runs into the western or into the eastern ocean. This may well be the Rio la Goa which reaches the sea in 26 degrees. This people has never heard of the sea."

To identify these three rivers with certainty is impossible. Probably named in a language other than that used by his informants, there was then the task of rendering them into Dutch. For it is often difficult to hear correctly some of the sounds of an unfamiliar tongue; and then, in the absence of a standard orthography, there is the task of selecting a combination of letters to represent them. Moreover, these rivers are perhaps known to-day by names derived

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1. Molsbergen 1916 II, 204, plate 12.
 2. Barrow 1804 p.119.
 3. Lichtenstein 1930 p.409. "the notion of white men -----from the east."

from yet other languages, so numerous were the tongues then in use in that region of great tribal unrest in the following century. However, the mention of canoes made from trees is interesting as the first record by a traveller from the Cape of their use in the interior regions north of his turning-point. The information probably referred to the waterways surrounding Lake Ngami where hollowed out canoes have long been used. This is supported by the indication he recorded that the Koang River was north of the Geisiqua who dwelt S.W. of the Tswana peoples. There may have been no Lake Ngami then, since it is on record that about 1760 - date very uncertain - it did not exist, but a big river flowed across the area which later became the lake.⁽¹⁾ Dr. H.J. van Wanselo, Government Ethnologist, in a valuable letter to the present writer, gives it as his opinion that the Okavango area was meant. There canoes are an obvious need and have long been used. By contrast, the upper waterways of the Limpopo system are unsuited to canoes since they are often nearly dry, and when flowing are frequently swift and interrupted. He points out, further, that contacts existed which enabled information about canoes on the Okavango to reach the vicinity of Uptington; and that all early travellers to these parts from the Cape received more information about the Kalahari than about the Northern Transvaal. Dr. H. Vedder of Okahandja has favoured the present writer with a detailed linguistic examination of the problem whether the Koang River is likely to have been the Okavango, and concludes by supporting this view. Another pointer to the same conclusion may be that an area called the Kung Veld lies adjacent to the Okavango River,⁽²⁾ both names possibly having a common origin. Gordon's Mageenj could be the Marts River, referred to as the Malalareen by Campbell⁽³⁾ and the Maquareen by Thompson.⁽⁴⁾

Whilst Gordon did not map the three rivers mentioned in the preceding paragraph, he did depict two others in the Tswana territory, the Koeroemana, and tributary to it from the south, the Noekanena. The former is clearly the Kuruman, tributary of the Moloopo, which is a northern affluent of the Orange. His map, however, omits to name the Moloopo and calls the river the Koeroemana throughout its course. The Noekanena River may be the Nokaman River visited by Campbell in July 1820, when he recorded the information supplied by the chief of the village Chopo, situated on its banks. "His forefathers, like himself, always lived near the Nokaman River. He well remembered

1. Schwarz 1928 p.81.

2. Wellington 1949 p.63.

3. Campbell 1815 p.236.

4. Thompson I, 196 etc. Actually this is the Matlhwaring River. *S.S. Forster. May 1967.*

when it was a considerable stream, running into the Kuruman [Kuruman] River, but it dried up -----".⁽¹⁾ Campbell's narrative suggests that his Nokaman is the watercourse now mapped as the North-flowing Ganasara or Nkashu Valley east of the Langebergen. Wyld's map of 1844, however, shows the Nokaman River (the same, since Chopo is marked on its banks) south of and parallel to the Kuruman River, but indicated by broken lines as probably flowing southward as a direct northern tributary of the Orange.⁽²⁾ It is given this course, also on the Surveyor General's Map of the Cape of Good Hope Scale 1:800,000, 1895, where it is shown rising on the western slopes of the Langebergen in lat. 28° and taking a southerly direction to join the Orange east of Kheis. It is this course of the Nokama that has been used by Maingard in his discussion and map of the position of the ~~Settling~~ ^{Ba-Thlaping} settlements on its banks.⁽³⁾ In the Irrigation Department ½ - Million Map of 1936, however, the Nokama River has been moved to the west of Kheis, and is a much attenuated watercourse shown as rising on the extreme S.W. slopes of the Skurweberg. This seems to be the strange tale of the migration of a name from a large north-flowing tributary of the Kuruman to a short southward-directed tributary of the Orange. Gordon's mapping of his Noekama apparently agrees with Campbell's printed statement of its course, but not with that depicted by later cartographers.

Gordon records on his Map 3 the names of seven tribes that were reported to dwell in the territories north of the lower Orange. Suggestions as to their identities can be made with varying degrees of probability. His Matjoence are probably the Tswana, otherwise known as Bechuana, the latter name being "simply the plural of Mochuana, a single individual" of that tribe.⁽⁴⁾ The suffix ee possibly stands for the Hottentot suffix qua,⁽⁵⁾ often used to form a tribal name: alternatively it may represent the Hottentot or Bushman word khoi⁽⁶⁾ meaning "a person." The use of ee appears to indicate that his informant in this case was probably either a Hottentot or a Bushman. Lichtenstein gave the name Muhtjuana as an alternative for Bechuana.⁽⁷⁾ Gordon's Macarigari are the Kgalagadi or Makgalagadi.⁽⁸⁾ Robert Moffat used the spelling Khalagari for the desert in which these people dwelt,⁽⁹⁾ whilst in Burchell's map it is given as Karrikarri. This amply illustrates that when an

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| 1. Campbell 1822 II, 128.
(Burchell 1853 II, 346, 361. | 5. Beach, p. 5. |
| 2. Beckhouse, contains Wyld's map
at end. at end. | 6. Bleek. |
| 3. Maingard 1933 p. 600. | 7. Lichtenstein 1930, p. 407. |
| 4. Moffat 1842 p. 226. | 8. Kirby 1940 p. 271. |
| | 9. Moffat 1845 p. 339. |

unwritten language is encountered for the first time it will have many of its words spelt differently by different persons; for it is often difficult to record its sounds properly, and a standard of spelling has yet to be evolved.

The Bapuroeboeckana,⁽¹⁾ rendered as Bapuroo-chuana by Andrew Smith⁽²⁾ are the Fndukutswana. The Barolo are the Barolong. North of the Geisiqua (who dwelt near Upington), and hence W. or N.W. of the Tswana, Gordon was told there lived the Borroemana and Morroena, beyond whom to the north lay the great Koang River. These two tribal names may have been given to him by different informants and have referred to the same tribe, again the Barolong: for they could be attempts at rendering the plural and singular respectively of Barolong. Morroena is reminiscent of Lichtenstein's Murublong and of Burchell's Marruomas,⁽³⁾ different spellings for the same division of the Barolong people.

Farthest north of all, Gordon recorded, were the Schoenareba, Capii⁽⁴⁾ or Capeticoe⁽⁵⁾ from whom was obtained iron in bars. The first of these names suggests that they may have been the Shona who were the great blacksmiths of the interior⁽⁶⁾ and were neighbours of the Tswana⁽⁷⁾ until they were driven north by the Ndebele (Matabele). The two latter names of the three, however, seem to point to the Bapedi people, known earlier as the Bapiri.⁽⁸⁾

A small note beside the same illustration of the Moetjoanans mentions that amongst these people "there live some separated families of Geisiqua who have intermarried with them and call themselves Dousiqua, Coriaqua, Curiqua and hama Curiqua." These names are an interesting supplement to Wikar's observations on these people of mixed origin.⁽⁹⁾

Gordon's record of the names of the tribes of Bantu stock in and near the region now called Bechuanaland is perhaps more valuable than his mention or mapping of the Korana tribes along the Orange, since the latter work was largely forestalled by that of Wikar. This list of Bantu tribal names is probably the earliest available for this region of which otherwise practically nothing is known save from Native traditions. Hence his record has a singular ethnogeographical significance.

He probably returned to the Cape in February 1780 as appears

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1. Gordon Collection Drawing 160 mentions "het Bapuroeboeckana Capii land, agter de Bosjanans."
 2. Kirby 1939 p.353.
 3. (Lichtenstein 1930 p.408.
(Burchell 1953, II, 375.
 4. Capii also appears in note 1 above.
 5. Again the suffix is possibly of Hottentot or Bushman origin.
 6. Stow pp.142, 531.
 7. Kirby 1940 p.222.
 8. *ibid.* See index, Bapiri.
 9. Mossop 1935, see index, Gyziquoas.

from two remarks by William Hickey.⁽¹⁾ Strangely enough these racy reminiscences seem to be more accurate in this matter than the staid official narrative of Cook's voyage by Capt. James King, who related that Gordon only returned to the Cape after the arrival there of the Discovery and Resolution on 13th April.⁽²⁾ In the first edition of this work, King erroneously refers to his "intimacy and friendship" with Gordon "on our former visit here" -- a manifest impossibility as Gordon then (Oct & Nov. 1776) had not yet returned to South Africa. This error is, however, omitted from the second edition.

This journey, which was probably the most difficult and certainly the most important that Gordon accomplished, must have considerably enhanced his reputation as a traveller, so that though he was still a comparative newcomer in this country, his knowledge of it was incontestable. Indeed, a shrewd appreciation of the potential value of this qualification may have been one of the motives underlying his journeys. Thus, when on 2nd March 1780 (i.e. before the date of his return, according to Capt. King) he was recommended by the Governor's Council for promotion to be Commander of the Cape garrison, that body resolved that "the post could be entrusted to him with full confidence, the more so since he has travelled in the interior as far as has never been done by anyone before, and has thus thereby obtained a thorough experience."⁽³⁾

Journey of 1785 - 86 and others.

A solution to the problem of the naming on his Map 3 of certain features north of the Bamboesberg after Sir Archibald and Lady Campbell⁽⁴⁾ seems at first sight to be offered by supposing that Gordon may have met them in January 1786 shortly after returning from a second visit to those parts. That he was on a journey in the interior when they reached the Cape is known from a letter by Francis Masson who arrived here for his second visit on 10th January 1786 in the same ship, the Earl of Talbot, in which the Campbells were passengers.⁽⁵⁾

Writing on 21st January 1786, Masson stated that "Colonel Gordon is in the back country, and is expected home in a month". A month later, on 20th February 1786, Olof Godlieb de Wet sent Van Plettenberg

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1. Hickey II, 222, 235.
 2. King p.484.
 3. Jeffreys 1928 p.25.
 4. See above pp. 281-2.
 5. (Britten 1884 p.119.
(Leibbrandt 1906 p.788.

a letter, part of which may be translated thus. "Colonel Gordon travels again over the summits of the mountains and through dreadful and previously unvisited kloofs and defiles With this he has now again been occupied for a little more than three months.....".⁽¹⁾ This points to mid-November as the date of the commencement of this journey. It is supported, moreover, by a statement from Gordon's own hand that on 22nd November 1785 he observed the effects of a great snowstorm on the Roodesandsberg,⁽²⁾ near the present Tulbagh, from which he therefore cannot have been very far at that time. Further support is given by the fact that whereas he was present at the meeting of the Council of Policy held on 17th November 1785, he was absent from its next meeting on 29th November, and attended again only after the lapse of over 4 months on 4th April 1786.⁽³⁾ If this was because he only returned to the Cape about the end of March, the supposition is demolished that he met the Campbells in January 1786, for they sailed from Cape Town on the 29th of that month⁽⁴⁾ and the question remains unanswered as to when and why he placed their names on his map. Campbell passed through the Cape for the last time homeward bound in 1789 and died in London two years later. It could have been on this last visit that Gordon met him and inserted his name, as a useful addition to those of several other influential persons in Europe, on his Map 3 as well as presumably in the now missing manuscript account of his travels, in order to stimulate the sale of his projected book.⁽⁵⁾

Where and why he travelled are closely related questions for whose solution there is at present insufficient evidence. He could have gone again north of the Sneeuwberg to the vicinity of Bethulie to assist in establishing the boundaries of the new district of Graaff-Reinet.⁽⁶⁾ Combined with this he could have made a journey along the south coast that would have accorded with a resolution of the Council of Policy which, shortly after the English landing from the Pigot at St. Francis Bay⁽⁷⁾ agreed upon the importance of placing military detachments at Mossel, Plettenberg, St. Francis and Algoa bays.⁽⁸⁾ Indeed, the foundation of the drostdy at Graaff-Reinet is said to have been in some measure an outcome of the Pigot episode.⁽⁹⁾

The unprecedented cartographic activity at the Cape in 1785 - 86⁽¹⁰⁾

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1. Nolsbergen 1916 II, 64.
 2. V.C. 170 p.15.
 3. Cape Archives, Resolutions, C 78, 79.
 4. V.C. 34. 29th Jan. 1786.
 5. See below p.337 note 1.
 6. Theal 1910 III, 174.
 7. See above pp. 252-3.
 8. Cape Archives, Resolutions C.77 p.494.
 9. (Wilmot & Chase p.197.
(Leibbrandt 1906 p.499, Reports of landings to be sent to the landdrost
 10. Koeman 1952a, pp.83 - 93.

may have arisen largely because the new Governor, Van de Graaff, had been an engineer officer, but it is not unlikely that the English landing gave added incentive for the mapping of the south coast. This conjecture is strengthened by the fact that the place where the Pigot anchored is shown on at least two maps of this period. (1) Friderici and Jones ^{may have} begun their great map of the south coast in 1785 (2) whilst in 1786 Duminy charted St. Francis and Plettenberg bays. (3) This cartography would have been of considerable interest to Gordon whose tastes obviously lay in that direction, and it is conceivable that he may have accompanied the surveyors to initiate the work, or that he may have paid them a supervisory visit.

In October 1785 Gordon told Lord Macartney, then at the Cape on his voyage from India to England, that perhaps one lady survivor from the Grosvener was still alive in Kaffirland. (4) Presumably this rumour had reached Gordon through frontier farmers visiting Cape Town, and there can be little doubt that feelings of humanity as well as of chivalry must have urged him strongly to investigate the story fully at its source. This he seems to have done, for Lieut Bligh who was at the Cape in 1788, wrote that Gordon told him then that "in his travels into the Caffre country, he had met with a native who described to him that there was a white woman among his countrymen, who had a child ---". (5) It seems highly probable that his journey into Kaffirland was the one begun shortly after Gordon and Macartney met in October 1785. Since the Grosvener was wrecked in 1782 the journey referred to by Bligh cannot have been either of those made by Gordon into the eastern Cape in 1777 and 1778 respectively.

Any of the routes suggested above for his journey of 1785-86 could have given rise to the exaggerated tale reported by Colonel Nogueira de Andrade, Commandant of Mozaambique, who in 1789 spent three weeks in Cape Town, and opined that Colonel Gordon had spent 12 months in trying to find a land route into Portuguese territory and was conducting intrigues with the Kaffirs in order to capture the trade of Delagoa Bay. (6)

There is no evidence as to what persons, if any, apart from his usual entourage, may have accompanied Gordon on his journey of 1785-86. Excluded by their dates of arrival are Francis Masson who returned to the Cape for his second stay in January 1786; and the Austrian plant collectors Boos and Scholl who reached here 5 months later. One or more of these three may, however, have accompanied Gordon later, as they are said to have done, for example into Namaqualand. (7)

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| 1. Koeman 1952b, Plates V & XI
where it is spelt <u>Pigon</u> .
(More probably begun 1785.) | 4. Macartney Papers, page from diary |
| 2. (Cape Archives, Maps 163 & 178.
(Forbes 1953a, p.72.
(Koeman 1955 p.278.
(Gordon Collection, Map 12. | 5. (Bligh p.38.
(Carter & Van Reenen p.171. |
| 3. Koeman 1952a, pp.89-90.
Nos.263 & 266. | 6. Welch 1951 pp.594,737.
7. See above p.106. |

Map 3 of the Gordon Collection.

There are now fifteen maps and one large-scale plan in the Gordon Collection, in which Map 3 is certainly of the greatest geographical importance, and hence requires special study. Its extent in latitude is from 26° S to 38° S, and in longitude (reckoned from Cape Town) from 4° W to 12° E. It is in two portions, a northern and a southern, with lat 32° as the line of separation. The size of the two portions combined, measured within the enclosing framework of parallels and meridians, is 179.3 cms north to south, and 196.2 cms east to west. The graticule is drawn at 1° intervals, which in all margins but the northern are diced at intervals of one minute and numbered at every fifth.

No certainty can be felt that measurement and calculation to ascertain the scale will yield an unexceptionable answer. In the first place, the paper of the map has probably altered in size somewhat since it was drawn. Secondly, measures of length were then not standardised. For example, on maps 7, 9 and 15 of the Collection, the Dutch or Rhineland mile is given as equal to 1968, to 1900 and to 1975 Rhineland rods respectively. Elsewhere this figure is given as 2000 rods.⁽¹⁾ If we take a figure of 1985 rods and the convenient natural scale of 1:750,000 a result is obtained closely in agreement with the measurements of the map. Then the latitude scale is 5.717 Rhineland inches (14.96cms) equal 15 Rhineland miles or 1° of latitude, making the N - S map-dimension $14.96 \times 12 = 179.5$ cms. The longitude scale along the standard parallel of 35° is 4.683 Rhineland inches (12.25 cms) equal 12.288 Rhineland miles or 1° of longitude, making the W - E map-dimension $12.25 \times 16 = 196$ cms. The projection employed is an equal-spaced modified cylindrical, whose varying longitude scale is given along the standard parallel of 35° south, and for the parallels of 26° and 30° .

With the equipment at his disposal he should probably have been able to ascertain latitude within $5'$ of the truth. His longitudes, which almost certainly depended upon estimate, would be subject to progressively greater error with increasing distance east of the Cape. To ascertain by dead reckoning the longitude of Algoa Bay, about 7° east of the Cape, a land journey of over 500 miles was involved at whose termination an error of 10% or 50 miles would not have been unduly large.⁽²⁾

1. Mossop 1931 p.77.

2. Koenen 1952b, pp.19,20.

The positions given to the majority of features by Gordon on his Map 3 are found to lie within these limits. His latitudes are usually within 5' or 6' of the actual, and in many cases are not more than 1' or 2' in error, even at inland stations where he can have derived no assistance from mariners' charts. An inexplicable exception to these remarks appears in his mapping of that portion of his travels between the Baaboesberg and Bethulia, in which the error increases progressively until at the latter locality he placed the Orange River about 30' too far north.⁽¹⁾ His longitude errors on his tentatively sketched south coast are negative (not far enough east) and at the mouths of the Gantooe and Sundays rivers are 32' and 47' respectively, or less than 10% of their distances by the overland route from the Cape. The confluence of the Orange and Caledon rivers he was fortunate enough to place within 7' of its correct longitude position. Near Prieska, however, he mapped the turning point of his journey from the west at least 51' too far east. As he placed Companys Drift (Raman's Drift) 10' too far west, his error between it and the vicinity of Prieska totalled over 60', an error of about 15% in the distance of about 400 miles that he must have travelled between those points. This is not excessive considering the nature of the country traversed.

The degree of declination of the magnetic compass is given at four longitudes. The southern coastline eastwards from False Bay is only sketched in lightly. It was probably Gordon's intention to complete it from data on other maps in his collection such as numbers 12 and 14. The map is ornamented with seven large and very detailed water-colour drawings, two decorative cartouches and 29 small representations of wild animals. On the Agulhas Bank appear the results of a large number of soundings, recording the depths and often the character of the deposits on the seafloor. These do not seem to have been taken from the map by Damingy of which two versions are known.⁽²⁾

A paragraph of over 130 words describes a supposed relationship observed between prevailing winds and currents. This was that the N.E. wind heaped up the Atlantic waters south of the southern coast, reversed the Agulhas Current and caused the rivers to become swollen with retention of their waters by the raised level of the sea. The waters of these river were discharged, however, when the winds became southerly, though these blew directly into the river-mouths. The latter condition was accompanied by the normal westward flow of the Agulhas Current.

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1. See above p. 283.
 2. (Kosman 1952b, plate VIII & Cape Archives Map 163.
(See below p. 329, note 1.

Another long note summarises a report concerning the existence of a large reef in the ocean far south of the south coast. The author is given as W. Petrie of Madras, presumably he who in 1807 became Acting Governor of that settlement. This report appeared in print, probably in 1786⁽¹⁾ and from it Gordon seems to have composed his short note. His remark appended nearby concerning Capt Hall of the ship Worcester is taken direct from one of Petrie's footnotes.

The map is undated and its author's name is omitted. The latest date figuring on it is 1787, given for the wreck of the Holland on the west coast of the Cape Peninsula. The real date of this occurrence seems to have been 1786.⁽²⁾ Hence 1787 was probably not inserted in that year, but after sufficient time had elapsed for the cartographer's recollection of the true date to become confused. Most of the fieldwork and drawing of this map thus seem to have been carried out in the period 1777 to about 1788.

According to Mossop, "The whole of the Gordon Collection Map [No.3] is undoubtedly based on the combined work of Col.R. Gordon, Wentzel, Ponte, Leiste, Brink and probably others."⁽³⁾ The present writer agrees that Brink's work has been drawn upon for the portion north of Company's Drift on the lower Orange River. With the exception of this portion, it has been shown above that there is good reason to believe that Gordon's travels were of sufficient extent for all the completed parts of his map to have been represented largely, if not entirely, as the outcome of his personal observations. Indeed, there is no obvious evidence that the aid of other observers need be invoked in explanation of the appearance of any large number of features mapped, the ocean soundings excepted.

There are, however, grounds for supposing that he employed a draughtsman for the actual drawing of the map. It has been suggested elsewhere that some of the drawings and their accompanying inscriptions in the Gordon Collection may have been executed by a hand other than his.⁽⁴⁾ The writing on the map is the same as that on the drawings suspected to have been done by his draughtsman. Moreover, as in those inscriptions, a few errors occur on the map which it is difficult to believe were made by Gordon. Such are the spelling of Pphen for Ppohn, Paviaans for Daviasna, Shep Moet for Schep Moed, and the name resembling NauCC near the Zuurberg Poort, which in 19 is written Nabee.

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1. Petrie.
 2. (Leibbrandt 1906 p.573.
(Franken p.17.
 3. Mossop 1947a, introd.viii,x.
 4. (See above pp. 231, 286.
(and below pp. 334-5.

De Mist's charge⁽¹⁾ that John Barrow's map of the Cape was based on Gordon's (almost certainly a reference to Map 3) is not sustained by an examination of these two documents. Indeed, it is unlikely that De Mist had made any such actual comparison, for it appears from his remarks that he had never seen the Gordon map. This is not surprising since when he wrote in 1802 it had probably been in London since 1797⁽²⁾ where it was to remain until at least 1806.⁽³⁾

Map 3, or a preliminary draft of it, is very probably the one referred to by Lord Macartney in 1785 in his diary, from which the following extract is taken. "Lt.Col.Gordon, Commander of the Troops, a very well informed and Ingenuous man, married to a Lady from the Pays de Vaux (Nicolet was her name). He has been to 26 degree of S. Latitude in the country -- Saw his map -- It is very curious and his travels must be more so when published."⁽⁴⁾ There is, of course, no evidence that Gordon had travelled inland to 26° S lat, which is nearly that which was reached by Hop's expedition of 1761-62,⁽⁵⁾ whose route as originally portrayed by Brink was copied on to Gordon's map, and must have misled Macartney into thinking that Gordon had penetrated thus far north.

It is unknown whether Macartney remembered Gordon's map 12 years later when he found himself in 1797 without a "single map that took in one tenth part of the colony"⁽⁶⁾ and commissioned John Barrow to remedy this deficiency. Amongst Macartney's papers is a note by his predecessor, General Craig, saying of Gordon "that doubts have lately been thrown upon the accuracy of his information in several instances".⁽⁷⁾ So if Macartney remembered Gordon's map, he may have dismissed it from his mind without making any attempt to ascertain its whereabouts; for had he done so perhaps the authorities in London would have soon bought it and the other maps and drawings from Mrs. Gordon. It is important to realise that when Macartney saw Gordon's map its accuracy could not be judged since there was nothing then available to him with which to compare it. Thus he could not know that the work which he gave to Barrow to perform had already been done, in certain respects as well or better, by Gordon. Far from copying Gordon's map, which it is most unlikely that he ever saw, Barrow instead taxed the Dutch administration with having neglected almost entirely the cartography of the Colony.⁽⁸⁾ Thus he was probably unaware of the existence of the Gordon Collection

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| 1. De Mist 1920 pp.8,166. | 5. Forbes 1949b. |
| 2. Forbes 1952a, p.89. | 6. Barrow 1804 p.14. |
| 3. Theal 1899 p.420. | 7. (Macartney Papers.
(<u>Remarks upon the "Sketches"</u> &
(p.2
(Kannemeyer p.65.
(Bruce p.2. |
| 4. Macartney Papers, page from diary. Note that <u>Vaux</u> should be <u>Vaud</u> . See Forbes 1954 p.133. | 8. Barrow 1801 p.8. |

that had accompanied the latter's widow to Europe, and of the map collections of Van de Graaff and of General J.W. Janssens that they had removed from the Cape.⁽¹⁾

In January 1794 Gordon drew up a list of all the plans and maps in the castle at the Cape⁽²⁾ which then comprised 143. Of these about 100 were of the Cape and included examples of the work of such cartographers as Wentzel, Brink, Wernich, Leiste and Dainy. Their existence there at that time negatives the statement by Koeman that the complete map archives of the Cape were removed to Holland by Van de Graaff in 1791.⁽³⁾ It seems a possibility that all the maps of the Cape listed at the castle by Gordon in 1794 may have been removed thence by him in 1795 to prevent them from falling into the hands of the English, and that his widow took them to England with his private collection of maps and drawings. In the boxes containing these there were said to have been 95 maps in 1797⁽⁴⁾ whereas there are now only 15 maps and one plan in the Gordon Collection. This suggests that about 80 maps are now missing. It is possible that these were the more important amongst the 100 maps of the Cape listed by Gordon at the castle, and that they may have been disposed of separately by his widow who retained only those from his private collection, as well as his drawings. The numbers given by Gordon to the maps he listed at the castle were probably also marked upon them in ink. These listed numbers might therefore indicate the source of any of these maps that may eventually come to light. These numbers do not appear on maps with similar titles in the Van de Graaff and Janssen collections.

The fact that the Gordon Collection was at one time in the hands of Captain Edward Riou, R.N., in London may provide a significant clue to the whereabouts of the 80 maps that are presumably missing,⁽⁵⁾ for Riou was interested in Cape cartography, not only having himself drawn a map of Hout Bay, but having copied Dainy's map of the Cape⁽⁶⁾ to illustrate his book on the wreck of the Grosvener.⁽⁷⁾

Map 3 of the Gordon Collection represents the culmination of Dutch cartography at the Cape. Though incomplete, being without a representation of the coastal districts east of False Bay, Gordon either possessed (e.g. Map 12) or presumably had access to ample cartographical material from which to fill in the missing regions. No doubt he intended to complete it from these sources, but this intention may have been postponed by a decline in his health⁽⁸⁾ and

1. Koeman 1952a, pp.73,95.

2. V.C. 245.

3. Koeman 1952a, p.73.

4. Forbes 1952a, pp.89,90.

5. Forbes 1952a, p.91.

6. Forbes 1953b, p.29.

7. Carter & Van Reenen, part II.

8. See above p. 273.

then terminated by the arrival of the English fleet.

The map bears everywhere the stamp of authenticity combined with the greatest accuracy obtainable under the circumstances in which it was drawn. Nothing is known about what instructions Gordon may have had in surveying and what instruments (other than the barometer) and methods he used. It can only be said that though he was not a surveyor by profession he evidently had a natural aptitude for mapping.

Though much has been claimed for Map 224 of the Van de Graaff Collection, a comparison of it with Map 3 of the Gordon Collection leaves no doubt that the latter is in most respects the superior production.⁽¹⁾ Not only does the Gordon Map display a higher degree of accuracy in the shape, disposition and placing of the features represented, but also it covers a much wider area, contains a far greater quantity of written detail regarding the names of farmers and of their farms, and has numerous topographical notes that include the barometrically ascertained elevations of over 36 points. To the student of this period of Cape geography it is of frequent assistance because of the mass of precise and reliable information that it furnishes. By contrast the Van de Graaff Map 224 is of little value, being crude and inaccurate.

The other Maps and the Plan in the Gordon Collection.

The remaining maps and the only plan in the Collection are of less importance and accordingly will receive a slighter treatment here, where they will be discussed in their numerical order.

No.1 (the only plan) is a coloured large-scale plan of Cape Town dated 1777 and signed by P.D. van Boten. Size 46 X 67 cms.

No.2, though without date or name of author, is a version of Wentzel's map of Bontler's journey to Kaffirland in 1752, but lacks the elaborate conventional representation of relief drawn in the several equivalent copies that exist.⁽²⁾ Size 82 X 233 cms.

No.3 has been dealt with above.

No.4 is of Plettenberg Bay and is a poor map without date or name of author. Size 40 X 51 cms. Most remarks are in English though a few are in Dutch.

No.5 is of Table Bay without date or name of author.⁽³⁾ Size 113 X 65 cms. Information is mainly hydrographical.

1. (Koenan 1952a, p.78.
(Koenan 1952b, p.25.
(Forbes 1952b, p.102.

2. See above p. 18.

3. Koenan 1952a, p.94 calls it a map of Robben Island and attributes it to Friderici.

No. 6 is a large-scale survey by J.C. Friderici in 1788 of the coastal strip from Table Bay to just north of Saldanha Bay. Size 301 X 90 cms. (Compare with Maps 232 and 235 in the Van de Graaff Collection.)

No. 7 is of Saldanha Bay drawn and signed by R.J. Gordon, 1784. Size 89 X 63 cms.

No. 8. "Plan van de Stad de Caap de Goede Hoop en Environs om te Dienen tot Anwysing der Defensie. Opgenomen door den Franschen Colonel Beylie en syne bijhebbende Ingenieurs in de Maand Junij 1782." Size 120 X 239 cms. Several equivalent copies of this excellent map are known, these being:-

Van de Graaff Collection, No. 282.

Janssens Collection, Rijksarchief, Aanwinst 1894, No. 24, a. 43, reproduced in S.A. History Told in Pictures, p. 57, Molsbergen & Vischer, Amsterdam, 1913.

British Museum, Additional Manuscripts, 19,825/3. ⁽¹⁾

Bibliothèque Nationale, Paris, Collection du Service Hydrographique, Portfolio 114, Division 6, Nos 49 & 50. It has recently been brought to my notice by the kindness of Ir G. Koeman that part of this map of two sheets bears a legend stating that it was surveyed by Gordon. Photographs show that it is very similar to the Gordon Map 8 though it may not fulfil the precise definition of an equivalent copy. It forms an inset that occupies about one-quarter of the combined areas of the two sheets that each measure 120 X 160 cms. It is entitled "Plan de la Ville et des Environs du Cap de Bonne Esperance, 1786" and part of the inscription that follows reads thus. "Cette carte générale et topographique a été relevée tres exactement par le Colonel Gordon et dessinée par le Sr la Pitte de Brasier, Ingénieur Géographe des Colonies et des Ponts et Chaussées de l'île de France -----". The relief is not as well drawn as in the other equivalent copies of this map that have been examined by the present writer. As the authorship of the copy in the Gordon Collection is attributed to Colonel Beylie, this is more likely to be correct than that Gordon was responsible, as stated on the Paris map.

According to information supplied by Ir G. Koeman, other equivalent copies of the Gordon Map 8 are preserved in the Library of Parliament, Cape Town and in the Africana Museum, Johannesburg.

It seems the most appropriate place to insert here a brief discussion of the remaining and greater portion of the Paris sheets 49 & 50, lest it be felt that it is possibly attributable to Gordon. The two sheets of the main map have a slight overlap, are on the scale of about 1:150,000 and show the districts between the sea and the

1. Forbes 1952c, p. 21.

chief ranges of the Cape fold-belt, from some 50 miles north of the Olifants River in the N.W. to the Duivenhoks River in the east. The French equivalents of all names are used. It is a rather crude and inaccurate representation, particularly in its compression in latitude and longitude of the districts east of False Bay. No author is named upon it, and the evidence is all against the belief that Gordon assisted in its construction, for his cartography was of an altogether more meticulous character. Since we are ignorant of any map that resembles this one in Paris of the coastal districts of the S.W. Cape, it must for the present be listed as unique.

No. 9 of the Gordon Collection is of Saldanha Bay without date or name of author. Size 109 X 76 cms. It depicts in enlarged elevation an impressive group of buildings at Roetjes or Hoedjes Bay, including a strange pavilion-like structure, hexagonal in plan with domed roof and arched windows. Reproduced by Molsbergen 1916, I, p.26.

No.10 is of Hout Bay in 1780 and the information is entirely hydrographical. Author not stated. A poor chart. Size 66 X 46 cms.

No.11 is of False Bay drawn by R.J. Gordon in 1780. Size 58 X 101 cms. Reproduced by Molsbergen 1916, I, p.120 and by Barnard 1950, p.331.

No.12 is of the coastal districts between Swellendam and the Zwartkops River at Algoa Bay. Size 93 X 374 cms. Though the author and date of this map are not given, it is immediately recognizable as an equivalent copy of M.178 in the Cape Archives prepared in 1789-90 by Lieut. J.C. Friderici and Bombardier Josephus Jones. Whilst the latter is so badly mutilated that little more of it survives than the half eastwards from Knyasa (measuring about 229 cms), the copy in the Gordon Collection is perfectly preserved. Another equivalent copy is probably Map 231 of the Van de Graaff Collection from which Map 230 was drawn on a reduced scale and later information added.⁽¹⁾ The now mutilated copy at the Cape Archives may have assisted Barrow in the representation on his map of part of the southern coastline and adjacent districts.⁽²⁾ Map 12 covers an area largely omitted from Map 3, and it may have been Gordon's intention eventually to transfer much of the detail from the former to the latter. Maps 6 and 12, surveys of the west and south coasts respectively by Friderici, seem to have been combined, reduced in scale and augmented by soundings taken by Captain P. Durnoy to make

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1. (Kosman 1952a, p.95 says the Gordon Map 12 is an inferior production. See also pp. 85,86 Maps 230 & 231.
(Kosman 1952b, plate VI
(Kosman 1955 p.276.
 2. Barrow 1804 p.22.

Map 163 at the Cape Archives, a document that was evidently known to Burchell.⁽¹⁾

Map 13 is a crude general map of the Cape from St. Helena Bay to the Great Fish River. Size 77 X 149 cms. Though author and date are not given, it is a version of the map begun in 1777 by C.H. Leiste⁽²⁾ of which an equivalent copy is Map 223 of the Van de Graaff Collection, recently reproduced by Koeman.⁽³⁾ Other equivalent copies or versions are Nos.24 a.7 and 24 a.8 of the Janssens Collection, from one of which photo-copy V.C. 178 in the Cape Archives was made.

Map 14 is of the coastline only from Saldanha Bay to the Bay of Natal, with an inset of Mossel Bay. Size 79 X 103 cms. Name of author and date are omitted. This map has been reproduced and commented upon elsewhere.⁽⁴⁾

Map 15 is of Saldanha Bay. Size 73 X 51 cms. It is without date and name of author, is crudely drawn, untidily inscribed and unfinished.

(Numbers 16, 17 and 18 of the Collection are allocated to drawings of scenery, and not to maps.)

Map 19 is a close copy on a reduced scale of the southern half (from lat.32°) of Map 3, from which it differs only in a few minor particulars. Date and name of author omitted. Size 75 X 148 cms.

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1. (Burchell 1822 p.578.
(Forbes 1953a, p.72.
(See above p. 322, note 2.
 2. See above p. 244.
 3. (Koeman 1952b, plate VI
(Forbes 1952b, p.99.
 4. Holsbergen 1922 pp.282, 346, 347.

Meteorological and other Scientific Interests and Instruments.

His interest in meteorology is shown by a long treatise he wrote on climate and weather at the Cape. ⁽¹⁾ Though unsigned, it is in his handwriting and there is internal evidence of his authorship, such as the description of the weather he experienced in the Sneeuwberg in September, which tallies with the account given of Van Plettenberg's journey in 1778 whom he accompanied on that occasion. Other particulars agree with information engraved upon the scale of his barometer. ⁽²⁾ The document covers 15 pages of two columns each, and totals about 6,000 words. The right-hand column is of remarks additional to the matter written on the left, and it may be conjectured that Gordon intended to re-write the whole in a combined consecutive account.

It begins with the planetary causes of the seasons and then deals briefly with the effects of local phenomena upon climate and weather. This is followed by a physiographical account of the Cape coastal districts and of the interior, with a discussion of the limits of the Agulhas Bank. The so-called Good and Bad Monsoons of summer and winter respectively are dealt with as to their origins and their local effects. The S.E. winds of summer he describes as a thermally induced indraught, whilst the N.W. rain-bearing winds of winter he believes result from the sun's insufficient heat at that season to keep the moist atmosphere aloft. The weather associated with these two seasons is described and discussed in much detail, and supported by figures of barometer and thermometer readings. Rainfall is only evaluated, however, in vague descriptive terms and not in figures. Though rain-gauges had then been employed here and there in Europe for about 150 years, their use had evidently not become sufficiently common by then for Gordon to have felt the necessity of employing one.

He says that in summer he had collected air in the S.E. cloud on Table Mountain and sealed it in bottles which upon being opened near sea-level caused "a strong foaming (moussering) or expansion and showed moisture". This effect, we may surmise, was probably due to rise of pressure in the imprisoned air and water-vapour caused by their rise in temperature as the dark (?) glass bottle was brought down from the cool mountain top and exposed to the hot mid-summer sun below. He recognized that precipitation on the mountain by the S.E. cloud was an important factor in maintaining the flow of springs during the dry summer. A note discusses the silting up of Table Bay, due to the S.E. wind blowing away the surface soil exposed by destruction of

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1. V.C. 170.
 2. See below p. 333.

the natural vegetation, consequent upon European settlement. He considered that during the preceding 50 years the shore had retreated at the rate of one pace annually.⁽¹⁾

Though most of the observations refer to the Cape Peninsula and its immediate vicinity, there are occasional mentions of conditions in the interior. For example, he says that in summer on the Namaqualand coast "there is a sort of land and sea breeze; for it blows there daily from about 10 a.m. until evening, not from the S.E. but from the S.W. towards the coast, because the warmth of the land has rarified the air above it. Similarly, near and beyond Swellendam, between the mountain chain to the north and the sea, it blows for the same reason, because then in the mornings there is usually a northerly breeze from the mountains, but in the afternoons it is usually a fresh S.E. wind."

Though much of the reasoning in this treatise now has a curiously archaic flavour, it was probably derived from the most advanced sources of scientific thought, from Buffon for example, who is mentioned twice in this document. Its defects are thus inseparable from the era of its origin. The very fact that it was written, is eloquent of its author's devotion to observation of and reflection upon natural phenomena causally determined. It must surely be the first full-length discussion of climate and weather at the Cape by a permanent resident there.

Besides the evidence afforded by the insertion of over three dozen elevations upon his Map 3, his use of a mercury barometer on his travels is described in marginal notes on more than one of his drawings,⁽²⁾ and also by his travelling companion William Paterson.⁽³⁾ The utility of this instrument has thus been demonstrated by its results which were of the order of accuracy consonant with its construction and method of use, and gave the first instrumentally ascertained elevations of a number of points in the far interior. It is strange to learn that his barometer eventually left South Africa and was used in a distant land to measure elevations far in excess of any to which it had here been carried.

In 1826 a now long-forgotten journal, The Magazine of Natural History &c., published an article entitled Some Account of an Ascent and Barometrical Measurement of Wha-ra-rai, a Mountain in the Island of Owyhee; extracted from the MS Journal of Archibald Menzies, Esq., F.L.S. Communicated by Mr. Menzies.⁽⁴⁾ He was a naval surgeon who had been sent as official botanist on the expedition led by Captain George

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1. See above pp. 150-1.
 2. Nos. 29, 31, 34, the latter being reproduced by Molsbergen 1916 p.148.
 3. Paterson p.104.
 4. Menzies p.203.

Vancouver which sailed from England in April 1791 in the Discovery and the Chatham. They reached Simons Bay on 10th July and sailed thence on 17th August 1791. The official account of the voyage makes no mention of Menzies or of Colonel Gordon at the Cape, but it must have been on this occasion that the Colonel gave away his barometer, probably feeling that he would never again travel in the far interior. From Simons Bay the two ships sailed eastwards to New Zealand and Owhyhee (Hawaii) and beyond to the west coast of North America, the detailed investigation of which was the main purpose of the expedition. It was in January 1794, on the third visit of the expedition to the Hawaiian Islands, that the events occurred which are described in the passage quoted below. The Discovery was then at anchor in Karakakoa (Kealahou) Bay where Captain Cook had met his death in 1779. Wa-ra-rai is now Hualalai (8,269ft) whilst Mowna-roa is Mauna Loa (13,680ft). The ascents of these summits are mentioned briefly by Vancouver⁽¹⁾ but described more fully by Menzies thus.

"As it was my intention to ascertain the height of the mountain we were going to ascend, I brought with me a kind of portable barometer, for which I was entirely indebted to the liberality of the late Colonel Gordon, at the Cape of Good Hope. That gentleman, when he understood that we had no portable barometer on board for ascertaining the height of any mountain that might be ascended during the voyage, presented me, in the most generous manner, with his own, which he had long been in the habit of using in the interior parts of Africa, and which had accompanied him in his interesting journeys through that country for many hundred leagues. The simplicity of its contrivance, and the ease with which it is carried and managed, may probably render it preferable, on such occasions, to a more expensive instrument, which, in ascending pathless rugged mountains, is so liable to be broken. I shall, therefore, subjoin a short description of it, and the manner of using it, leaving the reader to judge of the probable degree of accuracy of the observations made with it at different heights, both in this and in my subsequent journey to the summit of Mowna-roa."

"It consists of a straight glass tube about 3 ft long, filled with mercury, which was doubly secured by a small stopper, and a piece of soft leather tied over the end of it;

1. Vancouver III, 14,19,46 - 51.

this tube, together with a brass scale of about the same length, divided and subdivided into inches and tenths, was placed in a small wooden case, lined with cloth, where the scale was made fast, but the tube had a little play: these, with a few ounces of mercury, carried in a stone or wooden bottle, completed the whole apparatus."

"For observing with this instrument, the mercury in the bottle is to be poured into a small open cup; the stopper is then removed from the tube, and the vacancy in it must be filled up brimful with mercury; then, with a finger placed over the mouth of the tube, that end of it is to be inverted into the mercury in the cup, taking care not to withdraw the finger until it is well immersed."

Of insufficient general interest to warrant their reproduction here are the detailed instructions which follow for taking observations with this instrument. It was probably made in England, as Gordon gives his heights in English feet and quotes the scale of Ramsden who was a well-known English instrument maker. (1)

Two brass plates that must once have been attached to this, or to another barometer, are preserved at the Cape Archives. Miss K.M. Jeffreys (formerly of the Cape Archives) states that they were presented by Mrs. C.L. van der Byl who purchased them about 1925 at the cottage of a Coloured man in Ceres. The plates each measure 3ins. X 4 $\frac{1}{2}$ ins. and are drilled with holes for screws. Both are engraved with a scale in fractions of an English inch, and with information regarding the weather at the Cape which is usually associated with various levels of the mercury in summer and winter respectively. The latter gives the levels of the mercury during the storms of 21st May 1737, 1st June 1773 and 29th June 1785 that tally with particulars in his essay on Cape meteorology. (2) The summer plate is dated 1785 and the winter plate inscribed R.J. Gordon Recit. If they were once affixed to the instrument given to Menzies, they may have been removed by Gordon because the information they convey would be inapplicable to the regions for which Vancouver's expedition was bound.

A letter written by Gordon in 1793 shows that he was making observations with a dip-needle, (3) the instrument that enables the vertical component of the earth's magnetism to be calculated. The same letter indicates his use of an hygrometer, and it is certain that he was amongst the first to conduct experiments with these instruments at the Cape.

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1. Gordon Collection, Drawings 29, 34.
 2. See above p. 330.
 3. Gunn p.135.

The Identity of Gordon's Draughtsman.

There is no difficulty in showing that Gordon employed a draughtsman, but his identity cannot be established with the same certainty. He is mentioned by Paterson⁽¹⁾ as accompanying Gordon on his journey of 1777 - 78 and there is evidence in the drawings of the Collection, as well as elsewhere, that he was also with his employer on his journeys of 1778 - 79 and 1779 - 80. As we have noticed above, in his discussion of a giraffe shot by Gordon on the last of these three journeys, Professor Allmand mentions "a soldier who served him as draughtsman".⁽²⁾ Finally there is the statement attributed to Gordon's widow that he "drew every outline and had them finished under his own eye".⁽³⁾

In the chapter above on the travels of H. Swellengrebel, considerable space has been given to the collection of the work of the artist Johannes Schumacher in the Swellengrebel Archives. In the introduction to the album which contains reproductions of Schumacher's aquarelles, the editor A. Hallema, who has compared these pictures with those in the Gordon Collection, remarks that there is an undeniable affinity between the drawings in the two collections in spite of difference of subject and great disparity in their average dimensions. Hallema writes, "It could even be argued that on certain occasions Gordon had Schumacher definitely in mind when choosing his subjects, and was trying to improve on the work of the earlier artist. Certain drawings of Cape Town, including ones of Table Mountain, the drawings of False Bay, Camdeboo, Rodezani with its waterfalls, the Swellendam Drostly, the native drawings ---- in all these Gordon seems to be following hard in his predecessor's footsteps. No plea of coincidence, we feel, could account for such striking similarity."⁽⁴⁾ Hallema further remarks on the fact that Schumacher included a small self-portrait of himself as the artist in the foreground of the drawing reproduced as No.13 of the album; whilst Gordon did the same in his Drawing 31.⁽⁵⁾ The artist is similarly shown in his recently discovered drawing in the British Museum of the Roggeveld from the Kanton.⁽⁶⁾ A comparison of the two first mentioned self-portraits leads Hallema to comment, "Each is depicted sitting on a rock, and such is the similarity of their attitudes that they might even be taken for twin brothers."

Hallema does not take the further step of suggesting that

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1. Paterson p.26.
 2. Buffon V, 58.
 3. Britten, 1914 p.75.
 4. Hallema p.10.
 5. Molsbergen 1916 II reproduced at p.148.
 6. See above p. 301.

Schumacher may also have been Gordon's draughtsman. This is a possibility that deserves further investigation; for in addition to the affinities noted by Hallenau, there appear to be similarities of style in at least parts of some of the Gordon drawings with several of the Schumacher aquarelles. Moreover, the unfinished pencil sketch, Drawing 46 of the Gordon Collection, is almost identical with Schumacher Drawing 28. These represent the view near Graaff-Reinet by the Swarte River on the farm now called Brooklyn, looking W by N to the cone of Vuilkeop in front of the flat-topped Perleberg.

Indeed, it is possible that it was also Schumacher who executed a number of Masson's botanical drawings: for it is said that the latter owed many of these to the fortunate chance that at the Cape he "unexpectedly met with, among the Dutch soldiers who then guarded that colony, an artist of great skill as a designer of objects of Natural History."⁽¹⁾ Moreover, there is Allsaud's statement that Gordon's draughtsman was a soldier.⁽²⁾ Because artistic ability of this description is never common, it is perhaps unlikely that two humble soldiers thus gifted were then living in the small colonial outpost that Cape Town then was. It is thus not unreasonable to suppose that these two mentions of a soldier artist are in fact references to a single individual who may have been Johannes Schumacher, since there was then a soldier of that name living at the Cape.⁽³⁾ MacOwan, it is true, has suggested⁽⁴⁾ that Masson's artist was Franz Fehr Oldenburg⁽⁵⁾ which is, indeed, not impossible for the period 1772 - 74. But even if this were so, Gordon's draughtsman could not have been Oldenburg, for the latter went to Madagascar in 1774 and died there shortly afterwards. If we therefore return to our hypothesis that Gordon's draughtsman was Schumacher, then the latter could have executed commissions also for Masson, for Paterson and for Le Vaillant, which would account for the similarities noted by Dyer between some of the illustrations in their works and in drawings in the Gordon Collection.⁽⁶⁾ Schumacher could have made equivalent copies of Drawings 84 and 85 of the Gordon Collection at his employer's instance for presentation to a member of the expedition commanded by Captain James King that touched at the Cape in 1780. These two drawings together with two others have been pronounced by authorities at the Rijksmuseum, Amsterdam to be "without any doubt by the same person who did most of the drawings in our Collection", i.e. the Gordon Collection.⁽⁷⁾

Though nothing further is known of Schumacher, it is possible that he was the old German draughtsman who in 1825 dwelt near the Congo Caves and assisted G. Thompson in preparing some of the drawings for the engravings that illustrate the latter's book.⁽⁸⁾

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| 1. Bolus p.94, & Britten 1884b, p.144. | 5. See above p.105. |
| 2. See above p.308. | 6. Dyer pp.48 - 56. |
| 3. See above pp.173-4. | 7. Forbes 1952a, pp.87 - 89. |
| 4. MacOwan p.xli. | 8. Thompson I, 282. |

Conclusion.

Gordon's journeys were the crowning accomplishment of eighteenth century travel in South Africa, not only in respect of sheer distance penetrated into the unmapped interior, but also in their rich cartographic and pictorial record. His most outstanding service to geography was that he drew up, or caused to be drawn up, chiefly from his personal observations on his extensive travels, by far the most accurate and detailed map (No.3) then available of the very extensive areas of Southern Africa which it represents. Exhibiting a mass of remarkably accurate cartographic detail, supplemented by abundant vividly faithful pictorial material, and enriched by copious carefully-written descriptions, this document sums up more geographical knowledge of South Africa in a single sheet than any other work of similar compass available up to the end of that century. This, together with the other maps he owned must have comprised the most informative private collection of maps of Southern Africa then in existence in this country.⁽¹⁾ These essentially geographical documents were supplemented by a remarkable array of drawings some 400 in number, showing not only S. African scenery, but its native inhabitants, fauna and flora. These constitute an unrivalled treasury of pictorial information of the highest value not only to geographers, but also to historians, ethnologists, zoologists and botanists.

The lengthy explanatory inscriptions accompanying a number of these drawings show the width of his interests and knowledge, and the lively spirit of enquiry that characterized his outlook. Some of these inscriptions, moreover, show how essentially geographical was his choice of topics in enumerating the salient characteristics of the landscape. This is well exemplified in the panorama No.29 of the Orange River at Bethulie, where he describes the relief, climate, hydrography, natural vegetation, wild animals and native inhabitants. He seems to have realised the interdependence of these components of the geographical environment. Gordon was instinctively a geographer, and in this sphere his knowledge of the land of his adoption was unrivalled.

From all that has emerged to throw light on his character, it seems highly probable that he maintained a meticulous travel journal. It is scarcely credible that one who penned his remarks in such profusion upon his map and drawings could have refrained from recording his experiences, observations and reflections in a copious manuscript. These notes would have been an invaluable source of

1. Or indeed anywhere, if it contained 95 maps in 1797 as suggested above on p.325, note 4.
There are about 70 maps and plans in the Van de Graaff Collection.

information for his work on South Africa which, according to several of his contemporaries, it was his declared intention to publish.⁽¹⁾ Similarly, his notes on Cape Meteorology may have been drawn up as a preliminary to producing a fair copy of them for an early chapter of his book. But whether in fact even part of this work ever existed is perhaps more open to doubt than the assumption that he possessed diaries of his travels, which in all probability would have been preserved by his widow⁽²⁾ or by one of his four sons.⁽³⁾ References to certain of his papers, which were evidently additional to his drawings and maps, are known to have been made up to as late as 1806.⁽⁴⁾ Should his travel manuscripts or his observations based on them ever emerge from the obscurity in which it is conjectured they have long been lost, their recovery would promise to provide important additions to our knowledge of the geography of South Africa at the end of the eighteenth century.

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1. (King p.484.
 (Macartney Papers, diary.
 (White 1790 p.91.
 (Gentleman's Magazine 1796 p.442.
 (Edwards & Hamilton p.170.
 (Forbes 1954 p.133.
 2. (Macartney Papers. Remarks upon the "Sketches" &c. p.2.
 (Paston p.229.
 (Kannemeyer p.65.
 3. (Barnard 1950 pp.435 - 6.
 (Forbes 1954 p.133.
 4. Theal 1899 pp.420 - 1.

FRANCOIS LE VAILLANT.

1781 - 1784.

The five volumes of Francois Le Vaillant describing his travels in South Africa have probably been more widely read than any other work on this subject published in the 18th century. The educated public of Western Europe was then eager for travel narratives to which its taste had become inclined by the appearance of accounts of such voyages as those of Captain James Cook. Works on South Africa must then have been well received, since those that were published were soon translated into other European languages. The time was thus opportune for the appearance of Le Vaillant's books, whose romantic sentiments and flowery verbiage apparently recommended them to many of his contemporaries. Indeed, he complained that "there was an infinite variety of editions, pirated editions and translations"⁽¹⁾ of his first two volumes which were published in French in 1790. In that year at least three English editions of these were issued by different publishers,⁽²⁾ and also a German edition; whilst the Dutch was printed a year later. The remaining three volumes of his narrative, entitled New Travels etc., were published in French in 1795,⁽³⁾ and appeared shortly afterwards in English, German and Dutch translations. An Italian edition of the five volumes is dated 1816 - 17; whilst as recently as 1932 there appeared a French abridgement of his Travels and New Travels,⁽⁴⁾ the narrative evidently being considered of sufficiently enduring attraction to command a ready sale amongst a wide body of modern readers with no particular interest in the Cape.

However, as an objective account of experience and observations his Travels fall far short of those published in that period by other travellers in South Africa. Though his volumes are far from valueless they contain inaccuracies and misstatements which should cause the critical reader to exercise the utmost caution in testing his statements before accepting them as authoritative.

Crichton's brief Memoir of Le Vaillant states that he was born in 1753 near Paramaribo, Dutch Guiana, where his father then held the office of French consul.⁽⁵⁾ From his father, who was a rich

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1. Le Vaillant 1796 p.ix.
 2. G.G. & J. Robinson, London; W. Lane, London; Craisberry & Campbell, Dublin. And in 1802 by Thomas Duncan, Glasgow.
 3. Year 3 of the Revolutionary Calendar. See British Museum Cat. Printed Books, Ann Arbor, 1946, Vol.31.
 4. Le V. 1932.
 5. Swainson.

merchant and a native of Metz, he inherited his love of travel and of ornithology. When he was ten years old he accompanied his parents to France. He then spent two years in Germany and seven in Lorraine. Visiting Paris in 1777, he was so impressed by the numerous cabinets of natural history there that he determined to go overseas to collect. In realisation of this ambition he spent over three years at the Cape, 1781 - 84. On his return from S. Africa in 1785 he landed in Holland, shortly afterwards went to Paris where he arranged the material he had collected and wrote his account of his travels. In 1793 he was imprisoned by the Jacobins and would have been guillotined had not the overthrow of Robespierre led to his liberation. The last 30 years of his life were spent at La Noué near Sezanne, some 70 miles east of Paris. He died on 22nd November 1824 at the age of seventy-one, at Paris according to Mendelssohn.⁽¹⁾

Authorship of his Travel Books.

The authorship of the three volumes of his New Travels was within a few years of their publication ascribed by Barrow⁽²⁾ to the Abbe Philippe (Philippeaux in Barrow's 2nd edn). The British Museum Catalogue of Printed Books, Ann Arbor, 1946, Vol.55, records that Le Vaillant's first two volumes (1790) were said to have been edited and partly written by Casimir Varon; whilst his three later volumes (1796) are cited as having been merely edited by Varon. Crichton⁽³⁾ writing in 1837 recorded that the authorship of the New Travels had frequently been attributed to Casimir Varon, a young traveller and poet, to whom these volumes were dedicated by Le Vaillant.⁽⁴⁾ However, Crichton asserts that Varon was employed merely to give to their language a polish which was lacking because of Le Vaillant's "being a foreigner by birth, and having spent the years of his boyhood among the forests of Guiana." Substantially the same viewpoint is adopted by Jacques Boulenger⁽⁵⁾ regarding Varon's role in Vol.I of the New Travels, but he adds that Vols.II & III of this series were polished by Legrand d'Aussy.⁽⁶⁾ Perhaps Le Vaillant refers to assistance of this kind in his remark concerning his travels that "any one of my friends who has a good memory and has heard me give an account of them might easily and in the same manner write them for me."⁽⁷⁾

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1. Mendelssohn I p.892.
 2. Barrow 1801 I, 360 & 1806 a, I, 318.
 3. Swainson p.23.
 4. (The Quarterly Review III, 1810 p.202.
(Delegorgue I p.xiii.
 5. (Le V.1932 p.xv.
(Cat.Idb.British Museum Natural History,III,p.1100.
 6. Brit.Museum Cat.Print.Books, Ann Arbor 1946,Vol.31,Legrand d'Aussy }
Querard II, p.770.
 7. Le V.1796 II, p.55.

Whatever the truth may be of this matter, it seems to follow that even if he did not actually write all that was printed in his Travels, the work must have received his approbation. For had he been dissatisfied with these accounts, he could have published a statement disowning them, which so far as is known, he did not do. Hence the blame for those defects which appear in them must rest squarely on his shoulders even if he was not responsible for them in detail.

Chronology of his travels.

The chronology of Le Vaillant's travels as presented in the various editions and translations of his works contains numerous inconsistencies. Attempts to unravel these complexities yield only partial success. He reached Cape Town in the Held Woltemade on 14th April 1781⁽¹⁾ and was at Saldanha Bay when the Middelburg was destroyed in July of that year. He states that he set out on his eastward journey in December 1781 and claims that when he was near the Great Fish River he heard that the Grosvenor had been wrecked six weeks previously,⁽²⁾ an event which occurred on 4th August 1782. As Kirby has pointed out,⁽³⁾ he may only have learnt of the wreck after his return to the Cape, so that there is no certainty that he really was near the Great Fish River in October 1782. However, if we accept this fact, then the month of April which he gives for his return to Cape Town was that of 1783. This conflicts, however, with his remark that the Luxembourg and Neuron regiments were now at Cape Town,⁽⁴⁾ for the former left in February 1783.⁽⁵⁾

He may indeed have overlooked this fact when altering his chronology to give verisimilitude to his account of his efforts to proceed to the rescue of the survivors of the Grosvenor. The fate of these people had aroused considerable interest in Europe through the publication in 1783 of accounts of the disaster by members of the crew who had reached the Cape.⁽⁶⁾ It is not inconsistent with what is known of Le Vaillant's character to believe that he may have sought to enhance popular interest in his books by representing himself as a would-be rescuer. As the French original of his work appeared first in 1790 he had ample time to add a fictitious embellishment of that

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1. Jeffreys 1930 p.236.
 2. Le V. 1790 I, p.306.
 3. Kirby 1945 p.105.
 4. Le V. 1796 I, p.xiii.
 5. Theal 1910 p.143.
 6. Kirby 1945 pp.72 - 5.

nature. A clumsy manipulation of the dates in this fabrication perhaps may account for the chief chronological misfits of his five volumes. No more likely explanation can be offered as to why so simple a matter as the sequence of dates should be so inextricably muddled.

Some time after his return to the Cape from the eastern frontier regions, he made a tour of unspecified duration through the present districts of Caledon, French Hoek, Ceres, Tulbagh and Malmesbury.⁽¹⁾ From this he returned shortly before the departure for Europe of the ex-Fiscal W.C. Boers which he states was on 25th October 1783.⁽²⁾ However, it has been established that Boers actually sailed on 12th April 1783.⁽³⁾ If therefore, six months really elapsed, as he writes,⁽⁴⁾ between his return from the eastern frontier and the departure of Boers, then that period was not April to October 1783 but six months earlier, namely October 1782 to April 1783. Acceptance of this earlier period fits the evidence better and hence seems more likely to be correct; and of course it invalidates his statement that it was near the east Cape frontier about 6th October 1782 that he first heard of the wreck of the Grosvenor.

Under Le Vaillant's statement that Boers sailed in October 1783, the former must have departed on his northward journey from the Slabbers' farm in June 1784.⁽⁵⁾ However, it cannot have been that year but 12 months earlier, since he tells how he inscribed his name on 4th July in the cave at Heerenlogement,⁽⁶⁾ where the inscription dated 1783 is still to be seen.⁽⁷⁾ This date does not conflict with the true sailing date of Boers and agrees tolerably with the information received from the Slabbers that Le Vaillant left them in July.⁽⁸⁾ They also told Barrow that he returned from the north after an absence of only six months in December, which was therefore that of 1783. This is consistent with his statement that he sailed from the Cape on 14th July 1784 in the Ganges accompanied by four consorts.⁽⁹⁾ The departure from False Bay on this date of these ships is confirmed by records preserved at the Cape Archives; but these show that the consort he calls the Middelbourg was in fact the Voerberg.⁽¹⁰⁾

1. Le V. 1796 I, pp.31,41,69.

2. *ibid.* p.99.

3. Naude p.433.

4. Le V. 1796 I, p. 73.

5. *ibid.* p. 172.

6. Le V. 1796 I, p.221.

7. Kirby 1941, p.366.

8. Barrow 1804, p.21.

9. Le V. 1796 III,474-5,484-5.

10. C.647 pp.441-3 & C.648, pp.599,600.

From this discussion the most probable chronology of his movements that emerges is that he sailed from Holland in December 1780, and reached the Cape in April 1781; made his eastern journey from December 1781 to October 1782; visited the districts near Cape Town and returned there before Boers sailed in April 1783; was on his northern journey from June to December 1783, and sailed for Europe in July 1784.

His Ornithological and Botanical work.

Beyond the scope of this article and outside the competence of the present writer is a detailed criticism of the published results of Le Vaillant's ornithological work in S. Africa. These results are embodied in his magnificently produced publications, Histoire Naturelle des Oiseaux d'Afrique, Paris 1796 - 1808. However, some remarks by ornithologists upon these works may be valuable guides to a correct assessment of his general reliability in authorship. A searching criticism of his Oiseaux d'Afrique was published in 1857 by C.J. Sundevall,⁽¹⁾ Professor of Zoology at Lund, in an article written in Swedish (7 pages) and Latin (38 pages). His conclusions are that Le Vaillant's ornithological work in the publication under review is not always reliable though much of it is authentic and praiseworthy.

According to Sundevall, he published accounts of some birds which he pretended having seen and studied in S. Africa, where in fact they do not occur. He may have done this because on his return to Europe these were shown to him as S. African species, and he therefore felt it incumbent to say that he had seen them here. These, together with others of composite origin he obtained, says Sundevall, all from the same Paris taxidermist who was skilled in the production of composite birds made of heads, bodies, wings and tails of different species. For these birds thus obtained, both genuine and spurious, Le Vaillant invented field observations which he claimed to have made on them in S. Africa concerning their habits and habitat. A curious instance cited by Sundevall concerns a species (Cuculus niger) not native to S. Africa but to Bengal, of which the male is black and the female grey. Le Vaillant took them for two distinct species, inventing for the black male a black female companion, and claiming to have found the pair near the Great Fish River in Great Namaqualand (Concou a grosbec. Oiseaux d'Afrique, Vol. V. No.214.) For the gray female of Cuculus niger he invented

1. Sundevall. (The present writer is indebted to his former colleague, Prof. Michael Roberts, for information from this article.)

a grey male (Coccyz tachirou. Oiseaux d'Afrique, Vol. V. No.216) and claimed to have shot these in Little Namaqualand. Sundevall blames Le Vaillant less for downright dishonesty than for credulity, weakness and desire for approbation, which led him to swell his ornithological work with so much irresponsible matter. Sundevall believes that these same defects of character caused him to exaggerate the extent and duration of his travels in S. Africa. A later examination of Le Vaillant's ornithology brought Layard to a similar opinion which is summed up in his conclusion that he had "found little to dissent from in Prof. Sundevall's admirable treatise."⁽¹⁾

Fabrication or confusion is suspected by Dyer in Le Vaillant's statements regarding his three plates of botanical specimens, the drawings of which Dyer thinks are probably attributable to Colonel R.J. Gordon.⁽²⁾ Two of these plants which Le Vaillant claims to have found in Great Namaqualand⁽³⁾ are certainly from the eastern Cape, whilst probably also from the latter area is the one he says he found in Little Namaqualand.⁽⁴⁾

His Journey to the Eastern Districts.

His first journey was directed eastwards and took him across the Hottentots Holland. In the vicinity of Houw Hoek he met a farmer described as Francis Bathons,⁽⁵⁾ a name so unusual as to suggest that it was a misspelling of Badenhorst. He continued by the usual route to Swellendam, Mossel Bay and so to Pampoen Kraal between the Zwart and Kaaimans rivers, some five miles E.S.E. of the present position of George. By his account he spent nearly six months in the Outeniquas area and visited as far east as Plettenberg Bay. From these parts he made his way over the Outeniqua Mountains to the Lange Kloof by the difficult Duivelakop Pass (Long. 22°40' approx.) which he wrongly claimed to have been the first to cross with a waggon,⁽⁶⁾ since Governor van Plettenberg and his suite had taken this route in 1778.⁽⁷⁾ Continuing down the Lange Kloof he journeyed eastwards to the vicinity of the present position of Port Elizabeth. He makes no mention of meeting the European graziers who were then established there,⁽⁸⁾ but says that he was advised by Hottentots that because of Xhosa raiding parties he should not follow the route

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1. Layard p.vii.
 2. Dyer p.55.
 3. Le V. 1796 III, p.22.
 4. Le V. 1796 II, p.142.
 5. Le V. 1790 I, p.124.
 6. *ibid.* p. 254.
 7. See below pp.424-5.
 8. Molsbergen 1932 pp.22,51.

across the Bushmans River which was then the usual one to Agter Bruintjes Hoogte (Somerset East district) and which passed near the present Alicedale and Comadagga. He therefore took an alternative and more westerly route which may have been the one which Sparrman in 1776 learnt was used as "a by-road, though rough and intricate, down by the side of Zondags-rivier to Swartkops-rivier", to enable the inhabitants of Camdeboo and Sneeuwberg to provide themselves with salt at the Swartkops saltpan. (1)

His map is here of no assistance in tracing his route, whilst his vague narrative is insufficient to enable his movements to be followed accurately. However, if his account can be relied upon here, he seems to have struck inland up the valley of the Coega River, for he claims that he crossed it no less than fourteen times on this short section of his journey. (2) There is no certainty where he crossed the Klein Winterhoek Mountains or their westward extension; but there are indications that he may have passed through them before crossing the Sundays River. This he would have done if he had crossed them at Salt Pans Nek north of Wolffontein, on that route which seems to have been used by J. van Reenen in 1790 and by Barrow in 1797. (3) The name of this nek certainly suggests that it lay on the salt route mentioned by Sparrman. If Le Vaillant came this way he probably crossed the Sundays River near Waterford. His statements are contradictory that the distance from the sea was ten leagues up the Sundays River to the place where he crossed it, from which point he could see the Sneeuwbergen. (4) These would be hidden behind the Zuurbergen at a viewpoint ten leagues upstream from the sea. However, of these mutually exclusive statements, he is probably more likely to have described correctly an interesting feature of the view than to have given an accurate estimate of the distance of his viewpoint from the sea. From the Sundays River near Waterford, a route directed towards Bruintjes Hoogte would have brought him to the Vogel River which is the next stream he mentions by name. (5)

In the vicinity of where Somerset East now stands he claims to have heard on about 6th October 1782 of the wreck of a ship (the Grosvener, which had occurred on 4th August 1782), and that French officers were amongst the survivors. (6) Though it is not impossible that the news of the wreck could have reached those parts by then, it

1. Sparrman 1766 II, pp.3, 160.

2. Le V. 1790 I, p.291.

3. See below pp.383,429.

4. Le V. 1790 I, p.297.

5. *ibid.* p.300.

6. *ibid.* p.306.

is incredible (as Kirby has pointed out) that the nationality of some members of the shipwrecked party could have been ascertained and transmitted by the Natives, through whose sole agency this intelligence must then have been conveyed.⁽¹⁾ Thus the inference is that at the earliest he could only have received the information about the French officers after survivors from the wreck had reached the Dutch graziers at Algoa Bay, which was on 29th November.⁽²⁾

Doubt is thus cast on his statement that it was in an attempt to reach the survivors of the Grosvener that he made an excursion across the Great Fish River. Whether indeed he ventured across it at all is suspect because of various imperfections revealed by examination of his narrative. His visit to the Somerset East district seems authenticated by one of the most scathing of his contemporary critics, John Barrow, who, writing of Le Vaillant's stay at Bruintjes Hoogte, remarked that "the visit of this gentleman is still very well remembered here, though he takes care to suppress any mention of the country being inhabited by colonists which he supposed would have diminished the interest he intended to excite."⁽³⁾ George Thompson, who visited this area in 1823 bluntly stated without any further enlargement that the banks of the Great Fish River in Agter Bruintjes Hoogte were the farthest limit attained by Le Vaillant.⁽⁴⁾

When he reached these parts not much more than a year had elapsed since the First Kaffir War of May - July 1791, and the stratagem known as "the tobacco trick", whereby Adriaan van Jaarsveld had dealt the Khosas a severe blow, must still have rankled sorely in their minds.⁽⁵⁾ Thus an expedition into their territory by a single European with a few servants was a hazardous venture, and it may well be doubted whether Le Vaillant really undertook that risk, which he repeatedly stresses to flatter his intrepidity. At the same time he states that by his beard, as well as by his manners and conduct, the Khosas could easily distinguish him from the colonists, and would thus treat him as a benevolent neutral.⁽⁶⁾ This would appear to indicate that even the frontiersmen then rigidly adhered to the beardless fashion which on his, and on other evidence, was then prevalent at the Cape.⁽⁷⁾ However, it may well be felt that his behaviour and

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1. Kirby 1945 p.104.
 2. Carter & Van Reenen p.112.
 3. Barrow 1801 p.280.
 4. Thompson I, p.55.
 5. Cory 1910 p.57.
 6. Le V. 1790 II, pp.15,216,267.
 7. *ibid.* p.368.

appearance were niceties in which it is questionable whether he would have placed a sufficient degree of confidence to test their efficacy as a safeconduct.

Before setting out on his journey across the Great Fish River, he tells us that he sent a deputation to the Xhosa king Pharoo (Palo) to obtain a safeconduct. His envoys failed to find Palo, which is not surprising since he had died seven years previously. What is surprising, however, is that this fact was unknown to one who professed to have travelled in Palo's country, and to have actively sought a meeting with him.⁽¹⁾ Palo's death is reported in Sparrman's book⁽²⁾ under the date December 1775, and hence should have been noticed by Le Vaillant who passes several comments on that author's work. Paterson, who was another predecessor of Le Vaillant in those parts, and whose book the latter refers to on several occasions, also mentions Palo's death.⁽³⁾

Le Vaillant claims to have crossed the Great Fish River at Koks-Kraal. Sparrman called it Jacob Koks-craal⁽⁴⁾ and says it was reported that it had been named after the farmer of that name who lived near the present position of Humansdorp and is mentioned in several accounts by those who passed that way at that period.⁽⁵⁾ On one of his trips into Kaffirland he was detained by the flooded river for a considerable period, and the place where he had remained encamped on this occasion became known as Koks Kraal. It lies about 3 miles N.W. of the confluence of the Baviaans River with the Great Fish River. It is not known whether any connection exists between Koks Kraal and the present Cookhouse 9 miles to the south which, under the name Kookhuys, was first mentioned in 1803.⁽⁶⁾

But for Le Vaillant's claim that his journey across the Great Fish River lasted nearly a month,⁽⁷⁾ it would be difficult to determine this period, for nowhere perhaps are his dates more confusing than here. Even the New Year's Day that by his account he celebrated not long after his return from his excursion across the river seems to be wrongly given as 1782⁽⁸⁾ instead of 1783; but his narrative is such that it is impossible to say where he really was on those dates. His itinerary across the Great Fish River is vague and disconnected, and no place-names whatsoever are mentioned except those of his own giving. It is true that he states that he met there only one group of Kaffirs,⁽⁹⁾

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1. Le V. 1790 I, p.329 & 1790 II, pp.157,164,224,255.
 2. Sparrman 1786 II, p.10.
 3. Paterson p.93.
 4. Sparrman 1786 II, p.268.
 5. See above pp.217,240, 253-4, 278.
 6. Molsbergen 1932 p.161 etc.
 7. Le V. 1790 II, p.278.
 8. Le V. 1790 II, p.317.
 9. *ibid.* p.267.

but from these he could have learnt the names of at least some rivers. That these had long been named is shown in the account of Beutler's expedition into these parts in 1752. However, though the circumstance that he mentions no place-names given by the inhabitants east of the Great Fish River may perhaps be regarded with some suspicion, it cannot be taken as proof that he had not heard any of them or had not visited the area. For at no time is he lavish with statements on topographic nomenclature, his chief concern being to tell a romantic tale rather than to furnish explicit details on his route. His point of view was essentially non-geographical, since his interest was in the event rather than the place where it occurred. But since he evidently set some store upon his reputation as a traveller, mentioning with pride the extent of his journeys and furnishing a map the better to substantiate these claims, he should not have been content to write vaguely of his route beyond the Colony's frontiers. Here where he should have been most precise, he is on the contrary least explicit. The position assigned on his map to the turning point of his eastern travels in latitude $28^{\circ} 25'$ and in longitude $13^{\circ} 25'$ east of Cape Town, is actually in the region now known as Zululand, at least 3° or over 300 route-miles N.E. of where he would have probably turned back on a journey of a month's duration across the Great Fish River. Thus the overall impression gained from a careful reading of his account of his expedition beyond this stream is one of incredulity.

A contrary opinion has, however, been reached very recently by Captain C.H.B. Grant who has drawn maps illustrating his conclusions regarding the routes followed by Le Vaillant.⁽¹⁾ Confidence in that of the eastern journey is immediately shaken by cartographical errors as well as by several manifest improbabilities. His route is shown down the virtually impassable Kouga River valley, which is moreover drawn wrongly by Grant as tributary to the Kromme instead of to the Gantoos. Besides, Le Vaillant says he came through the Lange Kloof and later crossed the Kromme and Diep rivers,⁽²⁾ so that he evidently took the usual route past Assagaibosch and near the present position of Humansdorp. Grant's map makes him proceed from above Hankey on the Gantoos River N.E. over the precipitous Elanisbergen, whereas Le Vaillant states that he went past Galgebos (Galgenbosch) and across the Van Stadens River, which again was the usual route.⁽³⁾ Grant takes Le Vaillant over the Knurbergen north of Kirkwood where it is extremely unlikely that he would have made a crossing with waggons. As stated above, it is far more likely that he crossed these ranges some 35 miles further west at Salt Pans Nek just north of Wolfesfontein.⁽⁴⁾ On his

1. Grant 1957.

2. Le V. 1790 I, pp. 255-7.

3. Le V. 1790 I, p. 278.

4. See above p. 344.

return from the Sneeuwberg across the Karroo, his route is mapped by Grant 5 miles north of Abercorn, which of course should be Aberdeen.

Grant's drawing of Le Vaillant's route beyond the Great Fish River from Koks Kraal takes him N.E. along the mountaintops of the watershed between the Baviaans and Tarka rivers to the vicinity of Tarkasted, which was difficult terrain and an unlikely course for one who professed to be anxious to reach the survivors of the Grosvener. From Tarkasted the route is drawn S.E. to cross the Winterbergen in about long. $26^{\circ} 30'$, a possible but improbable undertaking that Le Vaillant is unlikely to have left unmentioned if he had accomplished it. On the contrary he stated that they avoided barren and steep mountains that appeared before them. ⁽¹⁾ The route then follows for a short distance the headwaters of the Koonap whose true course beyond Adelaide is south and then south-east, but is mapped by Grant past Bedford westwards to join the Great Fish River at Cookhouse. From Bedford the route is drawn S.W. to the Great Fish River. This proposed route does not seem to outweigh the evidence presented above against the belief that Le Vaillant performed an extensive journey east of that stream.

n/ From Koks Kraal he went west to the Gamdebo district on a course that can be traced since he mentioned crossing the Bly (Blyde), Vogel and Platte(Plaat) rivers. He climbed the Sneeuwberg where he had been told he would find "a considerable volcano that emitted smoke and flames", but he saw nothing that had any resemblance to such a phenomenon. ⁽²⁾ Though on these summits he searched unsuccessfully for seashells, he saw there "pyramids of flints and sand exactly like those found upon downs" (dunes). These he seems to have taken as testimony that these elevations had formerly been covered by the sea, under the current hypothesis of progressive oceanic retreat from that age when it had covered even the highest mountains. This is the construction that has been placed upon this passage by his countryman and contemporary, L. Degrandpré. ⁽³⁾

The next river he crossed on his westward course he called the Jubers, which should probably have been spelt Joubert's, and may have been the Molks River on whose banks the home of a farmer by that name is shown in Map 3 of the Gordon Collection. Rivers were then often known by the name of the farmer through whose lands they flowed. His

1. Le Vaillant 1790 II, 257.

2. *ibid.* 342.

3. See above p. 150 & below pp. 365-6, 371-3, 403-7.

statement that he next reached the Voogel (sic) River must be an error, for he had left that stream far behind, and his map does not show two rivers of this name in those parts. In proper sequence he records his crossing of the Sundays, Swart and Camdeboo rivers.

A week after quitting the latter stream he arrived at "a plantation belonging to two brothers who were free negroes" where he found "almost the same manners and the same customs as those common in the civilized world."⁽¹⁾ This is evidently gross exaggeration if it is not pure fabrication, for freed slaves were never granted farms, whilst runaways would not have been obtaining a comfortable and undisturbed living by cultivation, especially since their plantation is described as situated between the Camdeboo and Kariega rivers, and hence on or near the main route between Agter Brountjes Hoogte, Camdeboo and the Cape. It can only be suggested that this episode was invented to convey the impression of a gradual return to settled parts, where his first meeting was with civilized negroes, to be followed later by arrival at European farms. For, as has been pointed out above in the quotation from Barrow, Le Vaillant makes no mention of having been entertained at any European farms in the Agter Brountjes Hoogte and Camdeboo districts; or indeed anywhere between Outeniqualand on his outward journey and the vicinity of Prince Albert on his return. He does, however, mention an encounter with a white man near the present Pearston, and asserts that he had then "not seen any of that colour for several months."⁽²⁾ There is also a reference to meeting two colonists in the vicinity of Beervlei.⁽³⁾

Where Prince Albert now stands he was hospitably received by the Raubenheimer family at the well-known Kweek Vlei, after a trek with waggons of about 100 miles from the Kariega River that he claims to have accomplished in 4 days with oxen so exhausted that they "seemed to be converted into skeletons".⁽⁴⁾ It is manifestly an exaggeration that his teams could have averaged 25 miles a day under such conditions. In fact the entire account of his passage through the Great Karroo falls under suspicion, which is heightened by a study of his map of the journey that will be presented later. Thus the possibility must be considered that in fact he returned from the eastern districts by much the same route he had followed on his outward journey. He may have claimed to have crossed the Karroo because no previous writer on the Cape had done so.

1. Le V. 1790 II p.370.

2. *ibid.* p.320.

3. *ibid.* p.373.

4. *ibid.* p.377.

His Northward Journey.

It has been shown above that the date 1783 inscribed by Le Vaillant after his name at Heerenlogement probably establishes with certainty that he began his northward journey about the middle of that year. At the outset, and on several other occasions, he grandiloquently asserts that on this journey he intended to traverse Africa from south to north, and thus to reach Europe through Egypt or the Barbary coasts.⁽¹⁾ No responsible traveller could then have declared such an intention seriously or have believed that the successful accomplishment of such a venture was possible. Hence one of the early impressions given by the three volumes describing his New Travels is that they were written by either a crank or a knave. However, since it may seem unwise to condemn them outright because of the repetition of one highly questionable assertion, further consideration is desirable to discover how far other matter in them may support or refute this initially unfavourable impression.

Modern authors who have expressed a belief in his claim that he had reached the southern tropic on this journey are Theal⁽²⁾ and Mendelssohn.⁽³⁾ More recently some support for this view has been given because his collection contained the skins of a pair of a race of Double-Banded Sandgrouse, Pterocles bicinctus bicinctus Temminck, which race has not been reported from Little Namaqualand, but only from regions to the north of the lower Orange River.⁽⁴⁾ Strongly upholding this argument is the very recent paper by Grant⁽⁵⁾ who finds that this and four other species in Le Vaillant's collection of birds, and particularly an analysis of his itinerary and map, point to his having gone a considerable distance north of the Orange on a journey that is discussed and mapped by Grant in some detail. He is almost indubitably correct in stating that it is extremely unlikely that anyone but Le Vaillant himself collected these birds and preserved their skins. Thus, if they could not have been found by him near or south of the Kamiesberg, he must have gone to and beyond the Orange River. Of the five species mentioned by Grant in support of this view, Agapornis roseicollis Vieillot and Rhinopomastus cyanomelas cyanomelas Vieillot are said by Austin Roberts to be found no further south than the Orange River, though the latter author states that Motacilla aquina Dumont is found also on the Olifants River to the south.⁽⁶⁾ Besides Pterocles bicinctus bicinctus Temminck, mentioned above as pointing to Le Vaillant having

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| 1. Le V. 1796 I, pp. 168, 196,
II, 286, 309, III, 173. | 4. Macdonald p. 6. |
| 2. Theal 1910 III, p. 398. | 5. Grant 1957 p. 68 etc. |
| 3. Mendelssohn I, 891. | 6. Roberts, Nos. 330, 421 &
685 respectively. |

penetrated to a considerable distance north of the Orange River, Grant cites Trachynotus vaillantii Rauzan as additional evidence in favour of this contention. Thus the ornithological facts here may seem to outweigh the chronological and geographical difficulties whose treatment by Grant therefore requires careful examination.

For this purpose let it be accepted that there is sufficient geographical evidence to justify the task undertaken by Grant of attempting to lay down on a modern map the trace of this portion of Le Vaillant's route. The latter's map shows that from his Camp of the Giraffe at the Orange he went N.W. direct to the Lion (Houns) River,⁽¹⁾ and his text states that before reaching it, and after a journey of 5 hours, he arrived at a warm spring.⁽²⁾ This can only be the present Wambed by the Houns River, though he put it at a distance of 3½ hours' travel east of that stream. However, as little importance need be attached to the accuracy of this statement as to that of his claim to have made the 30 - mile journey with pack-oxen from the Orange to the spring in 5 hours, and to that of his assertion that its latitude was 27° 5' (26° 27' actually). Amidst these inaccuracies there stands out the central significant fact that he says he went to the hot spring near the Lion River which is the only point in his entire narrative and map of his travels north of the Orange that can be identified with certainty. It can only be the present Wambed since it lay east of the Lions River, to whose right (west) bank he crossed before continuing north up its valley. These particulars of the position of the spring and river relative to his movements do not fit that of the only other warm spring in this region, namely 2 miles north of Hamab (Hamrivier) railway siding.⁽³⁾ It is difficult in the face of this evidence to accept Grant's drawing of the route, not up the Houns River but up the Ham 60 miles further east, that he incorrectly identifies with the Lion or Gamma River of Le Vaillant. It is his southward route, on the contrary, that is mapped by Grant along the Houns River, crossing it four times and returning to the Orange below their confluence. Le Vaillant's map shows his return route crossing it but once and reaching the Orange above their confluence.

Pursuing Grant's delineation of the northward route, but taking it from the Houns instead of from the Ham River, it is reasonable to draw it across the headwaters of the Geinab River then known as the Drasy,⁽⁴⁾ and mapped by Le Vaillant as having been crossed herabouts by him. (Grant incorrectly identifies the Back River with the Drasy, and maps the junctions of the Ham and Geinab rivers with the Orange much too far apart). Beyond the Geinab this route passes to the east of the Groot Karras Mountains and then swings N.W. across the Lóven River, tributary to the Great Fish, with which Le Vaillant could have confused it according to Grant's suggestion.

1. Mossop 1935, p.279 &c.

2. Le V. 1796 II, 312.

3. Haughton & Prosser 1936 p.55.

4. Mossop 1947a, p.39 & end-map.

Thereafter a crossing of the Ganeib and Gareb rivers some 20 miles E.N.E. of Keetmanshoop agrees better with Le Vaillant's showing of having gone over eastward-directed streams at this stage of his journey, than those taken by Grant for this purpose, namely the Black and the White Guruchab that flow S.S.W. However, under either of these assumptions there is no objection to accepting Grant's placing of the farthest-north point of the route near Blaukehl (not Blankehl) 30 miles N.E. of Keetmanshoop. (1)

The route can then be allowed to have turned southwards and to have passed between Keetmanshoop and the Great Fish River, though even if his westward sortie to "the Company of Lepers" or "horde with the pestilential disorder" had been but half the distance represented on Le Vaillant's map, he must have crossed and re-crossed that stream. However, if this exaggeration of his westward thrust be disregarded, it may be mapped to fall short of the Great Fish which, it may be allowed, he thought that he had crossed for a second time when he re-encountered the Iöwen on his southward journey. He could then have continued south, passing below the western slopes of the Klein Karas Mts. From there, however, it would seem better to take his route across the Houns River only once and at a point about 10 miles above its confluence with the Orange. Le Vaillant's map does show that he crossed the Houns (Iöen) River twice; once northward bound and again on his southward trip when he crossed it lower down and from its right bank to its left, this second crossing being mentioned rather doubtfully in his text. (2)

The above route seems to be the best that can be laid down by simply comparing its representation on his map with the features of a modern map. But this manipulation offends the geographer's conscience because it is inadequately supported by evidence in Le Vaillant's narrative concerning distances, directions, dates and times of travel; and because it completely disregards the latitudes given in his map and text that he implies or states he had observed. (3) These claim respectively that he was as far north as $23^{\circ} 25'$ (map), the southern tropic (4) and 22° (5), whereas under the route put forward by Grant his farthest north near Blaukehl was only about $26^{\circ} 12'$. This reduces Le Vaillant's farthest north by over 200 miles and does nothing to re-establish our confidence in his veracity. The section below that is devoted to a discussion of his map will show how he could have represented the regions north of the Kamiesberg without having travelled there.

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1. Chief maps used for reference here are:
Sheet 8, $\frac{1}{2}$ - Million Series, Irrign. Dept. Pretoria 1937.
S.W. Africa Sheet, 1/2,000,000 Geog. Sect. Gen. Staff, 2nd edn. 1938.
 2. Le V. 1796 III, 261.
 3. *ibid.* II, 242, 313, 346.
 4. *ibid.* I, 134.
 5. *ibid.* III, 196.

Grant suggests that Le Vaillant's account of his northward journey is so difficult to follow because it was published after his imprisonment, during which his field notebooks may have been lost. But this supposition fails to explain why in that case he was able to remember numerous place names as far north as the Kamiesberg, beyond which the few names (other than those that he himself bestowed) that occur in his narrative and map are those that appear in the accounts of Brink⁽¹⁾ and of Paterson that were published before Le Vaillant's. Moreover, the same lack of place names characterizes his suspect account of his trip beyond the Great Fish River in the eastern Cape that was written before his imprisonment.

If it still be urged that on ornithological grounds he must be allowed to have made an extensive trip north of the Orange, then the reply is that acceptable geographical evidence for this does not exist in his book. If he really made that trip, he should have been at more pains to present the evidence clearly, instead of allowing his field-notes to be written up wholly or partially by Casimir Varon or Legrand d'Aussai, and permitting Laborde to use, or supplying him with, fantastic latitude values for the map.

The conclusion reached by a geographer after this examination of Grant's arguments is to enquire whether it is permissible to wonder whether the geographical and other evidence does not outweigh the ornithological; and whether the ranges in the 18th century of the five species named are known with such certainty in that still unfrequented territory, that they can now be used to establish positively the extent of Le Vaillant's travels to the north.

Moritz's scholarly work on the earliest European travellers in South West Africa does not even deign to mention Le Vaillant's name,⁽²⁾ whilst Vedder gives reasons for disbelieving that he had ever crossed the Orange River.⁽³⁾ His claims to extensive northward travel seem discredited by those of his contemporaries whose reported pronouncements on this matter have been preserved. He declares that amongst his closest friends in the colony were the Slabbers of Theefontein near Saldanha Bay, who are stated by Barrow to have asserted that he had travelled no farther than the Orange River.⁽⁴⁾ The widow Van der Westhuizen, whose dwelling-place probably enabled her to pronounce on this point with more accuracy, averred that he had not gone much beyond the Kamiesberg. When she was visited in 1813 by the missionary John Campbell at Klipvlief (13 miles S.W. of Leliefontein) she claimed that she had known Le Vaillant.⁽⁵⁾ The latter tells of visiting a

1. Mossop 1947a,
2. Moritz 1915 & 1918.
3. Vedder p.31.

4. Barrow 1804 p.21.
5. Campbell 1815 a, p.459, &
1815 b, p. 330.

family of Van der Westhuizens, ⁽¹⁾ probably at Klipvlei (though he does not mention this name) since the route he describes must have taken him close to that locality. He passed Gariche (Garies) and made his way to Oog Fontein which is shown on the Divisional Map of Namaqualand, Sheet 3, 7½ miles N.N.W. of Garies and in the position assigned to Cypherdam in the Garies Sheet, ¼ - Million Series, 1945. Here he waited till the Van der Westhuizens sent him fresh teams of oxen to ascend the Namero Mountains where they dwelt. These are shown in the Gordon Map 3 as an escarpment above which Klipvlei is represented. ⁽²⁾ The mountains may have been called after the "Namarap or cattle place of the Namasqua chief", ⁽³⁾ and it is probably this name that now survives as Namaroep 5½ miles north of Klipvlei.

The widow Van der Westhuizen is stated by Campbell to have said that "she well remembered Vaillant, who lived a good while at her house. She said he never was above ten days absent from her house, when he went farther up the country, and these he spent among the Namis Mountains opposite seeking birds, stones and flowers, which appeared to her very idle employment." She then asked Campbell if the Frenchman's book mentioned the drubbing she had given him with a sjambok because of his improper behaviour towards her daughter. Though the alleged incident does not figure in Le Vaillant's pages, he says that the latter lived alone, ⁽⁴⁾ and a hint of how trouble of this nature could have arisen appears in his comment upon the merchandise that he carried in his waggons. "All these articles which the wives and daughters of the planters incessantly ask from travellers are necessary to gain their affections, and perhaps something more when the opportunity offers." ⁽⁵⁾

The widow Van der Westhuizen's assertion that the Kamiesberg was his farthest north would seem at first sight to be disproved by the fact that no doubts have been cast on his assertion that he returned to the Cape with a giraffe's skin. He devotes a good deal of space to his account of how he shot this animal far north of the Orange: and it is almost certain that to have shot one he must have gone at least as far as the south bank of the river where they had been seen a few years earlier by Wikar as well as by Gordon. ⁽⁶⁾ However, consistent with the widow's assertion is a report by Lichtenstein that the half-breed, Solomon Kok, told him that he and

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1. Le V. 1796 II, p.83.
 2. Mossop 1947 a, map at p.34.
 3. Shaw p.88 & frontispiece.
 4. Le V. 1796 III, p.441.
 5. Le V. 1796 I, p.144.
 6. See above p. 307.

his father, Cornelius Kock, had sold the skin of a fine giraffe that they had shot north of the Orange, to a French collector of birds and animals whom they had met on their way back to the Cape in the Karreeberg.⁽¹⁾ From Map 5 of the Gordon Collection and also in Barrow's map these are seen to be the hills north of the Olifants River near whose centre Bitterfontein is now situated. Lichtenstein states further that Solomon Kock said that the Frenchman "travelled with them some way and made many enquiries of them concerning the country on the other side of the Orange River." Lichtenstein had no doubt as to the identity of the French collector of birds, and adds elsewhere, "When Le Vaillant asserts that he has seen the giraffe trot, he spares me any farther trouble in proving that this animal never presented itself alive before him."⁽²⁾ Le Vaillant actually went further than that by recounting that whilst the giraffe "trotted on lightly without exerting himself in the least",⁽³⁾ he on his galloping horse was gradually outdistanced. A giraffe at full speed presents a singular appearance which has been compared to a rocking-horse in motion, as it moves the fore- and hind-legs of the same side at the same time in the same direction. This striking peculiarity is not mentioned in his description of its gait which he essays elsewhere.⁽⁴⁾

Another inconsistency in the evidence regarding his giraffe-hunting exploits is his statement that all he saw were north of the Orange, and that none so far as he knew were to be found on its south bank.⁽⁵⁾ By his account he left his three waggons on the south bank,⁽⁶⁾ yet these appear in the background of the frontispiece of Vol. I (1790) where in the foreground he is depicted hunting a giraffe. Confirming the error is its title, "Encampment among the Great Namaquas", who dwelt north of the Orange, as he himself states. This engraving must have been made at least six years before the publication of the volume describing his giraffe-hunting exploits, and in the interval he (or his collaborator) must have forgotten that the illustration showed that his waggons had crossed the Orange.⁽⁷⁾ The true manner in which he may have obtained his giraffe skin could have suggested his tale of the purchase of the skin of the isabella-coloured quagga which he said he saw but was unable to shoot.⁽⁸⁾ The existence of this animal had already been reported in the publication containing an account of Hop's expedition.⁽⁹⁾

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| 1. Lichtenstein 1930 p.317. | 6. Le V. 1796 II, pp.242, 284, 309. |
| 2. <i>ibid.</i> p.350. | 7. Kock pp.68, 72. |
| 3. Le V. 1796 II, p.262. | 8. Le V. 1796 III p.33. |
| 4. Le V. 1796 II, p.279. | 9. Mossop 1947 a, pp.48, 49. |
| 5. Le V. 1796 II, p.235. &
Le V. 1796 III, pp.33, 264. | |

If the evidence be accepted that he did not go much beyond the Kamiesberg, an attempt must be made to show how he could have obtained the material on which to have based his lengthy narrative of his travel and adventures far north of these mountains. There certainly was no dearth of possible sources of information, but which of these were more likely to have been used by him it cannot now be suggested. There were several persons who had already travelled to or beyond the Orange River whom he could have met. The road to the river must have been well-known by then, for there had been already at least three cattle-stations granted to burgers on its banks in Namaqualand.⁽¹⁾

He records that somewhere between the Kamiesberg and the present position of Springbok he encountered a runaway sailor called Schoemaker.⁽²⁾ It is unnecessary to enquire further whether Le Vaillant ever was so far north; but the point to note is that somewhere he met a man who it is not entirely unlikely was the Volcker Schoemaker who a few years earlier had perhaps been living on the banks of the Orange. Incidentally this may have been he whom it has been suggested elsewhere had dwelt at one time in the eastern Cape.⁽³⁾ Supporting the latter view is the fact that the Volkers and Schoemakers rivers are east-bank tributaries of the Sundays River at Lake Mentz. It is on record that a Volcker Schoemaker occupied a farm named Geelhouteboom,⁽⁴⁾ probably that which is shown on the Schoemakers River in the Somerset East Division Map of 1929. This is more likely than that it was the Geelhouteboom on which Dunbrody Mission is now situated, as is claimed by the Reverend Father E.H. Buckland in a cyclostyled note dated October 1931 and entitled The Sundays River.

To return to facts, however, it is clear that there were persons who had been to or beyond the Orange, from whom the white colonists of the Kamiesberg must have heard and have been able to recount to Le Vaillant, much information about the tract between them and the river, and possibly also of the territories beyond. Of the latter he is said to have learnt from the half-breeds Cornelius and Solomon Kok in the Karreebergen.⁽⁵⁾ He may well have met Jacobus Coetse Jansz: then living near the Piquetberg,⁽⁶⁾ whose journey across the Orange in 1760 had led to Hop's expedition to the same region in 1761 - 62. In addition to yet other surviving members of Hop's party, its surveyor and journalist, C.F. Brink, was

1. Mossop 1935 pp.4, 34.

2. Le V. 1796 II, pp.161, 168.

3. Mossop 1935 pp.115 & 116 footnote.

4. Theal 1901 p.51.

5. Lichtenstein 1930 p.317.

6. Mossop 1947a, p.93.

still residing at the Cape.⁽¹⁾ There too was probably H. Wikar, the pardoned deserter who had travelled far up the Orange in 1778 - 79: whilst the manuscripts describing these adventures had probably been read by several people at the Cape, including the Fiscal Boers⁽²⁾ whom Le Vaillant often mentions as his friend and benefactor. Then there was Colonel R.J. Gordon who had travelled up the Orange almost as far as Prieska and with whom Le Vaillant claimed intimate friendship.⁽³⁾ However, if indeed he was intimate with Gordon, the Colonel seems to have divulged nothing of these discoveries to Le Vaillant, for no trace of information regarding them appears in the latter's books. Equally silent must have been the hunter Pieter Pienaar⁽⁴⁾ who had accompanied Gordon and Paterson and figures also in Le Vaillant's narrative. Another then living who had crossed the Orange at least twice was Paterson's companion Sebastiaan van Reenen.⁽⁵⁾ In addition there may well have been other persons at or near the Cape who had travelled with one of the above-mentioned individuals but whose names have been lost because of their humble station. There is, moreover, the probability that other crossings of the Orange had been made by colonists of which no very definite record now survives.⁽⁶⁾

Printed sources of information regarding the territories under discussion were then available. The first is 'Nieuwste en bekropte Beschryving van de Kaap der Goede-Hepe', 1778, which was followed by a French translation in the same year. The second part of this work comprises a transcription of Surveyor C.F. Brink's journal of Hop's expedition of 1761 - 62, together with the reports of Roos and Marais on the native tribes encountered, and Rykvoet's report on the minerals. The other book is that of Paterson which Le Vaillant cites frequently, and which appeared in 1789 with a French translation in 1790.

Nearly all the names of features mentioned by Le Vaillant between the Kamiesberg and the Orange, and all north of that river, which were not of his own bestowing can be found in one or other of the above publications. The absence of native names here is even more surprising a circumstance than it is in his account of his travels beyond the Great Fish River in the eastern Cape. There he professed to have met with but few of the native inhabitants; but

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| 1. (Mossop 1947a, introd. p.x.
(Leibbrandt 1905 p.143. | 4. Franken pp 213 - 9. |
| 2. Mossop 1935 p.4 footnote
& pp.7,8. | 5. <i>ibid.</i> p.208 and see above
pp.250,264,267. |
| 3. Le V. 1796 III p.470. | 6. Mossop 1947a,p.94
e.g. P.de Bruyn & W.van Wyk. |

north of the Kamiesberg he was by his account usually in touch with one tribe or another.

Those tribes which he names are known to have existed, and he may have learnt of them from one or more of the persons suggested above as possible informants. The Little and the Great Namaqua were well-known in any case. Though the Hottentot groups he mentions all figure in Wikar's narrative, he differs from Wikar in reporting the respective localities in which they dwelt. His spelling of the names of these tribes does not closely resemble Wikar's. Thus it seems likely that he learnt little if anything either direct from Wikar or from a perusal of one of the latter's written accounts. Moreover, had Le Vaillant done so, some reference to the Auhrabies Falls could reasonably have been expected to appear in his books, whereas no mention whatsoever of them is made. A comparison of his names of tribes in the vicinity of the Orange River and beyond with those figuring in the then published works of Roos & Marais,⁽¹⁾ of Mentzel⁽²⁾ and of Paterson, does not suggest that he drew his information about them from any of these sources.

His Caminouquas⁽³⁾ are probably the people called the Kasingou by Wikar, and now known as the Bondelswarts of the Warabed district.⁽⁴⁾ His Kabobiquas,⁽⁵⁾ a branch of whom he said were called the Sandal-bearers, were clearly the Chabobe or Veldskoendraers who then dwelt north of the Karras Mountains. It is obvious that he had never met these Hottentots whom he said were as tall and as black as the Kaffirs, and without the flat Hottentot nose;⁽⁶⁾ an erroneous description which probably confused them with accounts he had heard of the Herero. His Cheyessiqua are clearly the Gyziquoas or Twin-kraal-people, described by Wikar as an interbred Korana and Tswana people. Le Vaillant gives a similar account, saying that they were of mixed Namaqua and Kaffir blood, and adding that these Kaffirs were the Briquas or Bemas.⁽⁷⁾ These latter are now known as the Ba-Thlaping, a Tswana tribe. The Gyziquoas dwelt in 1779 along the Orange River near the present Upington, a locality it is safe to say he never visited, since he must have approached it along the river. This he made no claim to have followed up for any distance, and had he reached the Gyziquoas territory he would certainly have mentioned the Auhrabies Falls. This argument

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| 1. Molsbergen 1916 II pp.51 - 8. | 5. Le V. 1796 III, pp.63, 72 & 108-126 <u>passim</u> . |
| 2. Mentzel 1944 p.310 et seq. | 6. <i>ibid.</i> p.82. |
| 3. Le V. 1796 II p.234. | 7. <i>ibid.</i> p.333. |
| 4. Mossop 1935 pp.13 - 15.
Consult for tribes of this paragraph. | |

applies also to his claim that he had visited the Koraquas,⁽¹⁾ who are the Kora people or Korana, then dwelling along the river upstream from the Gysiquoos between where Upington and Prieska are now situated. His claim is further discredited by his placing on his map of the Koraquas north of the Draai River (Geinsab) which heads on the eastern slopes of the Great Karras Mountains.

The term Bushman (Bossisman in the French original) he applied exclusively to bands of runaway slaves and criminals, following the usage in Dutch Guiana where as a child he must have heard the gangs of fugitive desperadoes who lived in the forests referred to as Bush-men or Bush Negroes.⁽²⁾ Thus it appears that on occasions in South Africa he misunderstood references to Bushmen. But it is clear that when he meant to indicate the people in South Africa who are known as Bushmen he always called them the Housouanas or Houswaanas. This identification rests on his accounts of their distribution, stature, colour, physical characteristics and habits: and on his statement that they were also known as Chinese Hottentots.⁽³⁾ He relates that they were called Houswaanas not by the Colonists but by the "savages of the desert".⁽⁴⁾ This agrees with a statement in a recent work that Ousaana was the name for the Bushmen used by a group of Hottentots near Algoa Bay.⁽⁵⁾ and it is not improbable that the term was used by groups of these people elsewhere in the Cape. Le Vaillant was, however, apparently the first and almost the only writer to have recorded this term Housouanas and to have applied it to all Bushmen groups. Barrow also used the term,⁽⁶⁾ it is true, but he probably took it from Le Vaillant as appears from his remark that the Boschjemans "are the real and true Housouanas".⁽⁷⁾ Le Vaillant seems to have been the first to publish a description of the Bushman shelters which appeared "as if cut vertically through the middle, so that the hut of a Hottentot would make two of those of the Housouanas."⁽⁸⁾ These were shown in a drawing by Colonel R.J. Gordon in 1779 and misunderstood by his modern editor, who notes incorrectly that the huts are shown in section to provide views of their interiors.⁽⁹⁾

Support for the widow Van der Westhuizen's assertion that he had not reached the Orange is provided by his account of its

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| 1. Le V. 1796 III pp.3,17 - 21. | 6. Barnard 1924a, pp.48,50. |
| 2. Le V.1790 I p.303,II p.343,
1796 III p.174. | 7. Macartney Papers. Barrow's letter
of 15th Oct.1797 from Graaff-
Reinet. |
| 3. Le V. 1796 III pp.164-178. | |
| 4. Le V. 1790 II p.346. | 8. Le V. 1796 III p.167. |
| 5. Kirby 1955 p.135. | 9. Molsbergen 1916 II pp.76,283. |

fluctuations in volume, which he said were occasioned by rainstorms which he could plainly see afar in the mountains at its source.⁽¹⁾ The river's level is not regularly associated with the local desert rainstorms, whilst the regions of its middle and upper course from which its chief floodwaters are derived, are far beyond the limits of visibility from Namaqualand.⁽²⁾ But even if he did reach the Orange, he is unlikely to have travelled far up its south bank as his map shows, for this represents its course running almost in a direct line north-eastwards from the sea to its source. His claim to have travelled down the river's banks to within four days' journey of its mouth is also manifestly untrue, since this route of extreme difficulty he describes merely as "a little excursion",⁽³⁾ and he was certainly not one to minimise his exploits. Moreover, it was not the obstacles presented by the route that he ascribed his return, but to fear of a band of marauders. Confirming this rejection of his claim is the omission from his map of the great northward bend made by the river shortly before it reaches the sea.

If the foregoing evidence be accepted as showing that he did not travel much farther north than the Kamiesberg, then his claim to have reached beyond the tropic⁽⁴⁾ in Great Namaqualand represents an exaggeration of at least $6^{\circ} 30'$ or over 450 miles. However, since in the eastern Cape where he is unlikely to have proceeded much beyond the Great Fish River, he had no compunction in placing his turning-point in the latitude of Zululani, he would have experienced few qualms in applying only a slightly more fantastic degree of exaggeration to the position assigned to his turning-point on his journey to the north.

His Map.

His map in the English edition is roughly one-quarter the size of the French original. The former suffers not only from compression and the consequent omission of some names at False and Saldanha bays, but also abounds in transcription errors. The Dutch edition map is intermediate in size between the French and the English, and has been transcribed and translated more correctly. The French original is

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1. *Le V.* 1796 II, p.240.
 2. Burchell 1953 I, p.306.
 3. *Le V.* 1796 III, p.577.
 4. *Le V.* 1796 I, p.134, III p.196 and his map.

indeed itself not entirely free of errors in transcribing from Paterson's map, which in turn shows mistakes in transcribing from Sparrman's.

One of Le Vaillant's avowed objects of travel, so he states, was "to procure, if possible, a topographical plan" of the colony.⁽¹⁾ It is not known how far he himself was responsible for the compilation of his map, but he says that one, Laborde, took "extraordinary care in finishing the map of my travels" and "made every exertion in his power to give effect to its accuracy and precision."⁽²⁾ These remarks, which seem intended to convey an impression of its scrupulousness, are supported by his references, direct and indirect, to his compass and quadrant,⁽³⁾ as well as by the insertion along the trace of his travels north of the Kamiesberg, of six values in the French original of pretended results of observation for latitude.

Evidence has been led to cast doubt upon whether he had reached the Orange River and travelled far beyond it. The faulty mapping of stream courses alone will not prove this, for as he himself has pointed out, it is impossible to map correctly the entire length of a dry stream crossed but once,⁽⁴⁾ especially in the absence of reliable interpreters through whom to obtain this information accurately from tribesmen. But as has been shown, there are other reasons for doubting his claims: and since this is so it is necessary to indicate how he could have mapped the lower Orange River and the courses of the streams that he draws to the north of it. Paterson's book evidently supplied him with much of what he inserted of the lower Orange and its mouth, since several place-names and legends in those parts are from that publication. Le Vaillant's map shows the Draay River as a tributary to the Lion or Ganna River, which is depicted flowing south and then S.W. to join the Orange not far from the position where it is in fact joined from the north by the Great Fish River. These errors could have been derived from the account of these streams written by Brink.⁽⁵⁾ Here the names Leeuwen-Draay-Ganna Rivers are hyphenated together, so that they could have been taken as alternative names for the same stream. The Draay River is now the Geinab⁽⁶⁾. The Leeuwen-Ganna or Lion-Ganna of Le Vaillant is the present Iöven River, eastern tributary of the Great Fish⁽⁷⁾ by which stream its waters do eventually reach the Orange near the position mapped by Le Vaillant for the confluence of the latter and the Lion-Ganna. It seems that he had confused accounts of the two Lion rivers, one the Houms and the other the Iöven, and had tried to unite their courses. He realized that a mistake of this type might easily occur;⁽⁸⁾ and we may add that this would be the

1. Le V. 1796 I, 30.

2. *ibid.* III, 418 & I, p.xi.

3. *ibid.* II, 242, 313, 346.

4. *ibid.* III, 244, 201.

5. Mossop 1947a, p.54.

6. *ibid.* p.59 & end-map.

7. (Mossop 1935 pp.74, 305 & end-map. Mossop 1947 p.47.

8. Le V. 1796 III, 201.

more likely if he had visited neither of these streams.

If Le Vaillant drew upon Brink's account of the warm spring at Wambad, he did not accept all the latter wrote; for he rejected the statement that the Great Fish is a northern tributary of the Orange, a correct belief, though apparently founded on slender evidence.⁽¹⁾ Hence other members of that expedition may have believed that it flowed W.S.W. to the sea, an opinion that could have been communicated to Le Vaillant by whom it was accepted as more probable.⁽²⁾ In this decision he may have been influenced by the weight of tradition embodied in several 18th century atlas maps of Africa that show a number of rivers flowing in this direction into the sea in these latitudes, a pair of which could have been taken by contemporary readers of his narrative to be his Orange and Great Fish rivers.

The features mapped between the Kausai River (now the Buffels) and the Orange do not prove that he reached the latter. He may have had some of them from hearsay, whilst it is certain that others have been taken from Paterson's text describing his two journeys to the vicinity of Goodhouse and his trek along the coast from the mouth of the Buffels to the mouth of the Orange. Derived from this source are also the features mapped east of the Kamissberg (in reality S.E.), amongst them the strange legend, "Huts of the European Fisherman". On the French original this is rendered "Huites de l'Européenne Empoisonnée" --- the poisoned European woman. This is clearly derived from Paterson's account of his meeting with a white woman who had long suffered from the wound inflicted by a Bushman's poisoned arrow.⁽³⁾ She dwelt south of the Renoster River and below the Roggevald Escarpment in a position very different from that assigned on Le Vaillant's map. Other names from the text of Paterson's second journey are recognizable in the Tanqua Karroo.

South of the Kamissberg and west of the Cape Fold Belt there is no evidence to disprove that the bulk of the mapping may be attributable to his own observations. A number of places mentioned in his text appear here, and are identifiable but usually much misplaced, showing that even in the well-known parts of the colony his mapping is most unreliable. He could have improved considerably the southern portion of this part of his map by using the Abbé de la Caille's more accurate representation of the area.⁽⁴⁾

His portrayal and naming of the topography on the eastward road from Cape Town as far as Plettenberg Bay (his Lagoa Bay) could also have been from his personal observations added to a chart of the coastline. On this portion of his map numerous names are identifiable, some of which do not figure in the maps or narratives of Sparrman and of Paterson; and his coastline and rivers are not taken exclusively from these authors.

1. Nassop 1947a, pp. 32, 55, 49.

3. Paterson p. 48.

2. Le V. 1796 III, pp. 243-4.

4. Nentsel 1944 reproduced at p. 78.

Immediately to the north of the Outeniqua Mountains and of their extensions west and east, the portions of the Little Karroo and of the Lange Kloof shown on his map have been taken from that of Paterson. Only the Hayboom River, near to and east of the Krakeel River, is neither from Paterson nor Sparrman nor Thunberg.⁽¹⁾ The Hayboom River is the Wagenbooms River in Paterson's map, and the reason for this alteration is obscure. Next to it is Swart Kloof which is mentioned here in Sparrman's narrative.⁽²⁾ It is remarkable that Le Vaillant's route is not shown passing down the Lange Kloof, which way he says he took, and which indeed he must have followed, if, as he asserts, he crossed the Outeniqua Mountains at Duivelskop Pass and proceeded directly eastwards down the Lange Kloof to the Kromme River at St. Francis Bay. Several of the rivers shown in the Lange Kloof in Paterson's map (and reproduced in Le Vaillant's) bear to this day the names recorded for them by Sparrman, and should have been recognized by Le Vaillant as ones that he himself had crossed. Besides, both Sparrman and Paterson in their narratives clearly state that they went through the Lange Kloof, which the lines on their maps representing their routes plainly confirm. Thus it is incomprehensible how he could have permitted his cartographer, Laborie, to draw his eastward route not in the Lange Kloof, but in an impossible line amongst the Outeniqua and Tsitaikama mountains. If it were not for the fact that his visit to the Somerset East area seems to have been authenticated by Barrow,⁽³⁾ who would certainly have gainsaid the claim if it had been questionable, the evidence of Le Vaillant's map alone would strongly suggest that he travelled no further than the southern slopes of the Outeniquas.

Whilst most of the names he shows between the Kromme and the Great Fish rivers are identifiable and appear also on Paterson's map, east and north-east of the Great Fish those names not derived from Paterson are from his own narrative whose veracity has been questioned above. Those taken from Paterson have been shifted southwards distances of as much as 1° of latitude. This was a move in the right direction, but of insufficient quantity, since Sparrman (from whom Paterson uncritically copied most of his map) grossly exaggerated the latitude-values he gave to places hereabouts, such as Koks Kraal, by amounts of as much as $4^{\circ} 30'$ north of their true positions. It is thus on the faulty work of Sparrman that Le Vaillant in the final

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1. Thunberg 1795 I, pp.199,210, II, 55, 97.
 2. Sparrman 1786 I, p.308.
 3. Barrow 1801, p.280.

analysis based the latitudes of the trace of his travels beyond the Great Fish River. Hence the position in latitude ($28^{\circ} 25'$) that he assigned to the farthest point north that he reached on this journey, and which he mapped due east of the Sneeuwberg, is actually in Zululand. If indeed he owned and could take observations with a quadrant, he cannot have used it here: but his claim to this possession and its employment is probably as idle as his assertion that he had made an excursion beyond the Great Fish River. His position of the Bay of Natal is only about $12'$ too far north, and was probably taken from a chart.

Like most of his predecessors, he erred in placing too far west the point where the south coast commences a general trend to the north-east. This point he shows as Cape Ekeberg,⁽¹⁾ now Cape St. Francis, to which he assigned a position in longitude that is not far from correct, but placed it $30'$ too far north. A mariner eastbound along the south coast who relied on Le Vaillant's map and set his course E.N.E. at Cape St. Francis would have jeopardised his ship. It was Le Vaillant's inaccurate latitudes in the eastern Cape that provoked Barrow's scorn⁽²⁾ at the Frenchman's grandiloquent assertion that had his journey been productive of no other good than that of preventing a single shipwreck, he would have applauded himself during his whole life for undertaking it.⁽³⁾

His portrayal of his route through the Great Karroo from Camdeboo (Aberdeen district) in an almost unrelenting line W.S.W. to the farm Theefontein near Saldanha Bay adds to the suspicion initiated by his account of this journey that he may never have travelled that way. The rivers he depicts as having crossed in the Great Karroo could have been inserted from an itinerary provided by a colonist, just as Sparman did for this route.⁽⁴⁾ Had Le Vaillant crossed the rivers as shown, he must have noticed that for days he had travelled parallel with and near the foot of the west-east range bordering the Karroo on the south, the Zwarteborgen. Yet he shows no such border range, and the Zwarteborgen at whose feet is situated Kweek Vlei, now Prince Albert,⁽⁵⁾ where he claims to have spent a week, are mapped as a solitary clasp aligned mainly north-south at a distance 60 miles and more south of Kweek Vlei and from any part of his route. Moreover, he shows the stream at Kweek Vlei flowing south to join the Olifants River instead of northwards to the Ganka.

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1. C.G. Ekeberg, a Swedish sea captain. See footnotes in Jour.S.A. Botany, 1939 p.111, and Quart.Bull.S.A.Library II, 39,75.
 2. Barrow 1804 p.19.
 3. Le V. 1796 I, p.124.
 4. Sparman 1786, II, 160.
 5. Botha 1926a, p.133.

The scale of his map probably handicapped his cartographer from showing the position of Theefontein accurately upon it, so that others on larger scales must be used to ascertain its whereabouts precisely. It appears on several modern maps, including the Piquetberg Sheet, $\frac{1}{4}$ - Million Topo-Cadastral Series, Provisional Issue, 1950. In these it is shown 9 miles south of Hopefield, 4 miles W.N.W. of Uilenkraal, 4 miles S.W. of Ganzekraal and 4 miles N.E. of Sonquasfontein. It is adjacent to the N.E. boundary of the farm Riet Valley mentioned by Grant. (1) The distances and directions in modern maps from Uilenkraal, Ganzekraal and Sonquasfontein to Theefontein tally sufficiently with their respective positions in maps of the late 18th century, such as Maps 3 and 6 of the Gordon Collection and a large-scale map of Barrow, (2) to identify this Theefontein as the one that figures in the pages of Le Vaillant.

The summarised conclusions reached from a study of his map are these. (1) The regions west and south of the Cape Fold Belt may depend mainly upon his own very imperfect work. (2) Beyond the Orange River in the north and the Great Fish River in the east, the topography is derived from what he had heard and read of these regions. (3) The remainder is largely copied from Paterson's map (itself mainly a copy) or derived from Paterson's narrative.

Miscellaneous and Conclusion.

The Jesuit, Father Tachard, was perhaps the first to print a suggestion that sea level had altered at the Cape. (3) He stated that before he set out on his voyage to Siam in 1685, he was asked to investigate a theory which, however strange, he had been assured was true. This was that upon the top of Table Mountain there were to be found scattered large numbers of seashells, which gave indubitable evidence of its former submergence. Nearly a century later, Sparman wrote of evidence of the expulsion of the sea from the Cape Flats and Fish Hook Valley, apparently believing that this had been accomplished without change of sea level. (4) Shortly after him Le Vaillant took up the tale with his belief that a fall in sea level was evidenced by the sand dunes, sea shells and low elevation of the Cape Flats which showed that they must have been recently

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1. Grant p.84.
 2. Barrow 1804 p.262.
 3. (Tachard pp.44,46.
(Sparman p.170.
 4. See above pp. 150,348 and
below pp. 371-3,403-7.

submerged. He extended this hypothesis sufficiently to state his conviction, "that not only the southern point of Africa [Cape Peninsula] but also its interior mountains at a great distance within the land have in part been covered by the sea." (1) These conclusions, according to Degrandpré, (2) were supported by observations made by Le Vaillant on the summits of the Sneeuwberg, (3) though in fact the latter did not actually claim that the "dunes" that he had seen there were evidences of marine retreat. But he may have been convinced by the horizontally stratified rocks, the saline earth and the brack streams so common in the interior, that universal oceanic retreat had occurred as postulated under the Neptunian hypothesis. This led him to the logical conclusion that the elevation of the ocean must once have been sufficient to have divided the Cape Peninsula into three islands, separated by channels at Constantia Nek and at Fish Hook. He remarks that as these are "on different levels, it cannot be doubted that they were formed at different periods", (4) by which he may have meant that they would not have been simultaneously abandoned by water during a progressive decline in sea level. This is certainly the interpretation given to this remark by Degrandpré. However, the modern view is that though the sea extended across the Fish Hook Valley and the Cape Flats in the Quaternary, no fluctuation within this period is known of sufficient range to have covered Constantia Nek. (5)

There is, perhaps, no better-known incident in his volumes than his vainglorious account of his encounter with a "tyger" (leopard). (6) This was seized upon by some of his contemporaries as a detail of his story that could easily be checked by referring it to the Slabbers on whose farm near Saldanha Bay he claimed it had occurred. Barrow (7) and Lady Anne Bernard (8) provide what purport to be true versions of the incident as narrated to them by the Slabbers. These two versions, however, are so much at variance that they cannot be taken together as proof of Le Vaillant's inaccuracy. However, supporting the suspicion that he had magnified his achievement is also Lichtenstein's testimony that Slabber had declared the principal circumstances of the Frenchman's tale to be mere invention. (9) At a later date Slabber is reported to have stated that in his opinion "Vaillant was a very timid and faint-hearted traveller", (10) whilst Delegorgue was much disappointed in the overcoloured account his

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| 1. Le V. 1796 I, pp.132,134. | 6. Le V. 1790, I, p.73. |
| 2. Degrandpré 1801, II pp.276 - 8.7. | 7. Barrow 1801 p.360. |
| 3. Le V. 1790 II, p.342. | 8. Lindsay II p.471. |
| 4. Le V. 1796 I p.135. | 9. Lichtenstein 1926 p.36. |
| 5. Shand p.155. | 10. Latrobe p.417. |

fellow-countryman had given of Theefontein.⁽¹⁾ There is no doubt that he made the most of every little incident, and his volumes abound with instances where one suspects that truth has been distorted to his own advantage. Vanity was the fatal weakness that led to his numerous fanciful exaggerations and fabrications. He took the shortsighted view and swelled his books with material that he thought would gain him immediate credit. However, as we have noted, even amongst his contemporaries there were some who had begun to see through his embellishments⁽²⁾ which the passage of time has shown up only with greater clearness. It is regrettable that he did not realise how enduringly his reputation would have stood if only he had been content to set down the simple truth of all he had seen and done.

It would be ungracious, however, to close on this censorious note without acknowledging the remarkable spirit of devotion to science that he evinced. In an age when travel was often dangerous and always slow, he made at his own expense very considerable journeys by sea and by land, actuated by the love of learning and the desire for adventure. His unadorned achievements suffice to ensure that his books will continue to be read as significant contributions to the travel literature of his period in South Africa.

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1. Delegorgue, I p.82.
 2. Degrandpré 1801 II, pp.123 - 7, 187.

COUNT L.M.J. O'HIER DEGRANDPRÉ, 1793.

Count Louis Marie Joseph O'Hier Degrandpré (1761 - 1846) published in Paris in 1801 a two-volume work entitled Voyage a la Côte Occidentale d'Afrique fait dans les années 1786 et 1787. Rather more than half of this work is an account of the climate and natural productions of the coastal regions of parts of the present French Equatorial Africa and Angola, with a description of the customs and laws of the inhabitants. The greater part of the second volume, however, is devoted to a description militaire of the Cape of Good Hope and contains some material of geographical interest. Contrary to the impression given by the title of his book, it has been shown recently that his sojourn at the Cape was most probably in 1793.⁽¹⁾

Of Count Degrandpré little is known save that he was born at St. Malo in 1761, served in the French navy and was also actively engaged for several years in the African slave trade -- occupations which were probably not mutually exclusive. Recent works on the island of Mauritius contain brief accounts of his career as a slaver, as a royalist refugee in England and of his subsequent activities in France.⁽²⁾ In the latter connection he is referred to in the Macartney MSS at the University of the Witwatersrand.⁽³⁾ Besides his volumes on Africa mentioned above, he published a sequel to them entitled Voyage dans l'Inde et au Bengale fait dans les années 1789 et 1790, Paris 1801, which was translated into English;⁽⁴⁾ also an elementary summary of physical geography; a polyglot vocabulary of nautical terminology; a treatise on the art of the locksmith⁽⁵⁾ which was drawn upon for a German work on the same subject;⁽⁶⁾ and an account of the Seychelles.⁽⁷⁾ He translated into French and annotated the first volume of John Barrow's Travels into the Interior of Southern Africa.⁽⁸⁾ He died at Paris in 1846.

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1. Kennedy.
 2. (Barnwell p. 178.
(Toussaint, p.59.
 3. Gubbins Library, uncatalogued Macartney MSS; file marked "Prize Cargoes" (a) Nepean to Elphinstone, 15 - 12 - 1796
(b) Nepean to Pringle, 4 - 2 - 1797.
(Communicated by Miss M. Kannaneyer.)
 4. Degrandpré 1814.
 5. Bibliothèque Nationale. Catalogue des Livres Imprimés, Auteurs. Paris 1915, Vol. 63 p.571.
 6. Neuer Schauplatz der Künste und Handwerke, Vol. 50, Weimar 1839, "Der Schlossermeister."
 7. Cat. Library Royal Empire Soc. London Vol. I pp.392,469,567.
 8. Degrandpré, 1801c.

In the following discussion, attention will be principally directed to his account of the Cape, and in particular to those paragraphs which are concerned with physical geography and geology. These form but a minor part of his account, of which by far the greater portion is devoted to a general description of the Cape and its immediate vicinity, followed by a military dissertation upon the strategy of its attack and defence. The naval aspects of this subject are also dealt with by him in several instructions upon navigation in Cape waters. Qualified by his profession to deal with the latter theme, his bent and training may have inclined him to a closer investigation of physical laws than is to be found in the then recently published accounts of the Cape by the naturalists Sparrman, Thunberg, Paterson and Le Vaillant. Thus, whilst these were chiefly concerned with the collection and description of specimens of natural history, Degrandpré clearly relished a discussion on physical phenomena in fields now covered by geography and its associated sciences, geology and meteorology.

Meteorology.

He appears to have been the first writer on South Africa to print an attempted explanation of some of the winds experienced at the Cape,⁽¹⁾ though a contemporary manuscript surveys the subject more competently and in considerably greater detail. This document was prepared within the period 1791 - 95 by Colonel R.J. Gordon,⁽²⁾ and its contents could have been discussed by him and Degrandpré. Whether in fact they did so is not revealed by the latter's references to Gordon.⁽³⁾ Since traditionally the sailor is weather-wise, Degrandpré probably felt that his opinions upon this topic needed statement and carried weight. They fill a half-dozen pages which are summarized here as evidence of his treatment of the subject.

However, before presenting this synopsis, it should be noted that in 1686 Halley had published a paper in which the Trade Winds and the Monsoons were ascribed respectively to the temperature gradient between the Poles and the Equator, and to

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1. Degrandpré 1801a, pp. 82 - 88 & 136 - 140.
 2. V.C. 170, & see above pp. 330-1.
 3. Degrandpré 1801a, pp. 191, 201, 205.

temperature differences between land and sea; whilst in 1735 Hadley had shown how the earth's rotation deflected the Trade Winds. (1)

These investigators are not mentioned by DeGrandpré because their explanations had by then become standard; and he applied them to the S.E. winds at the Cape that are particularly prevalent and boisterous in summer. These he suggested were generated by the heating of the interior of South Africa, towards which "the air rushes headlong with the same violence [as the S.E. Trades] to fill the void occasioned by the rarefaction, yielding to the movement from east to west in which sky and earth are carried." Apart from a slip in the direction of the globe's rotation, this statement shows that he considered the Cape South Easter to be a gigantic sea-breeze or monsoon, moving with a left-hand deflection towards the heated interior of South Africa: and consequently he believed that "the warmer the year is, the more violence does the South Easter acquire". He considered that in summer this wind was part of a larger atmospheric circulation blowing north-westward towards the equator, the S.E. Trades: but that a belt some 5 to 6 leagues wide existed on the landward fringes of the Trades along the coasts extending north of Cape Town, where the air was drawn inland as S.W. winds by the indraught of the heated continental interior. This seems to be the meaning of his opinions which may be translated thus. "The S.E. wind follows a north-westerly direction, bearing away from the coast as far as it extends to the north, and comes at length in summer to rejoin without interruption the bulk of the general winds, except near the land where the coast occasions a revolution which causes the wind to alter to S.W.; but this irregularity does not extend over more than five or six leagues".

He offered no explanation, however, for the westerly winds which he believed originated on the coast of South America and met the South Easter in constant conflict at the Cape, where they became N.W. winds due to deflection by Table Mountain and its neighbours. But he evidently thought that the S.E. wind was only vanquished when conditions were unfavourable for its generation, namely when the interior of South Africa was cool in winter, or on cool days in summer.

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(Halley.

These observations do not contain any new contributions of either data or theory of permanent value to the study of South African meteorology; for his curious reflections betray that he was insufficiently conversant with the subject as then developed to apply the findings correctly to the facts on which he commented. Thus although certain aspects of the behaviour of the atmosphere had been shown by then to conform with precise physical laws, their effects were not considered in all cases by him. However, similar expositions in this and other subjects by unsuitably qualified persons were then common, and an educated man of that period could believe that in all matters his opinion was as valuable as that of his neighbour. In Degrandpré's defence it must be stressed that it was then impossible to provide satisfactory explanations for certain phenomena which, as the result of the subsequent accumulation of much data, are now related to our present conceptions of the general atmospheric circulation and of the mechanics of cyclones and anticyclones.

Changes in Sea-Level.

He displayed a thorough-going belief in the theory of the Neptunists that since the Earth's creation, the ocean had steadily decreased in level.⁽¹⁾ He apparently did not believe even in temporary reversals of this shrinkage, since he wrote that in this respect "the march of Nature has constantly been uniform".⁽²⁾ Under this theory it was clear that the higher the area, the earlier it must have emerged from the ocean; and the only exceptions to this rule were parts raised or foundered by volcanic action.⁽³⁾ He cited the discovery of fossils at considerable elevations in the Alps and in ^{S.}America in evidence of the primitive all-enveloping ocean.⁽⁴⁾ The recession of the sea which had already been observed in the Baltic⁽⁵⁾ (now ascribed to isostatic recovery after removal of the Quaternary icecap) is another proof he advanced. Accordingly he believed it inevitable that in time the Red Sea would become isolated from the ocean like the Caspian.⁽⁶⁾

1. See below p. 390.

2. Degrandpré 1801a, p. 72.

3. Degrandpré 1801b, I, 276.

4. Degrandpré 1801a, pp. 273 - 4.

5. *ibid.* p. 280.

6. Degrandpré 1801b, p. 267.

These thoughts seem to have been set in train by the observations of Sparrman and of Le Vaillant that the Cape Flats appeared to have been recently abandoned by the sea.⁽¹⁾ The latter had suggested that the Cape Peninsula must once have been divided into three islands when the sea covered Constantia Nek, Fish Hook Valley and the Cape Flats. (A modern contoured map shows that were the sea now to cover Constantia Nek, the Peninsula would form at least a dozen islands.) This theory Degrandpré discussed at length, and on his map illustrating it⁽²⁾ he inscribed at the approximate positions of Constantia Nek and of the Fish Hook Valley respectively, "The first col abandoned by the sea." and, "Second area to be drained dry." Across the Cape Flats he wrote, "Plain of sand 5000 toises wide, the latest drying up."⁽³⁾ He predicted that this process would ultimately cause Robben Island to join the mainland, and bring about the exposure of the Agulhas Bank.⁽⁴⁾ His map is only remarkable for the attention it gives to illustrating the supposed effects of a progressive decline in sea-level, ~~a topic that it must be first ever to represent this subject.~~ ^{since it must be one of the} ~~amongst the first maps ever to represent.~~ Its scale is about 1/320,000.

Vertical movements of the continents, save where subjected to volcanic influences, he apparently did not consider. As he supposed them to be fixed, it followed under his firmly held theory of a uniform, ubiquitous and constant decline in sea-level, that the world over, lands had appeared above the waves in strict order of succession governed by their relative levels. Thus he believed that when the Cape Flats were covered by the sea, so too must have been the Isthmus of Suez. A study of the fragmentary accounts that have survived of tales of ancient circumnavigation of Africa convinced him that when these voyages were supposed to have been made, the Isthmus of Suez existed. Hence he believed that for much the same period the Cape Flats had also been exposed above sea-level.⁽⁵⁾ This may have been the unacknowledged source of John Barrow's reflections upon the same theme.⁽⁶⁾ Degrandpré and he both used this argument to demonstrate to their satisfaction that the Cape Flats could not have been submerged recently. The period embraced by their argument was at most some 3,000 years, but this probably seemed

1. See above pp. 150, 348, 365-6.

2. Degrandpré 1801a p.165.

3. 9,000 toises is approx. 10.8 English statute miles.

4. Degrandpré 1801a p.279.

5. *ibid.* pp.285 - 303.

6. (See below p. 406.
(Barrow 1804 pp.64, 67.

a sufficiently vast span in a time-scale which comprehended within a little more than a scant 6,000 years, the entire history of the globe since its creation.⁽¹⁾ Rudimentary though Degrandpré's theories may now appear, they represent an interesting early attempt to solve the riddle of changes in oceanic level, towards the solution of which modern science is still slowly groping.

Structure of Table Mountain.

These theories concerning the emergence of Table Mountain from the sea led to his enquiry into its geological structure. He climbed it several times, evidently by Platteklip Gorge, and succeeds in giving the ludicrous impression that he must have accomplished the upper two-thirds of the distance on all fours, since this portion was found by him to be "practicable only with the help of the hands."⁽²⁾ Not content with the Abbé de la Caille's measurement of the mountain and its neighbours,⁽³⁾ he took new observations to determine their height and presented his results⁽⁴⁾ which were, as he admitted might be the case, less accurate than those of the better-equipped and more practised Abbé. Having thus ascertained by personal observation that Table Mountain is much lower than elevations in the Alps at which marine fossils had been discovered, he inferred that a fortiori the former must once have been beneath the waves.⁽⁵⁾ He then sought for evidence of its formation under the principles expounded in the anonymously published l'Histoire du Monde Primitif to which he paid several tributes as the source of certain of his ideas.⁽⁶⁾ These principles as adopted or adapted by him seem to be a version of the Neptunian theory of the formation of mountains. He divided the rocks forming them into three classes.⁽⁷⁾

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1. Degrandpré 1801a, I, p.194 note 2 & p.195 note 3.
 2. Degrandpré 1801a, p.249.
 3. La Caille 1755 pp.337, 339.
 4. Degrandpré 1801a, p.246.
 5. *ibid.* p. 275.
 6. (*ibid.* pp. 269, 280, 285.
(See below p. 378.
 7. Degrandpré 1801a, p.268.

- (a) The primitive granites "thrust up by the movements of the earth at the epochs following the time when it was thrown into the tangent of its orbit." (The latter phrase probably refers to Buffon's theory of the earth's formation by a collision between the sun and a comet.)⁽¹⁾
- (b) The secondary rocks which were constituted by the primitive all-enveloping ocean in its depths, a process attributed to crystallisation and sedimentation. These rocks, he remarks, were "indiscriminately called calcareous."
- (c) Volcanic rocks which "owe their origin to the combustion of pyrites in the bowels of the earth."

The "primitive granite core" he thought he saw revealed in the middle of the summit of Table Mountain.⁽²⁾ Around this "granite core" he believed that the primeval ocean had deposited layers of secondary rocks of a "calcareous nature", evidently including under this term all rocks that clearly showed their sedimentary origin. For elsewhere he remarked that, "when I do research which can support the system of the retreat of the seas, I content myself in arranging the mountains into two classes, those of granite and all the others calcareous."⁽³⁾ His observations on top of Table Mountain led him to suggest that surrounding its exposed central core of "granite" there might be a lateral envelope of "calcareous" rocks at least 300 feet thick; for the last traces he saw of the "granite core" lay that distance from the edge of the mountain.⁽⁴⁾ All the rocks of the summit are, however, now classed as grey massive quartzitic sandstones. His separation of them into "granites" and "calcareous" rocks can perhaps be explained by his having examined the former whilst walking over them, which would have tended to conceal their bedding planes and to emphasize their massive character. These same rocks he seems to have classified as "calcareous" when their bedding planes were distinctly revealed in views obtained of them from below the mountain or in their lateral exposures seen in Platteklip Gorge. If this inference is correct, it was probably the bedding planes clearly visible in the summits of Lions Head and Devils Peak which led

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1. Mather & Mason p.58.
 2. Degrandpré 1801a, p.265.
 3. Degrandpré 1801c, I, 99 note 35.
 4. Degrandpré 1801a, p.282.

him to conclude that both of these were "calcareous". But it is not clear why he believed the former to be of this material throughout, whilst in the latter he thought it was merely a crust upon a "granite" interior. His belief in an extremely brief geological time-scale is nowhere better demonstrated than in his statement regarding the denudation of the Lions Head, that "it would not be rash to say that it will collapse in less than two centuries."

Though the rocks forming the summit of Lions Head and Lions Ramp are now known to be of very different age and character, he described them both as "calcareous or secondary rocks" under his system of classification, presumably since both display in parts clearly marked bedding planes. These rocks he said were quarried from the latter mountain, which identifies them there as the clay-slates of the Malmesbury Beds. He evidently referred to these Beds again when he told of observing "calcareous" blue stones on Robben Island, ⁽¹⁾ a description which does not answer to the soft white or green-coloured surface-limestone which occurs there. ⁽²⁾ Though he called the Malmesbury Beds "calcareous" under his definition of that term, he did at least recognize that they were not limestone, for he contradicted Le Vaillant's correct statement that limestone was obtained on the island. ⁽³⁾ The soft white limestone was evidently not recognized as such by Degrandpré, and when he was there the quarrying of it cannot have been still in operation as Le Vaillant described. ⁽⁴⁾

Miscellaneous.

Probably to support his claim that Table Mountain is chiefly of "granitic or primitive" composition, he alluded to authorities who "establish as a constant law that the depth of the seas a little distance from the shore is always equal, or very nearly so, to the height of the granite mountains to which they correspond". ⁽⁵⁾ Consonant with this, he stated, was the fact of common knowledge to sailors that west of Table Mountain the sea-floor was out of soundings with a line of 800 fathoms:

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1. Degrandpré 1801a, p.102.
 2. Naudivell p.29.
 3. Degrandpré 1801a, p.96.
 4. Le Vaillant 1790 I, 104.
 5. Degrandpré 1801a, p.270. *This "law" may have been established by William Dampier, circa 1700. See BERRILL, N. J. "Journey into Wonder," Gollancz 1953, p. 205.*

whilst he himself in a day's sounding there within a league of the shore had failed to find bottom with a line of 350 fathoms. No such depths, or anything approaching them appear on modern charts within many miles of the locality indicated. Since his statements of other measurements elsewhere in his book are reasonable and unexaggerated, it seems likely that he may have mistakenly applied to this locality soundings actually taken much farther out to sea. These may have been made when low visibility led him to believe that he was much closer to the shore than he really was, an explanation which is suggested by his experience which he relates on another page.⁽¹⁾ Or the whole story of these great depths may have derived from confusing conditions in Cape waters with those that actually exist in some other part of the world.

There are other incorrect details of this nature in his book which suggest that he may have added these particulars from memory shortly before its publication in 1801, long after his visit to the Cape. For example, his account of the orientation of some of the mountains surrounding Cape Town was so incorrect⁽²⁾ that he was obliged to try to set it right in an appendix.⁽³⁾ Here, however, all the bearings given are again badly wrong; and his crowning error is in stating that the summit of the Lions Rump is due north of the castle, whereas it is actually about N.N.W. He repeats this error in a footnote to his translation of Barrow⁽⁴⁾ who, incidentally has here made one of his rare slips in stating that the castle lies N.E. (instead of about S.E.) of the Lions Rump.⁽⁵⁾ These errors made by Degrandpré are all too big to be ascribed to neglecting to subtract the amount of the magnetic variation. This is given correctly enough on his map as $23^{\circ}W$ but drawn only as an angle of about $11^{\circ}30'$. Strangely enough, his map shows the positions of the mountains in much more correct relationship to the castle than in his statement in his appendix of their bearings from that place. His map therefore belies his extraordinary statement that implies that the Lions Rump and Devils Peak are on the same meridian.⁽⁶⁾ This was a serious blunder, the more so since it was likely to be taken as correct because the naval profession of the author was printed on the title-page of the book: and under certain conditions a course based on

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| 1. Degrandpré 1801a p.89. | 4. Degrandpré 1801c, I, 93. |
| 2. ibid. pp.167,
128, 247. | 5. Barrow 1801, p.15. |
| 3. ibid. p. 305. | 6. Degrandpré 1801a, p.88. |

this faulty direction could have led to shipwreck.

Apparently his longest trip from the Cape was to the mouth of the Berg River at St. Helena Bay. It is uncertain, however, whether he made this journey by land or by sea, for he refrained from describing it since he said that he lacked the literary skill to embellish his account with the graces of rhetoric.⁽¹⁾ Of interest is his remark that he saw a Dutch beacon or stone of possession on the west side of the mouth of the Berg River.⁽²⁾ This had been erected about the year 1733⁽³⁾ and is represented on maps made by J.C. Friderici in 1788 and 1789, now Maps 277 and 278 respectively of the Van de Graaff Collection.⁽⁴⁾ This beacon also figures in Drawing 28 of the Gordon Collection. It has now disappeared, however, like at least two other eighteenth century beacons along the S.African coast,⁽⁵⁾ probably having been covered by drifting sand. He was enthusiastic about the good harbour which the river's mouth would afford if the sandbar could be rendered navigable, a proposal which provoked Lichtenstein's scorn on the grounds that the task would prove impossible.⁽⁶⁾

Unusual in accounts of visits to the Cape is his lengthy description of a stay on Robben Island⁽⁷⁾ where he went into voluntary exile for 18 days to share the quarantine imposed upon the Governor of Pondicherry, the Chevalier du Fresne, in whose vessel smallpox had broken out. Our author noted that fresh water was obtainable on the island from wells at a depth considerably below sea-level, and expressed surprise at this, presumably because he expected that this circumstance would have led to the contamination of the wells by seawater. For the same reason he seems to have been puzzled by the existence there of good springs of fresh water: but these are not unexpected on an island which receives an annual rainfall of over 18 inches and which reaches an elevation of nearly 100ft.

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1. Degrandpré 1801a, p.238.
 2. *ibid.* p.243.
 3. Botha 1926a, p.89.
 4. Koenan 1952a, p.91.
 5. (See above pp. 31, 32-4, and
(214.
(Molsbergen 1922 pp.281, 284 & 1932 pp. 23, 51.
 6. Lichtenstein 1926 p.64.
 7. Degrandpré 1801a, p.96.

Conclusion.

Theal comments appreciatively upon Degrandpré's keen observation and extensive reading.⁽¹⁾ His reading on some subjects, however, may have been less wide than Theal supposed, for, as we have already noted, Degrandpré acknowledged more than once his debt to the anonymous author of the Histoire du Monde Primitif. If this work was a compilation, as seems probable, it would explain how he was able to quote numerous authors on geological and palaeontological topics, as well as to cite a number of classical sources dealing with the circumnavigation of Africa. It may have been the anonymously published seven-volume work Histoire Philosophique du Monde Primitif of which a 4th edition appeared in 1795, and whose author is now given as Delisle de Sales, otherwise called J.B.C. Isoard Delisle or J.B.C. Izouard.⁽²⁾

Though there is much of value in Degrandpré's book, he busied himself with several trivialities on which he wrote at excessive length. Such for example are his observations upon accounts of the hydrology of Table Mountain given by the Abbé de la Caille and by Le Vaillant;⁽³⁾ and his frequent laboriously polite disagreements with other of the latter's statements.⁽⁴⁾ It is here that his style, which is often verbose, diffuse and repetitive becomes wearisome to the modern reader. However, in his defence it must be recollected that his work was not designed as a scientific treatise, but as a typical literary production of his age, meant to entertain as well as to instruct.

Because of the undoubted accuracy of much that he wrote, it is perhaps surprising that his book is so seldom mentioned. De Mist carried a copy with him on his well-known tour⁽⁵⁾ and described as largely ill-founded its author's denunciations⁽⁶⁾ of the treatment of the Hottentots by the Dutch.⁽⁷⁾ These allegations might have made the book unpopular in Holland, but would have been no deterrent to its translation into English or German. However, the appearance at about this time of Barrow's two massive volumes on the Cape probably overshadowed the prospects for the translation of Degrandpré's less important work, which

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| 1. Theal, 1910 III, p.399. | 5. Lichtenstein 1928, p.19. |
| 2. British Museum, Catalogue of Printed Books. | 6. Degrandpré 1801a, p.179. |
| 3. Degrandpré 1801a, pp.255-263. | 7. De Mist 1920, pp.254,256, 258,259. |
| 4. <i>ibid.</i> pp.125,127. | |

dealt only in part with the Cape. The fact that it remained untranslated must have contributed considerably to the comparative obscurity into which it has fallen. In acknowledgement of the consideration that his book gives to geographical problems in this young country where few paid any attention to such matters, on which fewer still printed their views, this short chapter tenders a long-deserved tribute.

SIR JOHN BARROW. 1797 - 1803.

Eighteenth century accounts of southernmost Africa are rich in the raw material upon which geographical conclusions are based. There is, however, but little speculation by writers upon the nature of the physical processes operating to produce many of the phenomena they recorded. Indeed, the science of that age was too rudimentary in many respects to equip even the most enlightened with the ability to relate observed geographic fact to underlying cause. Contemporary scientific achievement cannot be outstripped by its exponents. It was the age of the gazetteer; and geography and geology as deductive sciences were yet nascent. Towards the close of the century, however, a writer of different stamp appears in the person of John Barrow. Equipped with alert intelligence, well-stored mind and vigorous body, this young man in his mid-thirties travelled in that spirit of scientific enquiry which was to distinguish the next century. Hence his geographic^{al} and geological ideas belong not so much to the eighteenth century in which they were conceived, but rather to the nineteenth in which they were published. They mark a break from the cataloguing, the naive teleology and the unconcern with causality of his^{some of} predecessors; defects less of the individuals than of their age.

Before attempting to describe his work and to assess its value we must glance briefly at his antecedents so that his mental nurture and stature may be appreciated. (1) Born in 1764 in an obscure village in N. Lancashire, he was of humble parentage and rose entirely by his own efforts. His formal education ended at the age of thirteen when he left the village school. He then assisted in the survey of an estate in the neighbourhood, and later studied navigation with an ex-midshipman. Soon after his fourteenth birthday he became clerk and overseer in a Liverpool iron foundry. At sixteen he visited Spitzbergen in a whaler, improved his knowledge of navigation, and had a narrow escape from death when a blow of^a whale's tail hurled his boat from the water upon an icefloe. He became instructor in mathematics in a school in Greenwich which brought him into touch with wealthy and influential families. Sir George Staunton, father of one of his pupils, was quick to perceive the qualities of young Barrow, and obtained for him the post of Comptroller of the Household

1. Barrow 1847.
Dict. Nat. Biog.

on Lord Macartney's embassy to the Emperor of China. In that country Barrow travelled by barge and on foot from Peking to Canton, a distance of about 1,500 miles. He left for the Far East in 1792 and was absent until 1794. So well did he acquit himself that when Lord Macartney came as Governor to the Cape in 1797, Barrow accompanied him as private secretary, and later became Auditor-General of the Colony. He married Miss Anna Maria Truter at Stellenbosch in 1799. He returned to England in 1803 after the cession of the Cape to the Batavian Republic at the Treaty of Amiens.

The history of his subsequent career is not inappropriate to our theme, since it confirms the impression of his singular ability and of his sustained interest in geography. For a period of over forty years, with but small intermission, he was second secretary at the Admiralty. He gave vigorous support to Arctic exploration where his name is commemorated in three localities. He was a prolific writer on a wide range of subjects.⁽¹⁾ He became a Fellow of the Royal Society; received an honorary LL.D. from the University of Edinburgh; and in 1835 a baronetcy was conferred upon him. "By 1830 . . . Barrow had established himself as the greatest all-round geographer in Britain."⁽²⁾ He was one of the prime movers in the foundation of the Royal Geographical Society of which he was the third president in 1835 - 37. He died in 1848 in his 85th year.

Though his Asiatic journeys (1792-94) were made before his African (1797-99), Vol. I of the latter was first to appear in print (1801); whilst Vol. II S. Africa was published in the same year (1804) as his first volume on China, the second volume of which is entitled Voyage to Cochinchina, and appeared in 1806. Vol. II of his Asiatic travels, surprisingly enough, devotes the final seventy pages to an account of the journey made in 1801-02 by P.J. Truter (his father-in-law) and W. Somerville to Lectakoo, the residence of the chief of the Booshuana (Bechuana) nation. Second editions of his first three volumes were printed in 1806. His writings on S. Africa do not always clearly explain geographical and geological ideas which are now unfamiliar. Considerable assistance can often be obtained from enlargements upon these topics in his volumes on China. Accordingly these will be referred to whenever they throw light upon his views at that period.

The ambitious scope of his South African works appears from the inscription on the title-page of Vol. I First Edition, which reads

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1. Barrow 1847 p.514.
 2. Mill 1930 p.25.

thus: "An account of travels into the interior of Southern Africa, including cursory observations on the geology and geography of the southern part of that continent; the natural history of such objects as occurred in the animal, vegetable and mineral kingdoms; and sketches of the physical and moral characters of the various tribes of inhabitants surrounding the settlement of the Cape of Good Hope. To which is annexed a description of the present state, population and produce of that extensive colony; with a map constructed entirely from actual observations made in the course of the travels." In the second edition of the two African volumes, the arrangement of chapters as well as of detail is considerably improved. Alterations, excisions and additions also occur. The first volume comprises an account of his three journeys and accompanying scientific observations. The second is of the nature of an economic and political geography with gazetteer and yearbook sections. This arrangement in the contents of the volumes is not, however, adhered to strictly. Full discussion of the matter contained in the nearly 900 demy-quarto pages of the two volumes will not be undertaken here. Comment will be confined to those topics that fall under broad interpretations of the subject-headings, Cartography, Physical Geography and Geology. In these latter subjects particularly, his writings often display basic ideas that are strikingly modern. In them are adumbrated present trends of thought whose genesis and early applications are of considerable interest to the geographer and geologist of to-day. Though he lays no claim to have originated most of these theories, he was in many cases the first to print accounts of attempts to apply them to phenomena in this country. It is likely that in certain of these applications Barrow had been forestalled by Colonel R.J. Gordon, but proof of this is lacking since the latter's manuscript account of his travels has long been missing.

His Three Journeys.

Barrow's three journeys in the years 1797-99 occupied twelve months and ranged widely within the borders of contemporary colonization and briefly beyond to north-east and east. The trace of these journeys on his map in his first volume, when compared with modern maps, enables them to be followed for the greater part with a fair degree of certainty. But in some sections his route is not clear, and in these cases attempts will be made here to suggest its probable course.

His first journey lasted from July 1797 to January 1798 and was

into the eastern Cape. He entered the Karoo at the Her River Pass and on a route similar to that followed by Swellengrebel and by Van Plettenberg, proceeded to Graef-Reinet. From there he struck southward and probably crossed Zoutpans Nek, 4 miles north of Wolterfontein railway station, thence swinging S.E. to Algoa Bay. Proceeding east from there it is likely that he crossed the Sundays River near Barkly Bridge where the water is saline as he described it. He then crossed the Bushmans River at Mautzebush Drift and not at Jagers Drift (Harvestvale) as suggested by Cory, ⁽¹⁾ for the latter locality lies south of the Assagabush River which Barrow states that he approached from the west. ⁽²⁾ He then proceeded E.S.E. on the watershed between the Assagabush and Kariega rivers, and evidently crossed the latter above its confluence with the former, for he mapped them as not uniting at all. Hence he probably forded the Kariega near Vanvlies, and then with great difficulty crossed the deep valley of the Kowie River somewhere between its confluence with the Blaauwkrantz to the north and with the Torrens to the south.

Now he was free to proceed S.E. without any major obstructions until he reached the mouth of the Great Fish River. Thence he went N.W. around the headwaters of the Koms River and thus crossed the Great Fish at Trumpeters Drift, of which there is documentary evidence. This consists of a letter from Barrow dated 7th September 1797 at Trumpeter's Kraal and one of the same date written by his companion P.R. Exeoler "at the Trumpeters Kraal on the place of passage over the Great Fish River."⁽³⁾ Barrow and his party then proceeded past where Fodde now stands and crossed the Kalsman, probably near Idno Drift. From his crossing point he said Galka's temporary residence was 15 miles distant by the Kooquamde River. ⁽⁴⁾ Thus it is likely that Galka was visited by Barrow at the headwaters of the Nygolment River, some 5 miles S.W. of where King William's Town is now situated. Barrow's map correctly shows this stream flowing east where he visited it, but he was evidently misinformed that it joined the Kalsman, for it is a tributary of the Buffalo. He returned to the Great Fish River by the way he had come, and passing within 3 or 4 miles to the north of the position of Grahamstown, went by Alicedale and Comandaga back to Graef-Reinet.

Thence he ascended the Onkeberg Pass and Oerfontein Doopje to his Naay Toek, probably now Wintehook, since he mapped it 20 miles west

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1. Cory 1910 p. 74.
 2. Barrow 1801 p.165.
 3. Hoarthyng Papers.
 4. Barrow 1801 pp.192, 199.

of Weltevreden. To the latter, at the pass named Michielshoogte, he then proceeded on an easterly course, and crossed the Sneeuwberg at the Wagenpad Poort due north of the Compassberg. He followed down the east bank of the Zeehoë River to its confluence with the Orange. He then struck S.E. parallel to the latter which he left near Norval's Post, and travelling due south came to the Great Brak River (tributary of the Great Fish), visited the saltpans at Teviot, went S.E. to the Tarka River and then west to the hot springs at Cradock. He then passed through the present positions of Coolhouse and Somerset East to Graaff-Reinet.

Homeward bound from there, he struck south from Beervlei past Willowmore and entered the Little Karroo at the Zuurberg Poort in which the Kourfontein is situated.⁽¹⁾ He crossed the Duivelskop Pass into Outeniqualand, and after visiting Plettenberg Bay, returned by the direct route to the Cape.

His second journey, which was towards the north, took place in April and May 1798. He made his way past Saldanha Bay and evidently traversed the Krakadouw Pass some 7 miles E.S.E. of Clanwilliam, since his map shows that the pass was encountered east of the Jan Dissels River. His map also appears to indicate that he crossed the Doorn River near Doornbosch, and went north to the east of the Moedverloer River which he must have crossed near its head at Lokenburg. This he maps as Oei (Ewe) Valley, but there is little doubt that this is a mistake for Uye (Dulb) Valley, the name given to the valley in which Lokenburg lies, because many sorts of iris and ixia grow there.⁽²⁾ From there he evidently passed through or near Papkuilsfontein, and so came to the vicinity of where Nieuwouitville now stands. He next descended the extreme N.E. slopes of the Bokkeveldberg, and then travelling some 10 miles N.W. down the valley of the Zwart Doorn, came to Stinkfontein. His route now was much the same as that taken in 1778 by Paterson past Leeuwkuil, Brakies and Brakfontein.

He therefore probably reached the Hartebest River at Draaihoek. He then describes in these words how he reached the turning point of this journey. "We crossed a chain of mountains to the west [Draaihoekberg?] and proceeding to the northward between it and another much higher [Kleinkomiesberg?] we came at night to the head of a defile, where it was found impracticable for the waggon to make any further progress. We therefore encamped near a clear and copious spring of water called Fleuris Fonteyn."⁽³⁾ Thus it seems most likely

1. See above p.243.

2. Iichtenstein 1928 p.103.
Reference to map in Burchell 1822 supports this conclusion.

3. Barrow 1801 p.364.

that he ascended the Zwart Doorn River almost to its source on the southern flanks of the Kamiesberg, where a mile or so above Doornkraal there is a spring of sweet water that answers to his description. Though this spring is not shown in modern maps⁽¹⁾ its existence has been vouched for by the Rev. R. Mc Kenzie Fraser, then of Leliefontein, Kamiesberg, with whom the present writer corresponded in 1948 and met in Grahamstown the following year. The spring visited by Barrow had evidently been known and named previously, for it is shown, spelt Florisfonteyn, in a map of about 1780.⁽²⁾

From the Kamiesberg he returned on his tracks to the vicinity of Nieuwoudtville and there struck off east to Groot Toren, and apparently following much the same route as Thunberg and Masson, passed Theefontein to swing S.E. through the kloof between the Agter Mantamsberg and the Ramhoeksberg. His journey southward through the Roggeveld also appears to have adhered closely to the route of Thunberg and Masson. However, he probably descended at the Koesberg Pass, skirted the southern margins of the Tanqua Karroo and then swung N.N.W. to reach the Olifants River through the Elanskloof 10 miles S.E. of Citrusdal. Some 15 miles south of where that village is now situated he crossed the Kardouw Pass and then took the direct route back to the Cape.

His third journey lasted from 8th March to 8th June 1799 when he accompanied a military expedition to the eastern frontier. He crossed the Hottentots Holland Pass and the Attaquas Pass, continued through the Lange Kloof and so came to Algoa Bay. From there he later visited the present positions of Somerset East and Cookhouse. He returned to the Cape by the way he had come.

This outline of his itineraries suffices to show the extent of his travels which were made with a laudable "determination to gratify curiosity at the expence of comfort."⁽³⁾

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1. (Namaqualand Division Map 1916, 1200 rods equal 1".
(Kamiesberg Sheet, $\frac{1}{2}$ - Million Reconm: Series, Geog.
(Sect. Gen. Staff 1913.
(Loeriesfontein Sheet, $\frac{1}{2}$ - Million Series, U.D.F. 1943.
 2. V.C. 175.
 3. Barrow 1801 p.356.

Cartography.

The inaccuracy of the maps of Southern Africa published in the latter half of the eighteenth century, which were almost the only ones of this country known to Barrow, is not surprising when it is considered that these had been drawn in the main by persons untrained either as surveyors or cartographers. He was almost entirely ignorant of the extensive surveys of an exploratory nature that had been undertaken by trained surveyors in the time of the Dutch rule which had enabled skilled cartographers to draw the numerous maps that are now preserved in Holland in the Gordon Collection, the Van de Graaff Collection, the Janssen Collection and the Bodel Nyenhuis Collection;⁽¹⁾ in France in the Bibliotheque Nationale, Paris;⁽²⁾ in South Africa in the Cape Archives and in the Africana Museum, Johannesburg. He was also unaware that in 1794 at the Castle at the Cape there had been at least 100 maps and plans of parts of South Africa that seem to have been removed before the First British Occupation, and whose whereabouts remain unknown to this day.⁽³⁾ His only mention of a professional map drawn under Dutch auspices is of "a survey on a very large scale having all the farms marked down from Swollenland to Algoa Bay, and from the first chain of mountains to the sea-coast."⁽⁴⁾ This is almost certainly a reference to an equivalent copy of Friderici's Map, of which a damaged portion measuring 7ft 6ins in length is preserved in the Cape Archives.⁽⁵⁾

Barrow mentions the chief defects that he had detected in the five published maps known to him whose authors and dates of publication are these. Sparrman, 1st London edition of 1785; Paterson, 1790; Riou, 1792; De la Rochette, 1795; Le Vaillant, English edition, 1796. The acerbity of some of his criticisms should be modified, however, when it is recollected that of these authors only Sparrman, Paterson and Le Vaillant had travelled far in South Africa, and that their chief interests were remote from map making. Their maps have been commented upon above, so that only those of Riou and De la Rochette need be discussed here. The coastline of Riou's chart⁽⁶⁾ west of the Great Fish River has recently been shown to have been copied from that of the Chevalier F.R. Duniy⁽⁷⁾ whilst to the east of that stream Riou states that it was taken from

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1. Koeman 1952 a, pp.94,95.
 2. (Koeman, in letter to present writer. (Deherain, p.183 footnote.
 3. V.C. 245. See above p.325.
 4. Barrow 1804 p.22.
 5. (N.178. (Koeman 1955 p.276.
 6. Carter & Van Reenen, at p. 133.
 7. Forbes 1952 p.91. Forbes 1953 p.29.

the chart of d'Après de Marnesvillette.⁽¹⁾ The features inland are evidently arranged largely according to Riou's imagination. De la Rochette's compilation covers only the coastal districts west of the North-South Cape Ranges from Clanwillian to Cape Hanglip.⁽²⁾ Its features north of the Berg River, details of De 24 Rivieren and Waveren regions, and the farmers' names in the districts of Wagenmakers Valeij, Drakenstein and Stellenbosch seem to have been taken from Kolb or Valentijn.⁽³⁾ La Saille's map may have furnished some particulars of the topography in the area between Maare and Piquetberg.⁽⁴⁾ But there are features shown by De la Rochette in the Peninsula, in the Saldanha Bay region and elsewhere whose source has not been traced.

Where the obstacles to the presentation of an accurate map were so great, one would expect to find in authors a display of tolerance towards the difficulties of their predecessors. The opposite tendency is, however, apparent in some of the writers and cartographers of that period, who belittle in terms of scathing denunciation the achievements of others. Barrow descended to abuse of Sparrman, of whom he wrote: "His map is also so miserably defective and so incorrect in every part, that he must certainly have constructed it in his closet from recollection."⁽⁵⁾ He is equally discourteous towards Le Vaillant.⁽⁶⁾ Barrow in turn is castigated by Burchell who says: "As to the miserable thing called a map, which has been prefixed to Mr. Barrow's quarto, I perfectly agree with Professor Lichtenstein that it is so defective that it can seldom be found of any use."⁽⁷⁾ Actually Lichtenstein's criticisms were far more fair than the foregoing suggests, and he was ready to concede that "it is infinitely to be preferred to all the older maps."⁽⁸⁾ This sentiment was shared by Commissary de Mist whose opinion was that "anyone who will take the trouble to compare it with any other map, drawing or description of the Cape will have to admit that it is by far the most accurate of them all."⁽⁹⁾ At the same time De Mist says that Barrow must have copied from the manuscript map of Colonel R.J. Gordon, a remark that has been commented upon above.⁽¹⁰⁾

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1. (Garter & Van Reenen p. 139.
(Austen 1935 p.25.
(See above p. 24.
 2. De la Rochette, L.C. The Dutch Colony of the Cape of Good Hope,
pub. W. Paden, London 1782 & 1795; Vienna 1789.
 3. (Kolb 1727 maps at pp. 57,91,111.
(Valentyn 1726 Plate 43.
 4. Mentzel 1944 reproduced at p.78.
 5. Barrow 1804 p.15.
 6. *ibid.* pp.19 - 21.
 7. Burchell 1822 p.577.
 8. Lichtenstein 1930 p.xix.
 9. De Mist 1920 p.166.
 10. See above p. 324.

Barrow certainly must have drawn upon the knowledge or work of others for those parts of the country that he mapped but did not visit. For example, the outline of the south coast and the details of its bays he acknowledges to the survey carried out from the sea by Lieut. W. McP. Rice, R.N.⁽¹⁾ But there seems to be no good reason to doubt that his map is largely the result of his own observations. He was well-qualified to execute an exploratory survey and carried the necessary instruments.⁽²⁾ Moreover it was a task that he had been expressly enjoined to carry out. Lord Macartney was concerned by the lack of accurate cartographical knowledge, though he did not realise that this was due to the removal by the Dutch of nearly all their maps at one time and another. Thus at the outset of the First British Occupation there was, according to Barrow, "not a single map that took in one tenth part of the colony. Neither the direction nor the distance of Graaf Ruyter were known."⁽³⁾ Hence when he set out in 1797 upon his mission to re-instate the landroost of that district, he received instructions from the Governor to pay particular attention to the task of mapping.

His method was that of the compass traverse, with distances estimated by the average speed of an ox-wagon over varying types of country. A daily observation of the meridional altitude of the sun checked his latitudes at intervals of about 20 miles. Longitude was estimated by dead-reckoning. Detail on either side of his route was fixed by intersections of compass-bearings.⁽⁴⁾ It is not surprising that dead-reckoning provided an unsatisfactory means of ascertaining longitude. His latitude at the mouth of the Great Fish River is 4' in defect whereas his longitude is 1° 12' in excess. The longitude given in his text is only 30' in excess,⁽⁵⁾ however, and he explains how several discrepancies arose in longitudes of south-coast bays as given in text and map.⁽⁶⁾ At the furthest point of his travels, at the confluence of the Orange and Zeekoe rivers, his latitude is 32' in defect and longitude 45' in excess. At the Kamiesberg latitude is 21' in defect and longitude 15' in excess. These differences are demonstrated graphically by Koeman's comparison-maps in which a trace of Barrow's map is imposed upon a modern one.⁽⁷⁾

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1. (Barrow 1804 pp.24,69.
(Theal 1898 p.266.
 2. Barrow 1804 p.23.
 3. *ibid.* p.14.
 4. *ibid.* p.23.
 5. Barrow 1801 p.186.
 6. Barrow 1804 p.24.
 7. Koeman 1952 b, opposite plate IX.

In spite of the somewhat inaccurate fixing of points and of its many minor defects, the map contains no major inaccuracies. Perhaps the most obvious error is that it shows the Koonap, Kat and Keiakama rivers rising to the north of the Winterberg-Anatola Range; but this mistake is understandable since several south-flowing streams such as the Gouritz, Gantoes and the Great Fish, rise inland of the mountains that terminate the plain bordering the south coast. However, on the whole the drainage pattern is broadly correct as is the disposition of the mountain ranges, and it gives a very fair general picture of the districts it covers. Considering all the circumstances under which it was produced it is a very creditable achievement. It is indeed the first modern map to be published of the regions that now comprise the southern portions of the Cape Province.

Physical Geography and Geology.

The increment of knowledge in these sister sciences that had accrued since earlier travellers wrote was available to him, and he had acquainted himself with the latest theories in these fields of enquiry. The interests of his predecessors lay mainly in botany, zoology and anthropology. He did not eschew these subjects, but added his speculations upon the physical foundations of the sub-continent that supported plant, beast and man. Of those who had visited the Cape before him, only Thunberg and Begeranipré had published their reflections upon mountain structure. But apart from these authors, Harrow's predecessors had gazed upon the Cape mountains unmoved by curiosity as to their origins so far as we are informed by them. His was the first comprehensive attack upon the problem, and one moreover that took into account not only local but also universal processes.

Writing when the great controversy between Neptunists and Plutonists was at its height, his geological conceptions do not adhere consistently to either school. Unbound by the dogma of the controversialists he seeks to offer the most rational explanations of phenomena. Hence it is not surprising that on the whole he should incline to the teachings of Hutton, the Plutonist, whose opinions are now recognised as the more correct. Huttonian theories recognised water-formed rocks, but insisted upon the igneous origin of basalts and granites. The Wernerian school of Neptunists regarded all rocks, including basalts and granites, as of aqueous origin. Lava they attributed to the ignition of coal seams in the vicinity of volcanoes.

On his journey to China, Barrow had examined the volcanic Amsterdam Island in the S. Indian Ocean, which he states "wears every indication of having been a very recent production of subterraneous fire." He adds that "if Dr. Hutton and Mr. Kirwan could examine the island, they would each of them produce it as an admirable elucidation, one of the Plutonic and the other of the Neptunian theory; for the materials have evidently undergone complete fusion, and they are laid in regular and horizontal strata."⁽¹⁾ (These two men were then the chief protagonists in Britain of the rival theories.) S. Africa certainly seemed to support the Neptunian school, but Amsterdam Island had convinced him of the validity of certain Plutonic tenets. Hence he had attained the advantageous viewpoint of being a partisan of neither system, and was thus able to draw impartially upon either for explanations of observed phenomena.

Outline of Neptunian Views.

Stated briefly, the Neptunian view was that an all-enveloping primitive ocean had steadily decreased in volume, concurrently precipitating from solution the primary rocks. Occasional fluctuations caused the ocean to return to cover all or part of the land surfaces for relatively brief periods, but the main trend was of oceanic retrogression. Some denudation of the primary rocks was accomplished by ocean currents: but in the main, mechanical sediments made their first appearance after the ocean had shrunk sufficiently to expose landsurfaces to subaerial denudation. The following is a summary of the ubiquitous sequence of the Neptunians.⁽²⁾

Sandstones, chalk, Gypsum, Trap, Basalt, Coal Rocksalt.	} F L O E T Z	{ Mainly mechanical sediments but partly chemical precipitates.
Slates, Schists, Greywacke, Greenstones, some Limestones.	} T R A N S I - T I O N A L	{ Mainly chemical precipitates but partly mechanical sediments.
Gneiss, Schists, Porphyry, Granite, Quartzite.	} P R I M A R Y	{ Entirely chemical precipitates.

1. Barrow 1806c, p. 151.

2. Adams p.222.

Geology of Table Mountain.

An impressive geological section on the above model was presented to Barrow in the surroundings of Cape Town. He observes that "the shores of Table Bay, and the substratum of the plain on which the town is built, compose a bed of blue compact schistus, generally placed in parallel ridges in the direction of north-west and south-east, but frequently interrupted by large masses of a hard flinty rock of the same colour, belonging to that class of aggregated stones proposed by Mr. Kirwan to be called granitelles."⁽¹⁾ His schistus is now known as the Malmesbury Beds. The granitelles are now defined as aplites or leucocratic quartz-felspar granites;⁽²⁾ but we do not know for certain what rock-types Kirwan included in this term. The aplites, however, are light-coloured, whereas Barrow's granitelles were of the same colour as the blue schistus. It is therefore likely that his reference is to the apparently unbedded masses which sometimes interrupt the bedding planes in the Malmesbury "slates". The aplitic granite at Sea Point does not fit his description either of its colour, character or occurrence.⁽³⁾ Reliance can more confidently be placed in the accuracy of his description than in his correct use of a newly-proposed petrological term. The phenomena attendant upon contact metamorphism had then been scarcely recognised,⁽⁴⁾ and it is not surprising that Barrow overlooked the evidence of this near Cape Town.

His only other reference to the schistus here is that it is covered by a "body of strong clay colored with iron from a pale yellow to a deep red" which he erroneously ascribed to the decomposition of granite because he says he saw embedded in it immense blocks of disintegrating granite as well as much mica. Thus he evidently believed that the schistus was overlain by granite and its decomposition product, clay, and that these in turn were covered by the stratified rocks of Table Mountain. For he says that "resting on the granite and clay is the first horizontal stratum of Table Mountain, commencing at about 500 ft. above the level of the sea. It is a siliceous sandstone of a dirty yellow color. Above this is a deep brown sandstone, containing calciferous ores of iron, and veins of hematite running through the solid rock. Upon this rests a mass of about a thousand feet in height of a whitish-grey shining granular quartz. . ."

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1. Barrow 1801 p.35.
 2. Holmes, p.244.
 3. Haughton 1953 p.16.
 4. Geikie p.310.

Of these sandstones and superimposed quartzitic sandstones he writes: "Their exact horizontal position denotes the origin of the mass to be Neptunian and not volcanic; and that since its first formation no collision of the earth has happened in this part of Africa sufficient to have disturbed the nice arrangement of its parts. The strata of these postdiluvian ruins, not being placed in the order of their specific gravity, might lead to the conclusion that they were deposited in successive periods of time, were it not for the circumstance of their lying close upon each other without any intermediate veins of earthy or other extraneous materials." This quotation seems to indicate his belief that all the rocks of Table Mountain were a water-formed succession upheaved by volcanic forces "without disturbing the arrangement of its parts as they existed at the bottom of the sea previous to eruption."⁽¹⁾ In other words he regarded it as a composite mountain, below of Primitive precipitated granite and above of Secondary sandstone and "quartz". He probably believed the sandstone to be the mechanically comminuted and then re-deposited granite, and the quartzite to be the product of a reversed period of chemical precipitation after which both Primitive and Secondary rocks had been heaved high above the sea. He thought that whilst this upheaval had not destroyed the stratification it had been sufficiently violent in its effects to cause considerable movement within the beds themselves before they had "assumed the form and consistence of stone." To this "friction within the matrix" he ascribed the "myriads of oval-shaped and rounded pebbles of semi-transparent quartz" found in the upper quartzitic sandstones.

Elsewhere he records the sudden appearance of volcanic islands. ⁽²⁾ On volcanic Asterden Island he had seen horizontal strata of igneous rock. Arguing by analogy, he thinks the evidence is in favour of stratified mountains also having been uplifted above sea level. A chasm in the sea-floor would admit water to a "mass of materials capable of supporting ignition" thus generating sufficient steam to heave up the superimposed earth. By involving these forces of uplift he rejects in this case, if not in others, the orthodox Neptunian view that mountains were exposed by rapid oceanic retreat. If he elsewhere supports the Neptunists, it is only fair to reflect that this inconsistency and others, was no more glaring than those made by men who claimed geognosy (the science of mountains) as their particular field of enquiry.

1. Barror 1806 c, p 152.

2. *Ibid.*

His statement that the strata of Table Mountain are not "in the order of their specific gravity" refers to his observation that "the lower are of yellow and brown sandstone" (now called the Lower Shaleband of the T.M.S.) whilst upon these rests the "whitish-grey shining granular quartz" which he probably regarded as a chemical precipitate. As such, he expected to find this massive quartzitic sandstone beneath, in the position normal to Neptunian theory. On the contrary, the stratified series consists below of those red and yellow sandstones which alone he thought were mechanical sediments, and it was hard for him to understand how the sea could subsequently have become so charged with solutes as to have deposited chemical precipitates upon detrital beds.

To overcome this difficulty he suggested that an erosion-interval such as would be marked by "intermediate veins of earthy or other extraneous materials" might offer an explanation. Presumably he supposed that such an interval caused by retreat of the sea might permit its dissolved substances to alter sufficiently in composition or quantity to produce precipitation during a subsequent period of oceanic inundation. But he had to reject this explanation for he saw no "intermediate veins of earthy or other extraneous materials" which were then taken as evidence of discontinuity.⁽¹⁾ It was thought that the uplift causing the discontinuity cracked the formations, and into these cracks mineral or earthy matter was injected to form veins which came either from the seawater above or from the heated substratum. However, since he recognised no unconformity anywhere in Table Mountain, he evidently believed that the granite and stratified series represented an unbroken succession of aqueous deposition; and this is confirmed by his remarks in his undated manuscript entitled "Sketch of Table Mt., Devil's Mt. etc."⁽²⁾

His conclusion here is apparently in conflict with his own reasoning in the last sentence of the passage quoted above, which begins with the words, "The strata of these postdiluvial ruins! For as his phrase, "successive periods of time," must be taken to mean 'uninterruptedly', the sentence loses point, since uninterrupted deposition is then said to be disproved by the evidence of uninterrupted deposition.

Less than twenty years later, Charles Abel (1816-17) offered the following explanation of the same phenomenon, probably having had his attention drawn to it by perusal of Harrow's work. Abel

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1. Geikie p.200.
 2. Macartney Papers.

thought that the sea grew steadily deeper as first the Lower Shale-band and then the massive grey quartzitic sandstones were deposited. "For the motion of the sea, being greater near its surface than at any great depth, would be chiefly influential in preventing any tendency to crystallisation when it first flowed over the granite, but as it rose much above it, the subsequent deposits would be less agitated and acquire a more crystalline character."⁽¹⁾

General Geology of the Cape.

What he observed in the vicinity of Cape Town he took to be the type-section for the whole of the country, for he writes thus: "All the chains of mountains in the southern part of South Africa may be considered to be made up of a repetition of parts similar to those of the Devil's Hill, the Table Mountain and the Lion's Head, and of the same materials, but generally of a more gigantic size."⁽²⁾ There is no doubt that there is a sufficient similarity in the lithology of the areas in which he travelled to account for this opinion in one who made no special investigation of the problem, who made no claim to be a geologist and lived when that science was in its infancy. His travels were mainly in the Cape folded belt whose various formations of shales, sandstones and quartzitic sandstones of Cape and Lower Karroo age have a general resemblance to the untrained eye. Moreover, his successors long believed the T.M.S. and Witteberg beds to be identical, and their stratigraphic relationship was only determined some fifty years later by A.G. Bain. Similarly, the Malmesbury Beds and the Bokkeveld Shales were considered identical until their relationship was demonstrated by Bain. Indeed, if credit attaches to the making of what may be considered an intelligent mistake in assuming that these latter formations were identical, then the honour falls to Barrow and not to Dr. F. Krauss (1838-39).⁽³⁾

On his journey north from Graaff-Reinet to the Orange River, the almost horizontal Beaufort Beds that surrounded him throughout this journey seemed to him of the same broad character as those he had seen hitherto. Commenting on the lithology of the Sneeuwberg he remarks that they "are composed of sand-stone lying nearly in horizontal strata; few of them were observed to have the quartzite summits that prevailed in the great ranges near the Cape, and

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1. Rogers 1937 p.10.
 2. Barrow 1804 p.337.
 3. Rogers 1937 p.16.

that of Zwarteberg; but their bases, like these, rested on blue schistus."⁽¹⁾ These observations together with his opinion given above, indicate his belief that in the Karroo and the Cape folded belt the formations are identical. The shales of Beaufort, Ecca, Dwyka and Bokkeveld age, as well as the Malmesbury slates were all "primary schistus" to him. Any of these, seen at or near the base of mountains, he assumed were in the position normal to the Neptunian stratigraphic sequence, and hence were regarded by him as unquestionably identical. As he travelled beyond the Sneeuwberg he remarks that "one of the characters of the African mountains is that of having one of their sides steep and lofty, whilst the opposite one gradually sloped off in an inclined plane. The Compassberg is the last to the northward that presents a bold and high front to the southern horizon. Beyond this the northern aspects of the mountains are highest."⁽²⁾ This change of dip occurs where he crossed the axis of the Karroo Syncline, though he was unaware of the significance of his observations. His views on the relationships between these dips and the directions of the rivers is dealt with below under Hydrology.

At the confluence of the Zeehoop and Orange Rivers he records that "the mountains that were contiguous to the river had generally their summits of grey quartz; under this a stratum of iron-stone, then sandstone and lastly slate. The strata were laid horizontally, or very nearly so."⁽³⁾ Near the present vicinity of Calvinia he wrote that "the Hartan Mountain, like the bold fronts of Camdeboo that support the Sneeuwberg, is composed of a number of horizontal strata of sandstone. In fact it may be considered as forming a part of the same ridge."⁽⁴⁾ Elsewhere he groups these in the same extended chain with the Roggeveld mountains and the Nieuwveld mountains.⁽⁵⁾ In the Ouder Bokkeveld (Bokkeveld mts. west of Calvinia) he notes the almost horizontal strata dipping gently eastwards.⁽⁶⁾

Several other passages of a similar nature occur, but these quoted should suffice to indicate the observations upon which his views were based that Southern Africa was a "country of Neptunian origin."⁽⁷⁾ The igneous origin of granite he did not recognise. From these opinions it follows that the "ironstone" (dolerite sills) that he saw near the Orange River and elsewhere he must have thought was of aqueous origin.

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1. Barrow 1801 pp.237,246.
 2. *ibid.* p.245.
 3. *ibid.* p.300.
 4. *ibid.* p.402.
 5. Barrow 1804 p.359.
 6. *ibid.* p.357.
 7. Barrow 1801 p.245.

Misinterpretation of Structure.

The cursory nature of his observations and the state of contemporary geological knowledge sometimes led him to faulty conclusions regarding the attitudes of strata. Near where Prince Albert now stands at the foot of the Swarteberg he failed to appreciate the folded character of this range. The northward dip of the strata here might have been noticed by him had his route not been parallel to the strike. As it was, he remarked that "the substratum of the mountains still continued to be a blue and purple-colored schistus,"⁽¹⁾ whose strike on the banks of both the Buffalo⁽²⁾ and the Gamka⁽³⁾ rivers he had previously noted as east and west. On the banks of the Buffels River (near Laingsburg) he probably describes the Upper Dwyka Shales when he records the small fragments of a deep purple-coloured slate, scattered amongst which were "black tuffified stones that had much the appearance of volcanic slugs, or the scoriae of an iron furnace."⁽⁴⁾ He rejects their volcanic origin, however. From his vague description they can be tentatively identified as phosphatic nodules coated with carbonate of lime and ferruginous and manganiferous claystone.⁽⁵⁾

The schistus he had seen on the plain of Geelbekk (8 miles east of Laingsburg) and described as a dark purple-coloured slate was either Ecca or Upper Dwyka shales.⁽⁶⁾ Misled here by the sequence he had seen beneath the Devil's Peak at Cape Town, he thought the folded shales to the north of the Witteberg and the Swarteberg were basal schists upon which rested the stratified mass of the range. As stated previously, he looked for what he expected to find under the Neptunian theory, which postulated an ocean of uniform depth and composition covering S. Africa, and precipitating from solution and then later depositing mechanical sediments in a uniform series of strata. Beneath horizontally bedded rocks he looked for "primitive granite" and "schistus" in that position proper to them under Neptunian theories of their ubiquitous priority of crystallisation from aqueous solution.

In the Prince Albert locality he makes what is probably the first printed reference to the Dwyka Tillite. To the north of the Swarteberg "the detached hills near their base consisted entirely of that species of rock called by Mr. Kirwan the amygdaloid, which

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1. Barrow 1801 p.101.
 2. *ibid.* p. 90.
 3. *ibid.* p.98.
 4. *ibid.* p.90.
 5. Rogers 1925 p.18.
 6. Barrow 1801 p.93.

is nearly allied to the stone that the miners of Derbyshire have distinguished by the name of toadstone. The rounded pebbles, embedded in this argillaceous matrix, were almost invariably tinged with a bright grass-green colour."⁽¹⁾ Toadstone was the name then used for what would now be called an intrusive basic igneous rock. Hence Barrow's identification was similar to that of A.G. Bain who called it the Claystone Porphyry; whilst A. Wyley later called it the Trap Conglomerate, which name it bore until its glacial origin was recognised by E.J. Dum in 1872.⁽²⁾ It should be noted that when Barrow identified this rock as amygdaloid it was not in conflict with his view that the beds were Neptunian, for Richard Kirwan, as an ardent Wernerian, believed in the aqueous origin of amygdaloid rocks.

On his journey from the Great Fish River to the present position of Alicedale he notes that the hills were "composed of sandstones resting on bases of blue slate."⁽³⁾ At first sight this statement seemed to be entirely the result of wishful thinking, and that he had recorded the succession not as it actually existed, but as he had expected to find it. For on the line of his march, so far as can be ascertained from his map and comparison with the modern geological map,⁽⁴⁾ he was crossing folded Witteberg and Dwyka sediments. Overturning is not sufficiently developed here to reverse the formations significantly enough to evoke this statement of their relationships.

Attempting to solve the difficulty, the present writer visited the banks of the New Year's River along which Barrow travelled. Here on the farm Hilton about 12 miles W.N.W. of Grahamstown and on the north bank of the river is a kranz whose position on the map is just south of the N of the farm's name. This kranz answers fairly well to his description that "the upper part of the face of this hill consisted of large, regular, rhomboidal tablets, whose projecting angles formed a kind of cornice to the face: these rested on a mass of purple slate crumbling into dust." The rhomboidal tablets are due to diagonal joints spaced at intervals equal to the distances between the bedding-planes of the sandstones through which they cut. The cornice of sandstone has been formed by the river which has undercut into the dark blue-black shales below, veined with quartz, just as described. The cliff is less than 100 ft. high and about 80 yds. long. At the base are 30 ft. of shale, succeeded by 50 ft. of sandstone, above which some 15 ft. of shale appears.

1. Barrow 1801 p.101.

2. Rogers ~~1801~~ 1937, pp. 22-24, 43, 95

3. ~~ibid.~~ p. 227. Barrow 1801, p. 227.

4. Geol. Survey, Cape Sheet 9, Port Elizabeth, 1910-1925.

It is mapped in the Witteberg Series, but the lithology of this section is more characteristic of the Lower Dwyka Shales in which sandstone bands are not unknown. The cliff is about a mile from the Dwyka boundary as mapped, but the evidence is insufficient to claim that a revision of the Witteberg-Dwyka junction is here necessary. There is, of course, no certainty that this must have been the exact krantz of which Barrow wrote. But its prominence in a rather flat valley may have led him to examine it, just as it immediately attracted the attention of the present writer. If Barrow had examined this or a similar krantz, it would account for his statement of the stratigraphic relationships between sandstone and "slate". Having seen one exposure on the model he had expected to find, he would not look further, since he would believe that all the hills of Witteberg Sandstone were resting on "slate".

Evidences of Volcanicity.

On three occasions he refers to hills in S. Africa having every appearance of volcanic origin, ⁽¹⁾ some being perfect cones and others truncated at the summit in the manner of those on which craters are generally found. But in each case, examination of the "alternate strata of earth and sandstone, regularly disposed in every part, showed them to be the effect of water and not of fire." Conical hills of this character he noted in the vicinity of the Brandvlei, Worcester. He said that they were very different from any he had seen on his journey from Cape Town; but "they were found to be composed of quartz, sand-stone and iron; not, however, stratified like the great chains, but torn and rent into large fragments." The features to which he thus refers may be almost certainly identified as the linear group of low hills of Witteberg Beds immediately south of and parallel to the Breede River some 3 miles S.S.W. of Worcester and near the bridge that leads to Brandvlei.

It was purely fortuitous, however, that on the very first occasion on which he saw Witteberg Beds he should differentiate them from T.N.S., for he did so on faulty reasoning as will be explained below. He found no lava in these hills, nor did it appear that any of the stones had undergone fusion. "There was no blue slate in their sides which would most probably have been the case had they been thrown up by any impulse, the whole base

1. Barrow 1801 pp. 73, 87, 90.

of the plain being composed of it." He believed that the blue slate (Bokkeveld Shales) underlay the quartzite and sandstone of the low hills just as the Malmesbury Slates underlie the Devil's Peak at Cape Town. Hence he argued that if volcanic action had occurred, the underlying slate would be fractured and carried upwards to mingle with the overlying quartzite and sandstone. The absence of any such evidence was against the volcanic origin of these hills.

As stratification is prominent in all the hills and mountains in this locality, it is difficult to understand why it is expressly denied by Barrow in this case. But the very structure of these low hills of Witteberg Beds suggests a possible explanation; namely, that he examined only their dip-slopes and thus did not realize that they were stratified. Joints disrupted by weathering on these dip-slopes may have given him the impression that the rocks had been "torn and rent into large fragments." The geological map shows the Witteberg in these hills dipping N.N.E. at 50° .⁽¹⁾ It is probable that it was from this direction that he approached them, since his map shows that he travelled down the north bank of the Breede River and camped at or near the present position of Worcester. An excursion from his camp to the hot springs would have brought him from the north to the river near the present bridge and to the hills of Witteberg Beds immediately beyond. Correspondence from the late Dr. A.W. Rogers, F.R.S., received by the present writer, as well as a visit by the latter to the locality, lend support to these suggestions. The dip-slopes of these hills exhibit many irregularly shaped and placed masses of Witteberg Sandstone, much stained by iron. The hills nearest to the bridge do present a somewhat conical form.

These observations near Brandvlei as well as others made elsewhere in the Cape confirmed him in his belief that "there is neither a volcano nor a volcanic product in the southern extremity of Africa, at least in any of those parts where I have been."⁽²⁾ Since the term 'volcanic' would then cover both intrusive as well as extrusive igneous rocks between which no clear distinction had then been made, his statement denies the igneous origin of granite. This is consistent with his belief that it had been crystallized from matter dissolved in the primeval ocean.

1. Geol. Commiss. Cape Sheet 4, 1906.

2. Barrow 1804 p.329.

Inclined Strata.

Horizontality of strata supported the theories of the Neptunists, but they were not confounded by the existence of inclined beds. Their explanation of these rested upon their fundamental principle that all varieties of rocks had been deposited in the same horizontal or tilted attitudes they now occupy. The Primary rocks were deposited as an even layer upon the floor of the primeval ocean, thus faithfully reproducing its initial irregularities, just as crystallization from a solution will encrust the walls as well as the base of its containing vessel. The Transitional rocks in turn, and then the Floetz, would form even layers following all irregularities in the surfaces of the subjacent rocks. Strata whose dip exceeded 30° , however, it was believed owed their steep inclination to the slumping of previously deposited materials down steeply inclined surfaces, the movement being caused by introws due to local disturbances such as the collapse of crust cavities. Hence he was not unprepared to find inclined strata which he records on several occasions. It is only surprising that he did not notice them more often. Had his route passed frequently across axes of the Cape folded belt he would almost certainly have done so, but his travels were mainly parallel to the ranges. Hence he sometimes thought strata horizontal when in fact he was viewing the inclined beds outcropping horizontally on steep surfaces parallel to their strike.

In the Hoedsand Kloof (Tulbagh) he noted a dip of 20° S.E. ⁽¹⁾ This phenomenon would obtrude itself upon his notice since he was passing through the axis of the range in a direction roughly parallel with the dip. In the mountains north of where Worcester now stands he notes that, "the strata were here inclined to the eastward in an angle of about 40° , and seemed as if ready to slide down over each other. Still they were uniform, and had evidently never been disrupted by any subterraneous concussion."⁽²⁾ He implies that had this occurred, the strata would not have been of uniform thickness irrespective of their position, but would have slumped to form thicker layers towards the base of the mountains. Emerging from De Straat, a narrow valley which debouches upon the plain where Touws River now stands, he records that he saw "small hills all detached from each other, and having every appearance of a volcanic origin, except that the sandstone strata

1. Barrow 1801 p.70.

2. *ibid* p.72.

which showed themselves on every side, were regular and undisturbed. The inclination of these in a considerable angle to the horizon, and the form of the hills, made it appear from certain points of view as if a spiral line of stone twisted itself round their sides like the ridge that encircles some of the volute shells."⁽¹⁾ These observations clearly refer to the Witteberg quartzitic sandstones whose dips as high as 50° in this locality are now shown upon the geological map.⁽²⁾

Elsewhere he makes the following remark about the east-west mountain chains of the folded belt, but unfortunately does not say where he had made the observations upon which it is founded. "Sometimes the inclination of the strata is so great that the whole mass of the mountain appears to have its centre of gravity falling without the base, and as if it momentarily threatened to strew the plain with its venerable ruins."⁽³⁾ This suggests that he had observed folding involving dips of greater than 40° which is the highest figure he records.

The Kamiesberg and Paarl Granites.

He states that of all the mountains he saw, only the Kamiesberg "in their nature and composition differed from all others in the colony," being composed of "large rounded masses of granite, a whole mountain sometimes consisting only of one naked rock."⁽⁴⁾ He then contradicts his statement upon their unique nature by comparing them with the Paarl Rocks which are "aggregates of quartz and mica, the first in large irregular masses, and the latter in black lumps resembling shorl; they contain also cubic pieces of felspar, and seem to be bound together by plates of clayey iron-stone."⁽⁵⁾ His belief in the Neptunian origin of granite led him to think that the spheroidal weathering it exhibits arose from the fact that in each rock, crystallisation from aqueous solution had formed around a nucleus upon which successive concentric layers of rock had become aggregated.

He correctly identifies the Paarl granite with that underlying the horizontally stratified rocks in the Cape Peninsula.

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1. Barrow 1801 p.87.
 2. Geol. Survey, Cape Sheet 5, Laingsburg.
 3. Barrow 1804 p.336.
 4. Barrow 1801 p.385.
 5. *ibid.* p. 60.

He refutes suggestions that the Paarl Rocks were huge boulders from an extraneous source resting on a mountain of different composition,⁽¹⁾ "which led a naturalist in Europe to observe that these immense blocks of granite had probably been thrown up by volcanic explosions." The reference is probably to Sir William Hamilton.⁽²⁾ Instead Barrow affirms that the Paarl Rocks are part of the mountain whose summit they form, and in this contention he is supported by Playfair.⁽³⁾ The latter is at fault, however, in attributing to Barrow the statement that the Paarl Rocks lie upon sandstone strata.

Prehnite, Agalmatolite and Plankstones.

He records that prehnite⁽⁴⁾ in large blocks is found in the Kamiesberg but makes no claim to have seen any there.⁽⁵⁾ He describes it in detail, particularly its softness which renders it singularly suitable for carving into tobacco-pipes. Prehnite, however, is as hard as or harder than felspar, and this is obviously a reference to the agalmatolite found some distance further north than he penetrated. He is correct in his statement that prehnite possesses most of the characters of zeolite and shows intumescence under strong heat. If he had performed this experiment on a piece of agalmatolite he might have realized his faulty nomenclature.

However the confusion may have arisen, it is clear from remarks made elsewhere why he attached importance to zeolites. Their occurrence in granites or basalts was "one of the contested points between the Plutonists and the Neptunists. Zeolite being frequently found in the midst of basalt, and being well-known to contain a considerable quantity of water, has furnished one of the strongest arguments in favour of the Neptunists; in so far at least as it militates against the doctrine of basaltic columns being produced by the agency of subterranean heat."⁽⁶⁾ His interest in recording its occurrence thus arose from the fact that certain mineralogists then thought that its presence in granite could be taken to confirm its Neptunian origin.

Also in the Kamiesberg region he records seeing in several places "curious flat rocks, colored red and yellow, which might be

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1. Anderson p.102.
 2. See above pp. 125-6.
 3. Playfair p.399.
 4. The first mineral to be named after a S.African, Colonel H.Prehn. For biographical note see Quart.Bull.S.A.Library, II, p.45, footnote.
 5. Barrow 1801 p 385 & 1804 p.359.
 6. Barrow 1806 c, p.142.

taken up in such large flags and were so easily cut with a knife, that they had obtained the name of plank-stone."⁽¹⁾ These may be tentatively identified as those soft shales taken by Rogers to be the base of the Malmesbury Series, which weather to a white or pink clay, but which are probably black when fresh.⁽²⁾ They occur by the Swart Doorn River on the farm Groot Riet at a point through which, as we have seen, it is almost certain that Barrow must have passed.

Alterations in Sealevel.

He tells us that the prevailing opinion at the Cape⁽³⁾ then was that the Cape Flats had been covered by the sea at no distant date. It was said that evidences of this were the flatness and little elevation of the isthmus, the quantity of sea-sand upon it, and the number of sea shells found there. Sparrman and De Jong thought the Flats had been formed without a change in sea-level by the infilling of a shallow strait with wind-borne sand.⁽⁴⁾ Others, such as Le Vaillant and Degrandpre,⁽⁵⁾ thought the sea-level had fallen, but Barrow was opposed to this view and ascribed the dune ridges of sea-sand to the strong south-east winds from the shores of False Bay.⁽⁶⁾ This is not the same as Sparrman's view and De Jong's, however, since Barrow did not admit the previous existence of a shallow strait but thought the sand-dunes had been blown in upon dry land.

Though he saw no sea shells on the Flats, he does not contest the fact, but says that their presence there would be no evidence of recent submergence. For "many thousand waggon-loads of shells may be met with in various places along the eastern coast [i.e., between Cape Town and the Great Fish River] in situations that are several hundred feet above the level of the sea. They are generally found in the greatest quantities in sheltered caverns, a circumstance that might lead to the supposition of the original inhabitants of the country being a sort of Troglodytes."⁽⁷⁾ Unfortunately he rejects this explanation, since he had seen a large number of seabirds feeding upon live shellfish in a cavern 300 ft. above the sea at Mossel Bay. He believed that these birds, as well as crows and vultures, detach shellfish from the rocks and carry them to caves and other elevated situations.⁽⁸⁾ A more likely explanation is afforded by elaboration

1. Barrow 1801 p.385.

2. Rogers 1911 p.43.

3. Barnard 1924 p.40.

4. (Sparrman 1786 I p.20.
(De Jong I 184.

5. (See above pp.150,348,
365-6,371-3.

6. Barrow 1801 p.13

7. *ibid* p.58.

8. Barrow 1804 p.66.

of an idea advanced by Lichtenstein, (1) namely that Barrow and his party had disturbed a resting group of Stranliopers who, observing his approach, fled unperceived and left their unfinished repast to the gulls.

Barrow also ascribes to birds the "beds of shells buried under vegetable earth and clay" on the slopes of Lion's Head 500 ft. above sea level. His remark upon the Troglodytes indicates that he was unaware of the Stranliopers, a group of which may have survived near Mossel Bay at that time. Had he known something of their history and habits he might have given the correct explanation of the shell-deposits.

He advances a further argument against the supposition that shells up to 500 ft. above sea level had been left there by a recent recession of the sea. This rests upon the time involved, for he says that "the human mind can form no idea as to the measure of time required for the sea to have progressively retreated from such elevations." He implies that a recent retreat of the sea is disproved by the comparatively fresh state of the shells which would have shown greater signs of decay in the time involved in a vertical 500 ft. recession of the sea. He supports this contention by citing evidence from Egypt and Israel by which it is known that the Isthmus of Suez has been above sea level within the whole period of history. Hence there can have been no recent general lowering of sea level.

To strengthen his case still further he describes the exposures of granite and of schistus (Malmsbury Beds) which he had observed on the Flats "at elevations of not less than 100 ft. above sea level." He concedes it possible though unlikely that the beds of "sandstone or hard gravel, bound together and coloured yellow or brown with iron" (Tertiary siliceous or calcareous sands, ferriferate) (2) are "advantitious," i.e. detrital matter from the mountains bordering the isthmus deposited subaerially since a recent retreat of the sea. But the granite and schistus certainly are not consolidated recent detritus but are "primeval" i.e. in their position as originally deposited from the Neptunian ocean. Hence, when the sea covered the Flats, it must have stood at least 100 ft. higher to have deposited these primitive rocks. But it must be "an incalculable period of time since the two bays [Table and False] have been united." For if the sea level was recently 100 ft. higher than the present, then the Isthmus of Suez must have been contemporaneously submerged, whereas it is known that this was not so. In view of what he writes elsewhere, it is strange that he advances an argument resting upon so insignificant a fraction

1. Lichtenstein 1928 p.221.

2. Haughton 1933 pp.41,42,46.

of geological time as a mere three or four thousand years. But it was a contention that must have carried considerable weight because the orthodox opinion then was that the age of the earth did not much exceed 6,000 years. (1)

He held the contrary view that instead of the Flats having been recently submerged "the time is yet to come when that event will take place." Presumably this expected advance was regarded by him as one of the fluctuations in sea-level permissible under Neptunian theory. Observing the area near Cape Town now called Green Point Common, he remarked that its surface is much lower than parts of the Cape Flats. Hence, if the latter had recently been submerged, so also would have been the former. But he thought that evidences of submergence of Green Point Common are entirely lacking. In support of this view he describes how "the Lion's Hill declines in a gentle and uninterrupted line into the plain, an appearance which would not have taken place had it ever been beaten by the billows of the ocean." If his field-observations here are at fault, at least he must be credited with realising for what to look. His failure to recognise that Green Point Common is an elevated wave-cut platform is not surprising in view of his inexperience. The seaward margin of the Common, in his opinion, by its fretted and scalloped edge proclaimed the encroachment of the ocean.

Indeed, he considered that all the shores of Southern Africa bore witness to the advance of the sea. He thought that the whole of the Agulhas Bank as far as $Lat. 37^{\circ}S$ had been formerly above sea level, basing this opinion upon the following phenomena. (2) Its shape merges almost imperceptibly into the shoreline at Cape Point and at the Great Fish River. It is largely covered with rock and coarse fragments of comminuted sandstone which is obviously terrestrial detritus. The "fragile" nature of the jointed coastal rocks cause their frequent collapse into the sea which shows how easily the land has yielded to wave attack. Soundings on the outer edge of the Bank yield samples of fine white sand similar to that found on beaches, an indication of an ancient shoreline. The stream of the current strikes strongest just along the outer margin and has thus maintained its position in the deep waters off the former coast. Finally it should be mentioned that in support of this theory he also cites the fact that the indentations of the south coast are all formed in one direction. The significance he attached to this

1. Barrow 1801 p.375.

2. Barrow 1804 p.66.

phenomenon is perhaps explained by his remark upon the Cape Peninsula, that its shores are "scalloped out ----- demonstrating an encroachment" of the sea. Thus he evidently thought the capes at the southern extremities of the bays on the south coast represent the still unfounded portions of the mountain chains whose eastward extensions have already been drowned beneath the advancing seas.

Whilst he thought that the sea was advancing in South Africa, he believed that local recessions were occurring elsewhere. He cites the Baltic for example where a fall in sea level of 40 ft. in a century had been recorded, so that in 6,000 years the sea must have subsided by 240 ft. But he observes that "such great and sensible depressions of the waters of the sea must, however, have been only local, otherwise as I have elsewhere observed, the Red Sea and the Mediterranean would have joined within the period of history. The sea, it is true, in some parts of the world gains upon the land, and in others the land upon the sea, but these effects arise from a different cause from that which is supposed to produce a general retreat."⁽¹⁾ He ranges himself here with the Plutonists against the writers of Neptunian persuasion "who, drawing their conclusions from a supposed retreat of the sea to prevail universally, have not given themselves the trouble to examine any further grounds for such conjecture."⁽²⁾

He admits that he is baffled as to what this different cause may be which controls irregularities in ocean level. He could understand a general oceanic advance due to its displacement by deposition within it of river-borne terrestrial sediments. It is plainly seen how land gains upon the sea in delta formation. But a comprehensive explanation of the changing relationships between land and sea he cannot provide. He suggests that it may lie in "some temporary and preternatural cause" by which he may mean what is now known as diastrophic movement, an idea at which he glances when suggesting that Table Mountain had been uplifted. But if local land-movements have not occurred, then he sees the need of incalculable time to effect all the changes in sea level that manifestly must have taken place. He felt the crushing effect of the geological time-scale of 6,000 years imposed by religious authority, and it is clear that he viewed with misgivings his twice-used Suez argument.⁽³⁾ Moreover he failed to see that he invalidated it by conceding local changes in sea level, since these could be invoked to

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1. Barrow 1806 b, p.430.
 2. Barrow 1804 p.63.
 3. *ibid.* pp.64,67.

explain a recent emergence of the Cape Flats. If he did not believe in the universal retreat of the sea, ⁽¹⁾ he was at least certain that there must have been a time when even the highest mountains were covered by it. ⁽²⁾ But a slow retreat from this all-engulfing depth seemed unlikely to him, and here he held a Neptunian view. He envisaged rather "some sudden cause, some convulsion in the globe of the earth, or some check in its diurnal or annual motion which produced an universal change upon its surface;" and by which "the waters under the heaven were gathered together unto one place, and the dry land appeared." Thus he apparently thought that ^{after the initial sudden exposure of} ~~when~~ the continental surfaces, ~~had been~~ ~~initially exposed~~, subsequent fluctuations of sea-level were of a gradual nature.

Denudation.

The same idea of a rapid retreat of the universal ocean appears in the following passage which can only be understood in the light of Neptunian theories of the sculpturing of mountains. "It was an observation sufficiently striking, and which must have occurred to every one who has been the least attentive to the mountains and rivers of South Africa, that the ascent of the former invariably increases with the descent of the latter; or in other words, that the highest sides of the mountains face that quarter towards which the rivers flow, while their sloping sides are opposed to the streams. That such, indeed, are the appearances which ought to present themselves on the surface of every country of Neptunian origin, is conformable to what may every day be observed on a small scale in the beds of rivers and most water-courses. The banks of earth or sand that the current of waters has there deposited have always their highest points down the stream. The reason is too obvious to require an explanation."⁽⁵⁾

The meaning of this curious passage lies in the Neptunian belief that the mountains were once subjected to currents of seawater as deep and as strong proportionately as is river water to the submerged banks in its bed. These assume a form with the gentle slope upstream and the steep slope downstream, just as in sand dunes and from the same cause. The water or wind stream rolls particles up the gentle incline

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1. Barrow, 1804 p.68.
 2. Barrow 1806 b, p.429, & Barrow 1806 c, p.151.
 3. Barrow 1801 p.245.

till they fall over the edge of the bank or dune where they lie at or near their angle of repose. His belief thus was that great ocean currents had swept the submerged sediments into the positions they now occupy as stratified mountains, with their beds dipping gently towards the land-interior, from which direction came the currents flowing to the sea during its tumultuous recession. He made this observation when travelling between Graaff-Reinet and the Orange River where the strata fit a broad interpretation of his dictum. Those flowing south, cross beds gently dipping northwards; whilst those flowing north, cross beds gently dipping southwards. The mountains thus constructed would in turn be subjected to the destructive phase of the same agencies. For as the primitive ocean sank to the level of the mountain tops in its rapid retreat to its present bounds "powerful and shifting currents set up by the winds and by the draining away of the subsiding waters, cut deep valleys through the sediments in all directions, and by their erosive power gave rise to deep valleys separated by high mountains."⁽¹⁾

His observations on the behaviour of the rivers with reference to the dip of the strata are quoted by Playfair in support of the opposite theory that "the form of this land has been determined by the slow working of the streams. The causes which produced the effects here described, began their action from the line of greatest elevation, and extended it from thence on both sides, in opposite directions. This is the most precise character that can mark the alluvial operations, and distinguish them from the overwhelming power of a great debacle."⁽²⁾ This is surely a recognition by that brilliant Plutonist of the erosion processes performed by consequent streams flowing from and at right-angles to the axis of a syncline formed of beds of varying hardness. Though Barrow apparently held the Neptunian belief that the major erosion features of a range were of submarine origin, he nevertheless recognised the importance of the sub-aerial denudation that followed. Writing of the ranges parallel to the south coast he remarks: "We should not, perhaps, be far amiss in assigning to Africa a prior creation to any of the other continents. Its vast antiquity appears in the very extraordinary manner in which the superior parts of the great chain of mountains are corroded and worn away; in the immensely deep chasms in which the rills of water trickle down to the sea . . ."⁽³⁾ Elsewhere, however, he suggests as an alternative to great age, that the deep chasms may have been excavated rapidly along lines of weakness in the rocks.⁽⁴⁾ On

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1. Adams p.223.
 2. Playfair p.410.
 3. Barrow 1804 p.67.
 4. *ibid.* p.60.

reaching the shallow Buffalo River (Laingsburg) he is impressed by the evidence of "at least its periodical power, which had forced through the Black Mountain to the southward a grand chasm in its passage to the eastern ocean."⁽¹⁾ He does not speculate as to how this could have occurred, and probably did not sense the difficulty which will doubtlessly be solved eventually by assigning the phenomenon to headward erosion, to antecedent or to superimposed drainage. He realised that Table Mountain, the Devil's Peak and Lion's Head had once been joined, but "the depredations of time and the force of torrents having carried away their looser and less compact parts, have disunited their summits."⁽²⁾

Viewing the Olifants Mountains (Piquetberg Dist.) he is deeply impressed by the effects of subaerial denudation visible in those summits. "The cavernous appearance of these peaked columns that had hitherto withstood, though not entirely escaped, the corroding tooth of time and the vicissitudes of devouring weather, proclaimed their vast antiquity; and the coarse sand in which their bases were buried, and the fragments of the same material that were scattered over the surface and not yet crumbled away, were sufficiently demonstrative that these pyramids had once been united, making at that time one connected mountain . . . Out of the mouldered remains of these mountains had been formed the inferior hills of sand, while the finer particles, wafted by the winds and the torrents, have rested on the plains that stretch along the sea coast."⁽³⁾ (c.f. his "adventitious" deposits on the Cape Flats.)

Crossing the Krakadouw Mountains a few days later in similar surroundings he continues this theme. "Waiting in the midst of these antique ruins, the mind was in vain busied in trying to form some estimation of the measure of time that had passed away in effecting the general depression of the mountain, and equally vain was it to attempt a calculation in how many ages yet unborn the stupendous masses of at least a thousand feet high, of solid rock, would dissolve and 'leave not a rack behind'." There is a certain similarity between these words and Hutton's well-known statement made in 1789, that in contemplating the history of the earth "we find no sign of a beginning, no prospect of an end."

It has been previously mentioned how Barrow felt the inadequacy of the time-scale then permitted by religious authority. In the following passage he boldly speaks his mind on this matter. "Geological observations on the gradual decay, or rather mutation

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1. Barrow 1801 p.90.
 2. *ibid.* p.34.
 3. *ibid.* p.371.

of the superficial form of our habitable earth, leave a doubt in the unprejudiced and unshackled mind of the idea of the popular Jewish notion that would limit its creation to the short period of six thousand years. The human mind appears lost and bewildered in attempting to form any conception of a beginning of the existence of matter, or of ought antecedent to it."⁽¹⁾ It is significant that the above passage is omitted entirely in the second edition,⁽²⁾ presumably to avoid the imputation of impiety. The manuscript of his first edition was despatched from the Cape in the same year (1799) that R. Kirwan, Professor of Mineralogy in Dublin, published his "Geological Essays." These contained a bitter denunciation of Hutton's Plutonic theory which was said to be inimical to religion and at variance with the Mosaic account, inasmuch as it demanded immeasurable epochs in place of the Biblical chronology.⁽³⁾ That Barrow may have read these essays appears in his volume on Cochin-China, published 1806, where he mentions the controversy between Kirwan and Hutton.⁽⁴⁾ This was also the date of the second edition of Barrow's S. African travels, and the omission of the passage was probably made in deference to Kirwan's accusations of heresy.

Disposal of rock-waste from mountains has been referred to above. He attacks the problem mathematically, and calculates the volume of detrital material that would be supplied from a lowering by only 100 ft. of the north-south Cape ranges, estimated at five miles wide and two hundred miles long. He arrives at the answer that this amount of erosion alone "would have supplied materials to cover uniformly to the depth of three feet, a plain of 33,000 square miles."⁽⁵⁾ It is left to the reader to make the inference apparent in the author's mind, that the land would be more deeply covered by detritus than it is, were the products of the lowering of the ranges by several hundreds of feet all to be retained around their bases. Thus he is led to suggest that "all the sands of the sea shores probably owed its origin to the remains of worn-down mountains, scattered by the winds and borne down by torrents into the 'bosom of the deep,' and thence thrown back upon its shores." But he drew an unwarrantable inference from this theory when he wrote that since the shore is sandy from the Cape to the Gulf of Benin, it is more than probable that the stratified mountains of sandstone parallel the coast northwards to the Equator.

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1. Barrow 1801 p.375.
 2. Barrow 1806 a, I, p.328.
 3. Von Zittel p.75.
 4. Barrow 1806 c, p.151.
 5. Barrow 1801 p.374.

Climate and Hydrology.

He did not add much on this subject that had not already been said by his predecessors. However, it is interesting to find in his pages what must be the first printed record of a berg-wind. During early September, 1797, he was on the banks of the Great Fish River at a distance of two days' journey from its mouth. Descending to Trumpeter's Drift⁽¹⁾ the mercury rose from 72° at midday to stand at 102° in the shade until late afternoon. "The wind was due north and remarkably strong, and the stream of air was so heated that it was scarcely possible to bear exposure to it for any length of time . . . It may be remarked that the meridian altitude of the sun on that day was only 51° and that the general surface of the country from which the wind blew was covered with thick shrubbery; that on the preceding night near the same place the thermometer was down to 52°; and that on the following day on the same spot with the same wind, but less strong, it ascended no higher than 71°. These circumstances render it very difficult, if not impossible, to account for so high a degree of temperature."⁽²⁾ This is a clear description of the berg-wind common in this locality in early spring, and Barrow's inability to explain it is not surprising. Two months later, in November, 1797, at Graaff-Reinet he experienced a temperature of 108° which was reached during another of "those hot winds such as we once before experienced on the banks of the Great Fish River." He remarks that these winds are "sometimes attended with 'tornadoes' that are really dreadful" in which "dust and sand are whirled into the air in columns of several hundred feet in height, which, at a distance, look like water-spouts sometimes seen at sea."⁽³⁾

He comments upon the considerable range in diurnal temperatures experienced in winter in the Karroo,⁽⁴⁾ and advances a curious explanation of the nocturnal frosts which he felt were inadequately accounted for by latitude and altitude alone.⁽⁵⁾ He believed that they might satisfactorily be explained by the ingenious experiments of Mr. Von Humboldt on the chemical decomposition of the atmosphere.⁽⁶⁾ The latter "proves that fat and clayey earths are strongly disposed to attract the oxygen from the atmosphere, by which the azotic gas is set loose; and this gas, entering again into combination with fresh oxygen of the superincumbent stratum in an increased proportion, forms

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1. See above p. 383.
 2. Barrow 1801 p.190.
 3. *ibid.* p.326.
 4. *ibid.* p.106.
 5. Barrow 1804 p.331.
 6. Von Kittel p.64.

nitric acid from which saltpetre is generated. That saltpetre is abundantly formed on those plains is an indisputable fact, as I have fully shown: and the consequence of such formation must necessarily be a great diminution of temperature in those places where the operation is most powerfully carrying on."

This ponderously erroneous explanation is the more unfortunate because it rests on the faulty assumption that saltpetre is a widespread surface deposit in the Karroo. On three occasions only does he describe it on the ground: at Geelbek 6 miles east of Laingsburg, on the banks of the Traka River north of the Zwarteberg; and at De Beer Valley (now Beervlei) 17 miles north of Willowmore.⁽¹⁾ All these localities are on or near Upper Dwyka Shales which yield gypsum, probably the white powder which he identified incorrectly as nitre. Where he saw it on cliffs or in caves, as for example at a place likely to have been that which is now called Saltpetrekop, some 10 miles west of Cradock, the identification was probably correct.⁽²⁾ In such situations it is usually formed, as he states, from reactions between rock minerals and the urine of rockrabbits (hyrax) or bats. Not only the alternate currents of hot and cold air experienced at night by travellers on the Karroo, but also the mirages seen by day he ascribed to the exhalations of subjacent beds of nitre. But he does not make it clear whether he realised that this phenomenon of refraction depends upon differences in temperature of adjacent layers of air as the above statement may seem to imply.

He frequently stresses the arid nature of some of the interior regions through which he travelled. Hence it is hard to understand why he made the unqualified statement that a greater quantity of rain falls annually at the Cape than in most parts of Europe.⁽³⁾ One can only suppose that he used a restricted definition of "Cape" covering those coastal regions most favoured by settlers. Even so, his sweeping generalisation gives an inaccurate impression of the rainfall in these areas.

However, being satisfied that the annual rainfall is adequate, he searches for some other cause to explain the "general scarcity of springs" in S. Africa. Hence his enquiry is not meteorological but geological, as is indicated by his heading, "Scarcity of Water attempted to be explained from the Nature and Antiquity of the Mountains."⁽⁴⁾ His explanation rests upon his opinion that "all the continued chains of mountains in Southern Africa are composed of sandstone resting on granite." Springs commonly occur at the

1. Barrow 1801 pp. 91,101,107.

2. *ibid.* p.310.

3. Barrow 1804 p.60.

4. *ibid.* p.32.

line of junction between the two, due to the impermeable nature of the latter. But "where the sandstone continues to descend beneath the surface, and the upper part of the granite base is sunk below the general level of the country . . . the springs can no longer find their way upon the surface, but cozing imperceptibly between the granite and the sandstone . . . glide in subterraneous streams to the sea."

He suggests, too, that due to the vast antiquity of the mountains of S. Africa, the cisterns or cavities in the sandstone have been corroded and fretted away in the lapse of ages to so great a depth that they no longer overflow at the conduits from which they anciently issued as springs. Instead, the subterraneous cisterns have become breached in their bases, and the water seeps seaward below the surface. He opines that the great depth of the commencement of the granite base below the surface may, in addition to evaporation, account for those rivers which lose themselves in sand before reaching the sea. He supports these conjectures by citing several instances where digging revealed water, particularly in coastal situations and in river beds. Hence he concludes that "it would be an absurdity to suppose that in a country where mountains abound, and those mountains for more than two-thirds of a year hid in dense clouds, there should be any scarcity of water. Peculiar circumstances relating to situation or surface may conceal that water, but it will always be discovered at or near the sea coast."⁽¹⁾

He thinks that the situation of the granite base of the Outeniqua Mountains will perhaps explain the growth of the forests on their seaward slopes.⁽²⁾ He implies that it is the position of the granite which causes the many springs to burst out, whose banks are covered with trees. He does not carry his reasoning a step further back by noticing the rain which nourishes the springs and by attempting to account for its abundance here. He does not point out the relationship between climate and forests, but explains their presence in terms of geological structure. Elsewhere, it is true, he says that the mountains being near the sea and clothed in forests attract vapour, causing a considerable quantity of rain to fall in the summer months.⁽³⁾ But he is nowhere explicit upon how mountains influence rainfall. He does attempt a reasoned account of the "Tablecloth" upon Table Mountain by "condensation from decreased temperature and concussion,"⁽⁴⁾ but fails to carry this one stage

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1. Barrow 1804 p.62.
 2. *ibid* p.74.
 3. (Barrow 1801 p. 346 &
(Barrow 1804 p.365).
 4. Barrow 1801 p.39.

further to a description of orographic rainfall. If he was aware of this mechanism he does not explain it, and the arrangement and presentation of ideas connected with this topic is defective. His observations reveal the imperfections in contemporary knowledge of the interrelationships that constitute the hydrologic cycle.

He has frequent references to those characteristics of S. African rivers which would be most unfamiliar to his readers in Western Europe. Hence he tells how impetuous seasonal floods give place to dry courses; how the Karroo rivers often dwindle by absorption and evaporation as they proceed; how sandbars obstruct their mouths; and how irrigation might flourish in the valleys of the Orange and the Swartkops rivers.⁽¹⁾ Viewing the Hex River Valley he believed that all its appearances "declare it at one time to have been a lake, the head of which having given way at the kloof, has suffered the water to force itself out upon the next lower terrace, leaving only a bog in the middle."⁽²⁾ He thought that the Warm Bokkeveld had probably had a similar origin.⁽³⁾ In each case the physiography might easily suggest this history; and their true character as the products of antecedent drainage, a process then unknown, has been only recently recognised.⁽⁴⁾

He discusses a scheme then being advocated to turn the course of the Berg River into Saldanha Bay.⁽⁵⁾ He rejects this proposal on the grounds that the new mouth would be penetrated by the tides some twenty miles upstream, in the same way as the existing mouth. Hence fresh water, which the scheme was designed to supply, would be as far away as ever. A canal with a device to exclude the tide would flow so slowly that it would soon be choked by the shifting sands of the region.⁽⁶⁾ Instead he suggests that expenditure of a sum not greatly in excess of £10,000 would bring piped water: but this proposal waited until 1943 before being put into effect.

He describes in some detail the hot springs he visited in localities now known as Brandvlei (Worcester),⁽⁷⁾ Cradock,⁽⁸⁾ Olifants River (Oudtshoorn),⁽⁹⁾ Olifants River (Piquetberg)⁽¹⁰⁾ and Caledon.⁽¹¹⁾ He records the temperatures of the springs except at Brandvlei (145°) since his thermometer did not register beyond 140° F. In his second volume⁽¹²⁾ he gives the temperature of

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| 1. (Barrow 1801 pp.97,136,297, &
(Barrow 1804 p.335. | 7. Barrow 1801 p.74. |
| 2. Barrow 1801 p.76. | 8. (ibid. p.309
(Barrow 1804 p.373. |
| 3. Barrow 1804 p.360. | 9. Barrow 1801 p.334. |
| 4. Schage p.255. | 10. (ibid. p.406
(Barrow 1804 p.356. |
| 5. (Barrow 1801 p.364
(Barrow 1804 p.262. | 11. Barrow 1801 p.355. |
| 6. Lichtenstein 1926 p.49. | 12. Barrow 1804 p.360. |

Brandvlei as 150° . Since we have no record that he visited this spring again, it is likely that this incorrect figure was communicated to him. He discusses the various theories of thermal springs such as "the decomposition of pyritical matter, the slacking of lime and the subterranean furnace heated with combustible materials," but rejects all.

Guided by a farmer he visited the now wellknown thermal spring on the farm Ananzi, formerly Balmoral,⁽¹⁾ and provides the first-known account of it.⁽²⁾ It lies some 7 miles N.E. of Uitenhage and was once the property of the late Sir Percy Fitzpatrick. Barrow cast considerable doubt upon the reliability of the statement of his guide that the spring had been hot when he had visited it 15 years earlier, for Barrow found it to have the same temperature as the surrounding atmosphere. Since the water issues at about 90°F this observation may have been correct for the time of his visit, but had he seen the spring on a cold winter's morning its thermal character would have been immediately apparent. It is therefore probable that it was under such circumstances that his guide had made his previous visit to the spring.

A final note in this section applies to his further views on the action of streams, a subject already broached above. He believes that banks within their beds elongate at both extremities since "the upper increases by the diminution of the stream which it has divided and thrown on each side, and the lower by the eddy caused from the meeting again of the divided current. Analogous to this effect, the point of land between the confluence of two rivers has been observed by an able geographer always to travel downwards to the sea; and the point of land that divides a river to travel upwards towards the source."⁽³⁾ These effects may indeed be seen in streams in those localities where favourable circumstances combine to produce the results claimed. But we must dissent from that unknown geographer, howsoever able, and reject as universal and invariable laws those effects which are merely the occasional outcome of local interactions between stream, bed and load.

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1. Haughton 1928 p.40.
 2. Barrow 1801 p.127.
 3. *ibid.* p.246.

Miscellaneous.

Salt Pans. Discussion on the origin of the salt in pans and streams in South Africa had been initiated by his predecessors, including Kolb, La Caille and Gordon⁽¹⁾ so that Barrow enters a controversial field when he gives at some length his views on the source of that substance in the Zwartkops and other pans near Algoa Bay.⁽²⁾ He realised that it could not be due to saline particles from evaporated ocean spray being carried inland by the wind,⁽³⁾ because a nearby vlei was found to be perfectly fresh, and because salt pans remote from the sea are common. Not content with superficial examination, he caused a 4 ft. hole to be dug at the water's edge and describes the section. He concluded that the brine is due either to salt springs within the pans or else to their resting immediately upon a stratum of rock-salt.⁽⁴⁾ Modern opinion ascribes the salt to the saliferous rocks of the Uitenhage Series from which the brine seeps.⁽⁵⁾

Later he came upon four salt pans at the present Teviot, some 10 miles west of where Hofmeyr now stands, apparently on the site of Chinesefontein,⁽⁶⁾ where his map seems to show that he camped. In one of these pans he dug a section of more than 5 ft. which must have supported his view that springs carried in the saline matter, since at the bottom of the hole he found "a dry reddish-colored soil that did not apparently contain a particle of salt." But close to the margin of one of the pans he found "several springs of clear water having a bitter earthy taste."

Section in Coral Reef. These sections were not the first he had dug, for in 1793 he had made one in North Island, one of the Thousand Islands, some 75 miles north of Batavia, East Indies.⁽⁷⁾ This section of about 3 ft. in depth was made in order to ascertain whether the central part, as well as the shore, of the island consisted of coral. The answer was found to be in the affirmative. He is credited by Von Zittel as the first to attempt to determine the thickness of coral reef on an island. The date of the attempt is given wrongly as 1806, which was the year of publication of his volume describing it.⁽⁸⁾

1. (Mertzel 1944 pp.19,138. See above p. 127.
(Gordon Collection Drawing 22, Zwartkops Saltpan, handwritten notes on.
2. Barrow 1801 p.124.
3. Percival p.18.
4. Lichtenstein 1928 p.413.
5. Haughton 1928 p.35.
6. Gordon Collection Map 3.
7. Barrow 1806 c, p.166.
8. Von Zittel p.246.

Meteorites. He mentions three mineral masses from different localities which, though not then recognised by him as meteorites, may have been so. One certainly was,⁽¹⁾ and is known as the Cape of Good Hope Iron of about 300 lbs. weight, now in the British Museum. A small cube of 55 grammes of this meteorite is in the South African Museum, Cape Town.⁽²⁾ According to a label on this cube the meteorite was found between the Sundays and Bushmans rivers,⁽³⁾ is "mentioned in Barrow's Travels" and was "known long before 1793" which is the date of its discovery according to the British Museum Catalogue.⁽⁴⁾ There is little doubt that the Catalogue is in error, for Barrow states that a specimen of this iron was "carried into England some time ago by Colonel Prehn" who is known to have left the Cape finally in 1780.⁽⁵⁾ Barrow lays no claim to its discovery, but mentions the speculations it had caused as to whether iron in its native state was to be met with at the Cape. He himself then believed it to be part of an anchor from a shipwreck, carried inland by the Kaffers who had contributed to its battered appearance by their attempts to reduce it into smaller pieces. He records without any further detail that another similar mass had been discovered near Krysna.⁽⁶⁾ We have no means of knowing whether this may be an inaccurate reference to the Kouga meteorite, as has been suggested by Peringuey.⁽⁷⁾

"A third mass in an extraordinary situation, the very summit of Table Mountain, excited a stronger degree of curiosity."⁽⁸⁾ It was found half-buried, every part much corroded and the cavities filled with pebbles. In this mass were discerned "some faint traces of the shape of the flock" of an anchor, which it was supposed had been left by Bartholomew Diaz or some other Portuguese navigator, and taken by the Hottentots and cached on the mountain. In the opinion of others, however, the anchor must have lain there from a time considerably antecedent to the discovery of the Cape by Europeans. Coupling this idea with the particularly striking Neptunian appearance of Table Mountain, he fancifully alludes to anchors being left on mountain tops by a retreat of the sea as mentioned in a quotation from Ovid's

Metamorphoses. Unable to resist the temptation to parade his knowledge by introducing an apposite classical allusion, he blinks the inconsistency involved in thus telescoping the geological time-scale for whose extension he elsewhere argues so ably.

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1. Barrow 1801 p.226.
 2. Letter from Dr. K.H. Barnard of S.A.Museum to present writer.
 3. Since no authority for this statement is given, it does not necessarily invalidate the hypothesis given on p. 207 above, regarding the place where this meteorite may have been found.
 4. Prior p.31.
 5. Jeffreys 1928 pp.256,300. Lt.-Col. Hendrik von Prehn.
 6. Barrow 1804,79.
 7. Report S.A. Museum 1911, p.13.
 8. Barrow 1804 p.80.

Clarke Abel, who visited the Cape in 1817, believed the mass to be part of an anchor, since a sea-captain of his acquaintance had identified it as such.⁽¹⁾ Abel had also heard from another source that there was then an elderly gentleman at Simonstown who claimed to have been one of a large party who had carried the fluke to the mountain top many years previously. Abel apparently did not himself see it, but states that a mass of iron, answering the description in every respect, had lately been observed some distance below the summit (presumably in Platteklip Gorge, since in those days this was the usual route to the summit) and was probably tumbled further down by each successive discoverer.

The story of the Simonstown resident seems improbable though it is repeated by two subsequent writers.⁽²⁾ Far more credible is Abel's tale that the mass had last been seen some distance below the summit. In that case it may now lie buried in the upper part of Platteklip Gorge awaiting re-discovery and proper identification.⁽³⁾ There is a statement elsewhere, however, quite probably by Barrow himself, that this mass of iron from the top of Table Mt. had been found to contain "about the same proportion of nickel as is found in those stones which are supposed to fall from the clouds". The statement continues that this metallic mass and another, which was presumably the Cape of Good Hope Iron, were sent to Holland by General Janssens, but that specimens of both had reached England and had there been examined.⁽⁴⁾

The reason why Barrow did not allude to the possibility that these masses were of meteoric origin probably lay in the state of contemporary knowledge on this subject. It is true that in his volume on Cochinina, published 1806, he devotes two pages to meteorites which "according to modern conjecture . . . might be hurled from lunar volcanoes".⁽⁵⁾

If he then felt that the balance of probability favoured the belief that he was here dealing with parts of ancient anchors, he did not remain indefinitely under this misapprehension; for in his autobiography he refers to the mass of meteoric iron found near Algoa Bay, "the Cape of Good Hope Iron".⁽⁶⁾ He claims that from this he had cut off a small piece which he gave to Lichtenstein at the Cape in 1803 before the latter set out on his travels. Some years later at a gathering held in the room of Sir Joseph Banks

1. Abel pp.290,294.
 2. (Howison p.222.
 (Berncastle II,228.
 3. An electrically actuated metal detector might prove useful.
 4. Barrow 1812 p.361.
 5. Barrow 1806 c, p.25.
 6. Barrow 1847 p.237.

in London, Lichtenstein handed round this fragment as part of a large acrolite he had discovered in S. Africa. At this juncture Barrow appeared, and not realising that Lichtenstein was present, claimed the fragment as an old friend; whereupon the impostor stood forth and apologised. Barrow claims that he would not have revealed the matter publicly had he realised that Lichtenstein was present. However, this fine sentiment may have matured in the forty years or so that had elapsed between the incident and its narration. He would have been only human to have seized the opportunity of discomfiting one who had in his writings made strictures upon Barrow's books on S. Africa. But the details of the incident are unimportant, and may be as distorted by the lapse of time and his advanced years as is his account of how Lichtenstein came to the Cape.

Borings for Coal. Iron was not the only economic mineral of which he wrote, for he also gives an account of the search for coal, instituted by Lord Macartney because of the shortage of firewood.⁽¹⁾ A boring of 25 ft. at Wynberg was discontinued when coal was found outcropping on the banks of ~~the~~ ^{Elsjeskraal} River on the flanks of the Tygerberg. The seam ran from ten inches to two feet in thickness and is described as Bovey coal. This lignite, as we should now call it, is a vlei deposit of recent origin, and is thin, lenticular and discontinuous.⁽²⁾ Hence it is not surprising that after several trial borings had been put down in the vicinity to an average depth of 120 ft., the operation was abandoned. But it left a legacy of legend that the timbers of an ancient vessel, perhaps of Phoenician origin, were preserved here, and references to this tale have been printed on several occasions.⁽³⁾

Lead and other Minerals. Near the mouth of Van Staden's River he found several specimens of lead ore which he describes in detail.⁽⁴⁾ He does not expressly claim this an an original discovery, and indeed the occurrence was probably already known; for, if the circumstances stated by Lichtenstein are correct,⁽⁵⁾ an analysis of the galena was made by Major B. Von Dehn⁽⁶⁾ in 1792. When De Mist wrote his Memorandum, however, he evidently believed that the lead tested by Von Dehn was not from the mine visited by Barrow,⁽⁷⁾ and it is not known how Lichtenstein came to the opposite conclusion.

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1. Barrow 1801 p.21.
 2. Haughton 1933 p.54.
 3. Sampson p.34.
 4. Barrow 1801 p.141
 5. Lichtenstein 1928 p.283.
 6. Mossop 1935 p.11.
 7. De Mist 1920 p.219.

His book was published some ten years after De Mist wrote, so that in the interval he may have obtained additional information upon this point. The Memoir of the Geological Survey is in error, however, in ascribing the earliest recorded visit to Lichtenstein since he came there seven years after Barrow. ⁽¹⁾

He writes of a chalky limestone near the coast at Kryana ⁽²⁾ which was probably that now assigned to the Alexandria Series of Tertiary and Recent age. He also examined similar formations near Riversdale where the soil was "dry clay and chalk"; and between Saldanha Bay and the Berg River. In this latter locality he found chalky masses of stone mainly below the sandy surface, but sometimes exposed. He says that ochres are everywhere common and describes the haematite nodules "of the hardness and consistence of baked earthenware" known as paintstones which he says enclose the finest qualities. ⁽³⁾ He notes their particular abundance near the False ^(Volsch) River, ⁽⁴⁾ a west-bank tributary of the Gouritz, where in recent times the mineral has been exploited by quarrying. ⁽⁵⁾

Fossils. He searched for fossils, for in his first volume he writes that "no organised remains, however, of the Old World, such as shells buried in the rock, petrefactions of fishes or impressions of plants appear on the sides of Table Mountain, as has been asserted" ⁽⁶⁾ However, in his second volume he remarks that on his final ascent of the mountain he observed "about midway, several arborisations on stones, those of the fern tribe very distinct." ⁽⁷⁾ His reference to the Old World seems to be the pre-Noachian, so that he appears to adopt an orthodox view that fossils represented forms of life destroyed by the Deluge. His fossil ferns were, however, but dendritic mineral patterns, and would have been correctly classed with the "metallic chrySTALLISATIONS and arborisations" which he described in the Kamiesberg. ⁽⁸⁾ The present writer has not been able to discover an assertion by any earlier author than Barrow that fossils were to be found in Table Mountain. Almost certainly the story arose from the numerous dendrites, for it is most unlikely that any genuine fossils had then been found in that singularly barren formation. The first published reference to the discovery in S. Africa of undoubted fossil remains seems to be that of Paterson made on the Namaqualand coast in 1779. ⁽⁹⁾

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| 1. Haughton & others 1937 b, p.14. | 5. Haughton & others 1937a, p.30. |
| 2. Barrow 1801 p.342. | 6. Barrow 1801 p.36. |
| 3. <i>ibid.</i> p.227. | 7. Barrow 1804 p.62. |
| 4. <i>ibid.</i> p.348. | 8. Barrow 1801 p.365. |
| | 9. See above p. 262. |

Nomenclature. The range of hills between the Bushmans and Great Fish Rivers in which Grahamstown lies has now no collective name, though west of the former stream they are known as the Zuurberg. Unnamed in Barrow's map he refers to them on five occasions in the text as the Rietberg.⁽¹⁾ Other writers both before and after him also refer to these hills by this name.⁽²⁾ By priority right, therefore, even if neither unique nor particularly appropriate, it would seem fitting to designate this now unnamed range as the Rietberg. A suggestion to this effect made by the present writer in 1956 to the Trigonometrical Survey appears to have been considered favourably.

Conclusion.

Barrow's volumes on S. Africa contain more material classifiable under the broad heading of geography than is to be found in any of the works published before his. This does not derogate from the achievements of earlier travellers. But he brought to his task a breadth of knowledge and a range of interests lacked by all his predecessors save Colonel R.J. Gordon, whose account of the Cape interior that he is believed to have prepared for publication has most unfortunately disappeared. Barrow's viewpoint was essentially modern and scientific in his attempts to demonstrate the orderly interaction of natural laws operating in logical sequence of cause and effect, producing different results according to different local circumstances, but nevertheless governed everywhere by the same immutable physical forces. In fact he saw Nature not as a capricious goddess but as a series of intelligible and predictable processes. Equipped with a considerable body of self-acquired information over a wide field, he drew judiciously upon the conclusions of the foremost minds of his day to assist him in the solution of his problems. When they or he erred, we can often see how the mistake arose, and can realise that we, no less than they, might have been under similar misapprehensions had we attacked their problems with the slender data they possessed.

Though we are treated at length to his opinions on a variety of subjects far wider than those within the scope of this chapter, he allows us only indirect glimpses of his character. The censorious attitude he assumes towards the colonists is deplorable, and may represent a psychological response to his own peasant origins. However, in his observations of a scientific nature he subordinates

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1. Barrow 1801 pp.120,165,226 (twice), 229.
 2. (Moodie 1838 III, pp.49, 50 & V pp.50,51,53.
(Cox 1910 pp.241 - 245.

his personality in an objective treatment of his theses. It is clear that he disliked the personal style of his egocentric predecessor, Le Vaillant, and this probably led him to a conscious effort to contrast his works with those of "the valiant Frenchman" who is "himself the hero of each little tale".⁽¹⁾ The desire to effect this contrast may have arisen as much from an inherent reserve in his nature as from his position as a government servant, so that it may have been the combination of these that has given his books on South Africa, and particularly the second volume, something of the character of an official report.

In his relations with his countrymen, or at least with those who were his social equals or superiors, he was evidently neither unjust nor openly condemnatory. Thus we read of him in Lady Anne Barnard's letters as "just one of the pleasantest, best-informed and most eager-minded young men in the world about everything curious or worth attention." He found "novelties and amusements everywhere", "darted at plants and fossils" and "wherever we saw a questionable stone or ore, Mr. Barrow attacked it with a hammer". He wrote "in raptures of Kafir Land" and that on his travels he had "not experienced a languid moment".⁽²⁾ Had he but confined his writings to expressions of such enthusiasms and refrained from unworthy detractions, these would not have rebounded upon him to debar him from that universal esteem in which otherwise his memory here would have been enduringly held.

1. Barrow 1801 p.360 & 1804 p.21.

2. (Barnard 1924 a, p.53.
(Barnard 1924 b, pp.15,21, 149, 16, 30.

APPENDIX A.GOVERNOR VAN PLETTEMBERG'S JOURNEY INTO OUTENIQUA LAND,OCTOBER 1778.

The well-known journey made into the eastern Cape by Governor van Plettenberg in the period September to November 1778⁽¹⁾ has been frequently mentioned above. For the greater part, the route he followed was so similar to that taken two years earlier by Hendrik Swellengrebel that it would be superfluous to comment upon it throughout. This similarity arose from the fact that both generally followed well-established routes, as attested by Swellengrebel's statements which show that he was on a beaten waggon-track on nearly all parts of his journey west of the Great Fish River.⁽²⁾

The Governor's northward excursion into the Colesberg district with Captain R.J. Gordon has been dealt with above in the chapter on the latter.⁽³⁾ There remains but one major divergence from Swellengrebel's route by Van Plettenberg that need be dealt with here. This is where the latter crossed the Outeniqua Mountains from north to south by the Duivelskop Pass and then travelled east to visit Plettenberg Bay from which he made his way westwards to Mossel Bay.

The Governor and his entourage spent the night of 1st October 1778 at the house of the widow of Gerrit van Royen near Diep River in the Lange Kloof some 20 miles west of Avontuur. They set off at 7.15 a.m. on 2nd October and passed at 9 a.m. Jacobus Buys by the stream near which Kanzaanheid is now situated, the Ruis or Huis River.⁽⁴⁾ At 10 a.m. they obtained fresh teams of oxen from Hendrik van Staden at Ganzekraal, and at 11.45 a.m. camped for the night at the foot of the Schoonberg where the route over the mountains to the south begins. This track is indeed in use to this day as a footpath by Coloured labourers walking the shortest way between the Lange Kloof and George.

From the foot of the Schoonberg, Van Plettenberg's party proceeded with three waggons only, the remaining seven with

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1. (Theal 1896 I, No.3 pp.1 - 38.
(Molsbergen 1916 II, 61 - 78 & 1932, 39 - 62.
 2. See above pp.204,207.
 3. See above pp.289-297.
 4. See above p.222.

the heavy baggage being sent around by the Attaquas Kloof to rejoin the party at the Company's Post in the Outeniquas, where George is now situated. This identification has not only been made by Theal⁽¹⁾ but is confirmed by a study of Friderici's Map which shows the Company's Post and Hooge Kraal⁽²⁾ in the same relative positions occupied to-day by George and by Pacaltsdorp respectively. From Backhouse⁽³⁾ we learn that the latter was formerly called Hooge Kraal, and there is a similar indication by Campbell.⁽⁴⁾

On the previous day an advance party had repaired the route over the mountains as much as possible. This crossing was almost certainly not the first, for the colonists were unlikely to have taken the Governor over a pass whose practicability had not already been tested. Yet Le Vaillant, who crossed it four years later, was to assert that his waggon was the first ever to perform the feat, thereby adding another irresponsible claim to the long list of his inaccuracies.

On 3rd October 5.45 a.m. the Governor and his party with three of their waggons and one belonging to a colonist, began the ascent. The Schoonberg or Duivalakop Pass takes off up a kloof to the south of the farm now called Louvain, not named but shown 1½ miles E.N.E. of the homestead on Schoonberg in the Ouitshoorn Sheet, ½ - Million Series of 1943. At the head of this kloof the northern slopes of the mountain are not particularly steep and are entirely free from krantzes. A broad ledge leading upwards in a S.W. direction provides a natural routeway to the summit about 2 miles S.W. of the Trigonometrical Survey beacon on the top of the Duivelsberg. Here at a height of about 3,150 ft., the crest of the Outeniqua Mountains was crossed with considerable difficulty, for each of the waggons had to be lifted bodily by a gang of twenty men round many of the sharp turns encountered. From the summit they went 2 miles S.S.W. down a ridgecrest to the present Brankraal. On this section old wheeltracks are clearly worn in the rock bed of the road which follows the crestline of the watershed between the Touws River system to the west and the Diep River system to the east.⁽⁵⁾

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1. Theal, 1907, I, 167.
 2. Not to be confused with Hoogekraal 3 miles north of Zwartvlei.
 3. Backhouse p.127.
 4. Campbell, 1813a, pp.60, 61.
 5. The latter is incorrectly named the Swarte R. in the Ouitshoorn Sheet, ½ - Million Series, U.D.F. 1943.

From here the route they took can be followed with less certainty but still with considerable confidence, as it is unlikely that they would have deserted the ridge for the steep, deeply incised and densely forested river valleys. They probably kept on the line of the present road between Braekraal and Witdraai which passes Buffelskop and keeps to the ridge on which these three places are situated.⁽¹⁾ It should be noted that whilst the upper part of the old Duivelskop road is correctly shown on the George Division Map, 1911, the lower portion in Berg Plaats and Groot Randt is quite wrong according to the District Forest Officer at George in 1953.⁽²⁾ Far better representations appear in the Surveyor-General's Property Index Map, Cape Town 1884 - 89, Sheet 19, George, scale about 2 miles to the inch; and in Professor E.S. Schwarz's^{H.L.} geological map of 1905.⁽³⁾ However, the route is best followed in the excellent large-scale Forest Department Map of 1935.⁽⁴⁾

From Witdraai they probably continued southward along the ridge about 3 miles to reach, less than a mile west of Woodville, the vicinity of the present upper road leading from George to Kryana. Hereabouts they would have turned east to follow the approximate line of this road for 4 or 5 miles till at 12.30 p.m. they ended the day's journey at the farmhouse of Willem Meyer named Kleyue Hoge Kraal. This seems to have been within a mile of the present Hoogekraal and about 3 miles north of the western reaches of Swartvlei.

On the 4th October, an hour's journey, presumably in a S.E. direction, brought them to their Nounka or Swarte River, now called the Hoogekraal throughout its length, but earlier by this name only upstream, and the Swart for some 5 or 6 miles above its debouchment into Swart Vlei.⁽⁵⁾ They probably crossed it near East Brook, and half-an-hour later forded their Tsao or Witte River,⁽⁶⁾ now the Karatara, where it enters Ruygtevlei. Buffelsvermaak, where they spent that night, was the farm on the east bank of the Goukama River⁽⁷⁾ whose homestead was about 2 miles in a direct line from the sea.⁽⁸⁾

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1. Theal 1902, X, 64. The Circuit Court of 1813 journeyed "over the Buffels Kop."
 2. Mr. H. de Geus, whose kindness in supplying information on this topic is here gratefully acknowledged.
 3. Schwarz, 1905.
 4. "Bergplaats, Woodville & Beervlei Forest Reserves," 1:25,000, Forest Dept., 1935.
 5. George Division Map, 1911.
 6. Thunberg I, 183, Ao River.
 7. (Molsbergen 1932 p.117. (Theal, 1911 p.153.
 8. Kryana Division Map, 1911.

Early on the 5th they forded the Knyana River below tidewater which they could have done within a half-mile above what is now the old bridge that leads N.W. to Phantom Pass. From this ford they would have proceeded S.E. until they stopped for the midday halt at Melkhout Kreal which later became the property of George Rex and lies about a mile east of the present town of Knyana. Continuing eastwards, at 7 p.m. they reached a farm called Pisangrivier after the stream near which it stood. The latter, which still bears this name, had been named after the so-called Cape banana, the large Strelitzia angusta of those parts.⁽¹⁾ The farmhouse here was only a 1-hour ride from the bay which, according to the journal, was named on this occasion by the Governor after himself. There is, however, a claim by R.J. Gordon to have given this name at the time of his visit earlier in the same year, namely in February 1778.⁽²⁾ Its bestowal, no matter by whom, ended a long period of confusion during which it was known under such names as Content, Contant, Algoa, Angola, Angoela, Fomosa, Kourboonriviers or Pisangriviers Bay.

On the return journey they retraced their footsteps to the point where they had come down from the Duivelskop Pass. Here they held on due west, crossing their Traka de Tsou or Wonenpath River (Touws) and also the Kaaimans. At the Company's Woodcutters' Post in Outeniqualand, now the position where George is situated, the Governor rejoined his waggons containing the heavy baggage that had come round through the Attaquas Pass.

Continuing their homeward journey, the first farmer passed west of the Company's Post was Dirk Uwes (Uys). This man's surname has also been spelt Ubes, Hbis, Yves and Huivis.⁽³⁾ In March 1777 he first recorded his occupation of this farm, Modder Rivier, on the northern part of which Blanco now stands. They then passed the farms of Hendrik van der Walt and H.W. de Flooy whose positions have been discussed above.⁽⁴⁾ The night of 11th October was spent with the Old Heemraad Pieter Terblanche

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1. Molsbergen 1932 pp.120, 232.
 2. See above p. 288.
 3. (R.L.R. 25 p.19.
(Gordon Collection, Map 12.
(Sparman 1786 I, 288.
(Seuple p.152.
 4. See above p. 226.

who probably lived at Rheebofontein between the Groot and Klein Brak rivers, as suggested previously.⁽¹⁾ The following day they reached Mossel Bay, and from there followed the main route westwards. From this they diverged but once, when some 3 or 4 miles west of the Duivenhoks River they struck off to the W.N.W. to the valley of the Grootvadersbosch River and the Company's Post at Rietvlei.⁽²⁾ Swellendam was reached on the 18th, whilst on 26th October 1778 the Governor and his entourage returned to the Castle on the shores of Table Bay.

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1. See above p.226.
 2. Compare with route discussed above on pp.229-231.

APPENDIX B.

PORTION OF A JOURNEY MADE IN 1790 BY JACOB VAN REENEN
AND OTHERS IN SEARCH OF SURVIVORS OF THE WRECK OF
THE "GROSVENOR".

The opening pages of The Journal of Jacob van Reenen⁽¹⁾ that deals with the journey undertaken in 1790 in search of survivors of the Grosvenor, describe a route that has not been discussed in the preceding chapters. The greater portion of this variation from the usual coastal route was evidently quite well known, because as far as the Groote River (that downstream becomes the Gantoes) it is clearly shown as a road in the Gordon Map 3, on which are marked several places mentioned by Van Reenen. He says that he travelled east through the Karroo because it was "the nearest way". However, measurement on a modern map shows that this route is in fact no shorter than the usual one nearer to the coast, which has the additional advantage of normally being better supplied with water and grazing.

They set out from the Kafferkuils River (near Riversdale) and proceeding eastwards, reached in three days the southern entrance of the Attaquas Pass. This they traversed and so came to the Was or Wasch River, now the Klein Moeras.⁽²⁾ They then struck N.E., crossed the Doorn and the Kananassie rivers, passed west of the mountains of the latter name and proceeded upstream along the banks of the Olifants River. They visited the hot springs near Toverwater Poort, and then followed up the Olifants to its source near which dwelt Anthony Nortier⁽³⁾ whose dwelling is mapped by Gordon, and whose Christian name may have been given to the Anthoniesberg beneath whose southern slopes he lived. In this translated version of Van Reenen's journal he is described as Anthony Nortie Iyd. However, I am informed by Professor P.R. Kirby who has used other versions of this journal, that the final word "Iyd" is a mistaken rendering of the Nederlands word legd. Hence the proper translation is that they "arrived where the dwelling of Anthony Nortier lies."

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1. Carter & Van Reenen, pp.144 - 148.
 2. See above p.224 and Appendix C, part I.
 3. Carter & Van Reenen, pp.146, 179.

Their halt at Capok Kraal was evidently in the Gama Kloof⁽¹⁾ which is about 2 miles beyond the present Vaalwater. The Gordon Map 3 shows the road over this kloof. And so they came to the Winterhoek beneath the northern slopes of the mountains that still bear this name. Their overnight halt was at Dieniedouw just north of the Besuidenhoutsberg. Thence a journey of 5 hours brought them to their Koesye Panteyn, marked Koeijen Pantein in the Steytlerville Division Map of 1907, but now Kooifontein, in east longitude $24^{\circ} 8'$.⁽²⁾ From there a total of 11 hours' travel brought them to another Winterhoek, the place of Stephanus Schepers, which according to the Gordon Map 3 seems to have been in the basin of the Doorn River (western tributary of the Grootte River) due west of the Cockscomb and near the present Hadley in east longitude $24^{\circ} 35'$. Here De Hoek figures in the Steytlerville Division Map, 1907.

Leaving this basin by passing west and then north of the Bloukop Rante, they evidently crossed the Grootte River near Noaga. They then journeyed N.N.E. past where Wolvefontein railway station now lies, crossed the Zoutpans Nek, and so came to the Sundays River near or in the area now covered by Lake Ments. This conclusion is supported by their statement made there that they were in the "Caroo veld", which would not have applied had they been in the Kirkwood-Addo region.

From their crossing of the Sundays River they travelled over their Bruynjies Hoogte, evidently not those of this name 15 miles west of Somerset East, but the present Klein Bruintjies Hoogte⁽³⁾ about 10 miles east of Lake Ments. From the Sundays River to the Bushmans River they took at least 12 hours or a direct distance of about 24 miles. This would have brought them to the latter near the present position of Webster. It is not clear why they forded the Bushmans River (if the translation is correct) at the outset of the next day's journey of 10 hours, a direct distance of about 20 miles, that brought them to the house of H.J. van Rensburg.⁽⁴⁾ This was at Hoekoe,⁽⁵⁾

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1. Willowmore Division Map, 1906.
 2. Port Elizabeth Sheet, $\frac{1}{4}$ - Million Series, U.D.P. 1943.
 3. Port Elizabeth Sheet, $\frac{1}{4}$ - Million Series, Trig. Survey 1949. But other versions of the position and extent of this feature appear in earlier maps, e.g. Henry Hall's Map of E. Frontier of Cape Colony 1856 Surveyor General's Map, Colony of C.G.H. 1895, Scale 1:600,000.
 4. Blommaert & Wild, p.91 footnote.
 5. R.L.R. 36 p.69.

the farm on which Boemans River railway station is now situated. The next day, leaving their waggons and mounting their horses, they rode no doubt through where Alicedale now stands, to their rendezvous at Assegai bush, which as we have seen, still bears this name and lies some 15 miles W.S.W. of Grahamstown.

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INDEX.

Easily recognizable minor variants of names are not always given separate entries in this index. They will be found listed under the more usual spellings.

- Aape Bergen 117, 118
 Aapie 220
 Aapjes R. 29
 Aasvogel Berg 244
 Abbotsford 20, 46.
 Abel, Claire 393, 418.
 Abercorn 348.
 Aberdeen 24, 102, 144, 188, 199
 275, 289, 298, 348, 364.
 Addo 212, 213, 429.
 Addo Heights 255.
 Adelaide 51, 348.
 Admiralty, British 381.
 Aga R. 54.
 A galnatoilite 402
Agapornis roseicollis 350.
 Agter Bruintjes Hoogte. 132,
 134, 138, 153, 157, 202, 277, 344,
 345, 349.
 Agter de Berg 166.
 Agter Hantensberg 116, 385.
 Agulhas Bank, 322, 330, 372, 405.
 Agulhas, Cape 231.
 Agulhas Current 322.
 Aisnas 305
 Akkerendam 116, 302.
 Albany 106.
 Albaster Klip 310.
 Albertsdale 204.
 Albrecht Rev C. 312.
 Alexander Bay 263.
 Alexandria Series. 212, 213, 420,
 Algae, 78.
 Algoa Bay, 8, 23, 33, 34, 103, 110,
 122, 140, 146, 212, 287, 319, 345,
 359, 383, 385, 416, 418, 426.
 Alice 51
 Alicedale 145, 206, 208, 287, 344,
 383, 397, 430.
 Allmand, J. 272, 282, 307, 334, 355
 A llensdrift 185
 Allemansfont. 201.
 Almondsfont. 201.
 Aloeridge 31, 217.
 Aloes Kloof 249.
 Aloes R. 47.
 Alphen 131.
 Alps 371, 373.
 Altitudes 259, 276, 278, 285, 291,
 298, 299, 300, 302, 303, 305, 373.
 Amalinda R. 45.
 Amanki 415.
Amarylhidaceae 155.
 Amstola Mts. 51, 156, 206, 257, 389.
 Ambrosiushoek 177, 231.
 Amiens, Treaty of 381.
 Amsterdam 68.
 Amsterdam Hoek 214.
 Amsterdam Island. 390, 392.
 Amygdaloid 396.
 Anaso R. 52.
 Anchor 417, 418.
 Anderson Dr. W. 125.
 Andrade, Col. H. de 320.
 Angoela, Angola Bay, 140, 426.
 Angola 368.
 Antarctic Circle. 131.
 Anthoniesberg 428.
 Anthonveld 143.
 Ao R. 425 n.
 Aplites 391.

- Arborizations 420
 Arctic 381
 (Arebe Eijs 311
 (Areba Eis 311.
 Argentina 185.
 Aridity 165.
Arundinaria tessellata 206.
 Ashton 90
 Assegaai Bush, 37, 133, 209, ²⁵⁵256, 430.
 Assegaai Bush R. 38, 39, 60, 383.
 Assegaibosch, 217, 347.
 Attaquas Mts. 25.
 Attaquas Pass, 25, 26, 61, 69, 83, 84, 132, 225, 245, 252, 385, 424, 428.
 Auge, J.A. 69, 100, 211.
 Augrabies Falls 285, 305, 307, 312, 358.
 Augrabies Hills 265.
 Aukoerebis Falls. 307.
 Aus 266.
 Autoniquabosch 217, 226.
 Avonleigh 190, 290.
 A ventuur, 84, 92, 147, 221, 249, 423.
 Awendlig 290
 Aukoerebis Falls, 307, 308.
Azia 273.
 Azores, 103.
 Azurite 152.
 B.
 Baaken Font 34.
 Baakens R. 32, 33.
 Baakjesfont 34.
 Babel, Tooren van 279
 Baboons Hill 248
 Back, R. 351.
 Backhouse, J. 113, 228, 249, 251, 424.
 Badenhorst, F. 343.
 Bain, A.G. 75, 394, 397.
 Bain, T. 84.
 Bakkeleys Plants. 231.
 Balmoral 415
 Baltic Sea 371, 406.
 Bamboesberg, Bamboo Berg, Mts. 41, 156, 206, 257, 279, 318, 322.
 Banana Grove 41
 Banks, Sir J. 102, 104, 235, 307, 418.
 Bantu 314, 317.
 Bapareboecana 317.
 Bapedi, Bapiri, 317.
 Bapuroo-chuana, 317.
 Barbary 350.
 Barbersberg 279.
 Barbier, Ingenieur, D.M. 177.
 Barend, C. 304, 312.
 Barkly Bridge, 35, 212, 213, 383.
 Barnard, Lady A. 182, 231n, 245, 366, 422.
 Barolongs. 317.
 Barometer. 259, 285, 298, 326, 330, 331-3.
 Barometers Heuvel 279.
 Barometric observns. 259, 278, 285, 298, 300, 302-4, 326.
 Barouka R. 53.
 Barrolo 317.
 Barrow, Sir J. 14, 40, 125, 139, 143, 151, 182, 184-6, 198-9, 207, 243, 249, 276-7, 291-2, 295, 300, 314, 324, 339, 341, 344-5, 349, 353-9, 363-4, 366, 368, 372, 376, 378, ~~380~~-422.
 Barter 23, 35, 51, 57, 205, 240.
 Basalt 389, 402.
 Basson 275.
 Bastards 312.
 Batavia 416.
 Bathenas 343.
 Ba-Tilaping 313, 314, 316, 358.
 Baviaans R. 54, 55, 57, 204, 279, 346, 348.
 Baviaans Kraans R. 18 4.
 Baviaansberg, 248.
 Beacons, V.O.C. 8, 31, 32, 214, 377.
 Beahr R. 144.
 Beahre Valley R. 143.

- Beaufort Series. 153, 200, 394, 395.
 Beaufort West. 298.
 Becha Gun R. 258.
 Bechuanaland 317.
 Bechuanas 313, 316, 381.
 Bedford 20, 51, 59, 348.
 Beenke, H. 16.
 Beervlei 20, 144, 176, 186, 188, 244, 274, 289, 349, 384, 412.
 Begha R. 258.
 Bentinck, Graaf O. 263.
 Bentinck, Graaf W.G.F. 282.
 Bentings Valley 263.
 Barenfley 186.
 Berg R. 377, 414, 420.
 Berg Plaats 425.
 Bergwind 411.
 Berlin 44.
 Bethulie 12, 203, 244, 279, 282, 312, 313, 319, 322, 336.
 Beune, land van 225.
 Boubler, A.F. 7, 8, 16-66, 141, 205, 214, 217-9, 222-4, 227, 240, 253, 255, 326, 347.
 Bezuidenhoutberg 429.
 Biblical chronology 410.
 Bibliotheque Nationale 327, 386.
 Bier Valley 244.
 Bierewaard 227.
 Bieman J.L. 305.
 Birinaas 313, 314.
 Bitterfontein 355.
 Elias Krantz 55.
 Blaauwberg Hills 72.
 Blaauwkrantz R. 41, 291, 383.
 Black Gariap 313.
 Black Jacob Roek 262.
 Black Kei R. 154.
 Black Thorn R. 249.
 Blanco 132, 226, 426.
 Blaukehl 352.
 Blicquoas 304.
 Bligh, Capt. G. 270, 320.
 Blijde W. 348.
 Blind R. 45.
 Bloemfontein 119.
 Bloekop Rante 429.
 Blus R. 43.
 Bluewater Bridge 52.
 Bly, Alyde R. 201, 348.
 Blyde Berg 186, 187.
 Bo Lang Vlei 63.
 Boat 17, 23, 32, 62, 64, 263.
 Bockland ¹²⁴.
 Bokenhoutfont 257.
 Boerrachaij R. 47.
 Boers, W.C. 341, 342, 357.
 Boesmans R.rly.stn. 430.
 Boesmanshoed 276, 290, 293.
 Boesmanskop 192.
 Bok. C. 116, 247, 248, 251.
 Bokkefont 113.
 Bokkeveld 105.
 Bokkeveld, Cold. 69, 75, 76, 79, 80, 87, 93, 94, 103, 123, 132.
 Bokkeveld, Onder 113, 395.
 Bokkeveld, Oude 182.
 Bokkeveld Shales 394, 395, 399.
 Bokkeveld, Warm 69, 85, 86, 87, 93, 103, 123, 182, 414.
 Bokkeveldberg 73, 77, 87, 91, 99, 113, 114, 124, 150, 247, 249, 251, 259, 268, 302, 384, 395.
 Bondelswarts 358.
 Bonne Esperance 300.
 Boonakker, P.D. 231.
Boophonia ciliaris 155.
 Boos F. 106, 320.
 Booyens Poort 200.
 Borchards P.B. 182.

- Borderlands 284
 Berroenana 317
 Bosch R. 202 - 4.
 Boschberg 162, 202, 277, 302.
 Bosjesmans Kloof 60.
 Bosjesmans Kts. 202.
 Bosjesmans Poort 284.
 Bosjesmans R. 59, 287.
 Bot R. 154, 158.
 Botha, G. Graham 23.
 Botha, J. 64, 226.
 Botha, Jacobus 198.
 Botha, P. 230.
 Botteliers, Bottels Kop 62.
 Boulenger, J. 339.
Bouty 270.
 Bowen's Barriers 305
 Bowlei 63.
 Brak Pt 144.
 Brak R. 40, 53, 119, 144, 275.
 Brakfont 254, 384.
 Brakke Pont. 144, 275.
 Brakke R. 28, 143, 185, 222.
 Brakkefont. 227, 254.
 Brakries 304.
 Brakvloed 59.
 Brankraal 424, 425.
 Brand Vallei 299.
 Brandspruit 281.
 Brandvlei 398, 399
 Brandwacht 226.
 Breede R. 120, 231, 399.
 Breesani 312.
 Brenas 358.
 Brenton, Sir J. 214 n.
 Brequas 303.
 Bresler, F.R. 383.
 Breytanbach, J. 221 n.
 Brink, G.F. 134, 136, 178, 234, 241, 303, 312, 323, 325, 353, 356, 357, 361, 362.
 Brigas 304, 309, 313, 314, 358.
 British Occupation, First, 103.
 Britten, J. 102, 108.
 Broekspruit 280.
 Broekpoortspruit 281.
 Brooklyn 20, 178, 189, 335.
 Brotrak, V. 16.
 Bruintje 202.
 Bruintjes, Bruynjies, Bruyntjes
 Hoogte 199, 201, 202, 277,
 344, 345, 429.
Brunsvigia gigantea 155.
 Brunswick, Duke Lewis 284.
 Brunswijk's Berg, Hertog L. 284.
 Bruyns, Jan 48.
 Buchu Twins 263.
 Buchberg 309.

 Buffalo R. 44, 45, 46, 53, 141, 383.
 Buffalye Agte R. 246.
 Buffeljagte R. 120, 229, 230,
 231, 246.
 Buffels Drift 62.
 Buffels R. 164, 396, 409.
 Buffels R., Herste 164.
 Buffels (Koussie or Sand) R.
 249, 260, 362.
 Buffels (Karioga) R. 144, 184,
 187, 298.
 Buffelsbosch R. 40.
 Buffelsfont. 268, 287.
 Buffelskloof R. 38, 60.
 Buffelskop 425.
 Buffelskraal 182, 183.
 Buffelsvansak 425.
 Buffelsvlei 61.
 Buffon, Count de 70, 76, 80, 153,
 272, 281, 307, 331, 374.
 Buffons R. 281.
 Bulura R. 47.
 Bumbury, C.J.F. 27.

- Burchell, W.J. 86, 116, 119, 145,
 146, 168, 218, 223, 243, 294, 317,
 329, 387.
 Burgers, B. 291, 292.
 Burgersdorp 280.
 Burls, G.M.F. 145.
 Burmann, the Profs. 68.
 Burtz, Capt A. 140, 146.
 Burtzenhoek 146.
 Bush Negroes 359.
 Bush R. 41, 53.
 Bushmanland 272.
 Bushmans R. 26, 35-38, 57, 60,
 145, 177, 208, 254, 344, 383, 417,
 429.
 Bushmans Rock 182.
 Bushmen 54, 57, 106, 128, 146,
 154, 156, 157, 167, 203, 247,
 266, 276, 277, 279, 285, 291,
 294, 295, 302, 316, 359, 362.
 Butter 197.
 Butterworth 19, 50.
 Buis, J. 222, 423.
 Buis, P. 214.
- C
- Cabas R. 305.
 Cabous 305.
 Cafferlandsberg 41, 42, 59.
 Cafferberg 41.
 Cafferagebergte 41.
 Cafferlandsgebergte 41.
 Cala Road 155.
 Calcareous rocks 374, 375, 404.
 Calcite 310, 311.
 Calcium sulphate 310, 311.
 Caledon 69, 95, 102, 127, 132,
 133, 341.
 Caledon R. 285, 286, 296, 322.
 Calvinia 8, 103, 115-6, 143.
 Canasauws 305.
 Candelo, Candelo 91, 142, 143,
 196, 198, 275, 277, 298, 334, 344,
 349, 349, 364.
 Candelo Mts. 180, 193, 195, 395.
 Candelo R. 144, 289, 290, 349.
 Candeni Pt. 302.
 Candini R. 268, 302.
 Cancellopardalisdoort 305, 306, 307.
 Caninouguas 358.
 Canis Berg 251.
 Canka R. 142.
 Camacha R. 44, 53.
 Campbell, Sir A. & Lady 280-2, 318, 319.
 Campbell, Rev. J. 315, 353, 354, 424.
 Campbell, W.R. 280.
 Campbell Rand Dolomites 311.
 Canaans Land 121.
 Canal 414.
 Canaries R. 118.
 Cango Caves 335.
 Caniga, Canniga R. 201.
 Caninga R. 46.
 Canna 28, 121.
 Cannaland 28, 121, 223.
 Cannalandsche Hoogte 224.
 Cannalandsche R. 27.
 Canoes 314, 315.
 Canton 130, 381.
 Cape Flats, 72, 150, 365, 366, 372, 403,
 404, 405, 407.
 Cape Fold Belt 71, 83, 394.
 Cape Peninsula 72, 89, 90, 323, 331,
 366, 372, 387, 406.
 Cape Point 405.
 Cape Ranges, N-S. 71, 83, 85, 150, 410.
 Cape Ranges, N-E. 71, 83, 111, 149, 401.
 Cape System, 394, 395.
 Cape Town 98, 253, 326, 327, 334, 391.
 Capeticoe 317.
 Capri 317.
 Capok Krsal 429.
 Card playing 204.
 Caros Bos 187, 298.
 Caroo R. 144.
 Carlisle Bridge 59.
 Carro, Carrow see Karroo.

- Carstens, J.E. 265.
 Carstens, P. 261, 265, 266 n.
 Caspers Kloof 251.
 Caspian Sea 371.
 Cassel 107.
Castle of Stockholm 131.
 Castor & Pollux 280, 281.
 Cattle barter (see Barter)
 Caves 78, 154, 251, 403.
 Cawa R. 58.
 Cawahe R. 55.
 Cegwana R. 50.
 Cephonjes, Cephonias Poort.
 292, 293,
 Ceres 85, 333, 341.
 Ceru R. 49.
 Chabobe 358.
 Chachaba R. 48.
 Chalk 70, 79, 429.
 Chalten 31.
 Chaluma R. 43, 44.
 Chaluma Village 44.
 Chalybeate springs 96, 127,
 159.
 Chamber of Seventeen 18, 273.
 Chamago R. 61.
 Champagne Poort R. 292.
 Chase, J.C. 34, 46, 48.
Chatham 332.
 Chulsea 32.
 China 130, 381.
 China, Emperor of 381.
 Chinansus Hat Mt. 276, 293.
 Chinesefont. 279, 415.
 Chinese Hottentots 146, 154,
 156, 276, 359.
 Chopo 315, 316.
 Chougatwagendrift 213.
 Cintza R. 47.
 Cise Kamma 218.
 Citrusdal 385.
 Claassens, J. 93.
 Clanwilliam 95, 384, 387.
 Claystone Porphyry 397.
 Clement, P. 16, 21, 50, 51, 56, 65.
 Cliffs Fields 262.
 Climate 89-94, 160-166, 330-333,
 369-371, 411-413.
 Climatic change 153.
 Cloete, H. 169, 170, 181, 189, 190, 195.
 Cloete, P. 20, 29, 33, 171-232 passim.
 Cloetes Kraal 84.
 Cloppenburg, J.S. 62, 178.
 Clouds 90.
 Coal 389, 419.
 Cobalt 152.
 Cobongo R. 52.
 Coboofont 307.
 Cochín-China 381, 418.
 Cock Ft. 260.
 Cocknanskloof 246.
 Cockscorb 216, 429.
 Coenonca R. 55.
 Coega 253.
 Coega Kamma Kloof 213.
 Coega R. 35, 212, 213, 287, 344.
 Coegaswagendrift. 213.
 Coerney 145, 253.
 Coerney R. 35, 36, 212.
 Coetars Vlei 230.
 Coetse (Jansz) J. 356.
Coetshoek 242.
 Colesberg 293.
 Collins, Col. R. 48, 295.
 Colvin, I. 168.
 Comga R. 168, 256.
 Comma 305, 312.
 Compagnie Welvarens Gebergte 279.
 Company's Drift 30, 266, 303, 312, 322, 323
 Companies Drift Outspan 207.
 Compassberg 275, 276, 291, 384, 395.
 Compass, use of 114, 135, 141, 361.
 Compass Traverse 19, 57, 60, 136, 388.
 Consberg 300.
 Concordia 250, 266, 304.

- Concretions, tabular 78.
 Conglomerates 78,79.
 Conna R. 54,62,205.
 Constable 184.
 Constable 184,299.
 Constantia 131.
 Constantia Nek 366,372.
 Content, Content Bay 139,426.
 Convulsion of the earth 392.
 Cook, Capt. J. 10,102,107,125,
 131,139,318,332,338.
 Cookhouse 132,155,204,278,346,
 348,384,385.
 Copper 152,239,250.
 Copper Berg R. 249.
 Coral reefs 416.
 Coriaqua 317.
 Corn growing 124,196.
 Cory, Sir G. 383.
Cos quadrum 126.
Coucou a grosbec 342.
Coucou tachiron 343.
 Couga Mts. 60,216,245.
 Couga R. 30,147,220,347.
 Council, Governor's
 Council of Policy 25,318,319.
 Cousie R. 249,260,362.
 Cracha Cana 32.
 Cradock 19,55,56,384,412.
 Cradock Pass 225 n.
 Cradock Place 214.
 Cragakama 32.
 Craig, General 104,324.
 Grants R. 147,220.
 Credo 218.
 Crichton, A. 338,339.
Cuculus niger 342.
 Curiqua 317.
 Curnow 253.
 Currents, ocean 76,322,405,
 407,408.
 Cust, de 194,195.
 Cyferwater 117.
 Cypherdan 354.
- D.
 Daggaboers Nek 55.
 Dalrymple, Lt-Col. W. 252.
 Damaraland 239.
 Dansonquas 37.
 Danger Point 177,231.
 Danka R. 52.
 D'Arvaga R. 54.
 Dankosa R. 147.
 Dannie 116,301.
 D'Aussi, Legrand 339,353.
 De Andrade, Col. H. 320.
 Debe Nek 42.
 Debe R. 53,56.
 De Beer, H. 282.
 De Beer, Hennes 193.
 De Beer, J.J. 144,193.
 De Beer, Johannes 144,290,297.
 De Beer, Z. 185.
 Debenka R. 142,143.
 De Bruyn, N. 201.
 De Bruynshoogte 201.
 De Clerk, C. 289.
 Deepka R. 143.
 Degrandpre, L. M. J. O'F. 13,151,348,366,
 368-379,389 403.
 De Gyselaar, Pensionaris 169.
 De Jong, C. 403.
 Delagoa Bay 320.
 Delegorgue, A. 366.
 Delft 175.
 Delisle, J. B. C. I. 378.
 De Luc, J. A. 153.
 De Maillet, B. 76.
 De Mist, J. A. 34,84,147,185,218,219,
 220,245,298,301,324,378,387,419,420.
 Dendrites 420.
 Denudation 151,390,407-410.
 De Plooy, H. W. 426.
 De Sales, Delisle 378.
 Despatch 32,214.
 Devils Peak 73,74,374,376,394, 396,
 399,409

- De Vos, Wouter 181, 182.
 Dewana R. 44.
 De Wet, O.G. 34, 289, 293, 318.
 De Wets Font. 293.
 D'Gausas 57.
 Dehn, B. von 419.
 Diamonde 262, 265.
 Dias, Bartholomew 417.
 Dieniedouw 429.
 Diep, Diepe R. 28, 29, 30, 61, 148,
 217, 220, 221, 347, 423, 424.
 Diepe Kloof 262.
 Diepegats R. 29.
 Diepekloof 226, 262.
 Diepekloof, Diepkloof R. 291.
 Diepvalle 186.
 Dieu R. 148.
 Diluvial hypothesis 153.
 Dip of strata 79, 396-399.
 Dip-needle 333.
 Dirkskraal 145, 332.
Discovery 318.
Doddington 140.
 Doesburg 271.
 Dolerite 114, 153, 280, 284,
 286, 395.
 Douque R. 60.
 Dooden Graaf 220.
 Doordrift, de 178, 189, 193, 199,
 200.
 Doorn R. 28, 84, 112, 113, 206, 208,
 223, 249, 384, 428, 429.
 Doornboom R. 248.
 Doornbosch 193, 384.
 Doornkraal 365.
 Doornplaats 192, 290, 291.
 Doroop 302.
 Doucuma 147.
 Douglas Heights 59.
 Douziqua 317.
 Downes 116, 262, 301.
 Draai, Draay (Geinab) R. 351, 359, 361
 Draaihoek, Draaihoekberg 384.
 Draaij Eijlande 309.
 Dragoespoortje 280.
 Drainage, antecedent 414.
 Drakestein 85, 94, 128, 387.
 Draughtsman, Col. Gordon's 231, 242,
 244, 264, 271, 274, 286, 297, 301, 304, 308,
 323, 334-5.
 Drie R. 30.
 Drie Riviere, Rivieren 30, 219.
 Drie (3) Ewars Valley 142, 148.
 Drie (3) Fontaine R. 30, 148.
 Drie Font. 219.
 Bronken Font. 293.
 Drooge Bergwa 117, 118.
 Drooge R. 117, 192, 200, 290, 291.
 Droogedaap R. 249.
 Drought 240.
Dublin 270.
 Duckworth, Rev. D. 235, 246.
 Du Fvasne, Chevalier 377.
 Duive R. 63.
 Duivelsberg 424.
 Duivelakop, Duyvelskop Pass 222,
 343, 363, 384, 423-4, 426.
 Duivenhoks R. 120, 151, 229, 328, 427.
 Duminy, F.R. 240, 325, 320.
 Dunbrody 356.
 Dunerock 78, 214.
 Dunes 71, 72, 73, 348, 365, 366, 403,
 407, 408.
 Dunn, E.J. 397.
 Du Plessis, M. 280.
 Du Pre, P. 30.
 Durand, J. 282.
 Duranda Kom, J. 279.
 Duststorms 411.
 Du Toits Kloof 86.
 Dwars in de Weg Gebergte 280.
 Dwarsheuvel 219.

- Dwequa R. 299.
 Dwinka R. 142, 185.
 Dwyka R. 142, 143, 184, 185.
 Dwyka Series 395, 397, 398.
 Dwyka Shales, Upper 260,
 396, 412.
 Dwyka Tillite 396.
 Dyer, R.A. 105, 335, 343.
- E.
- Earl of Talbot 318.
 Earthquakes 151, 157, 159.
 East Brook 425.
 East London 8.
 Easter Island 131.
 Ecca Series 395, 396.
 Eenzaamheid 222, 423.
 Eerste R. 31, 61.
 Eerste Stap 284.
 Egypt 350, 404.
 Ein R. 308.
 Einiquaaland 307.
 Ekeberg, C.G. 130, 131, 146.
 Ekeberg, Point, Cape 139, 146,
 364.
 Elands Dans, 217.
 Elands R. 46.
 Elandsberg 279, 294, 299, 347.
 Elandsfont 94, 117, 219, 301.
 Elandskloof 291, 385.
 Elephants' tusks 152, 240.
 Elevation, see Altitudes
 Ellenboogfont 259, 264, 265,
 268, 303.
 Elliott Collection 173.
~~Elsjeskruaal R.~~
~~Elvies~~ 419.]
Encephalartos brachyphyllus
 106.
 Engcobe 155.
 Engelbrecht, H. 259, 265, 303.
 Engelbrecht, Prof. J.A. 311.
 Engelbrecht, P.H. S. 280.
- Engelspunt 113.
 Engelspunt Extension 113.
 Enslie, Mr. 262.
 Enon Series 78, 79.
 Equivalent copy 18.
 Erasmus, J. 278.
 Erasmus, L. 226.
 Erasmus, status of 126.
 Erosion 151, 408.
 Eeulberge 309.
 Espionage 104, 236.
- Eschenbosch, Essenbosch 30, 60, 61, 217.
 Esterhuis, Esterhuisens Poort 278.
 Esterhuyzen 116.
Euphorbiae 106.
 European defined 240.
 Evaporation 414.
 Fyas 505.
 Eye Point. 249.
- Ezelfont. 250.
 Ezels R. 54.
 Ezeljacht 222.
 Ezeljacht Poort 84, 222, 223.
 Ezelakop 259.
- F.
- Faber L.S. 132, 198, 200, 201, 208, 217.
 Fagel, Griffier 282.
 Fairview 287.
 False Bay 72, 104, 130, 150, 242, 328,
 334, 341, 360, 404.
 False R. 420.
 Falso, Cape 85.
 Falspar 74, 401, 402.
 Ferreira, P.H. 213.
 Ferreira, Salomon 213.
 Ferreira, Stephanus 213.
 Ferreira, T. 214, 218.
 Ferreriras R. 214.
 Ferriorete 404.
 First Poort 285, 295.

- Ficaal Boers Gebergte 279.
 Fish R. (Roggeveld) 116, 118, 248.
 Fishers Hook 251.
 Fishhoek 150, 366.
 Fishhoek Valley 365, 366, 372.
 Fish River Rand 59.
 Fitzpatrick, Sir F. 415
 Flats, Cape 72, 150, 365-6, 372, 403-7.
 Fleuris Fort. 384.
 Flint 79, 268, 348.
 Flood (Biblical) 420.
 Floods 158, 166.
 Florence 234.
 Floetz 390, 400.
 Florisfont. 385.
Fockea 106.
 Folds, folding 396, 397.
 Foot, Parliolan, Rhineland, Swedish 88, 150, 300.
 Forests 31, 97, 98, 120-2, 197, 215, 257.
 Forests & climate 97, 413.
 Formosa Bay 426.
 Forster, G. 102 n, 107, 131.
 Forster, J.R. 131.
 Fort Beaufort 51.
 Fort Brown 25 n.
 Fortuin, de 299.
 Fossils 152, 262, 371, 373, 420, 422.
 Fourcade, H.G. 146.
 Fourie, L. 229.
 Fourie, Widow L. 229.
 Fowlds Halt 210.
 Fraaye Schoot 282.
 Franschoek 102, 128, 341.
 Fransche R. 32.
 Fransenhof 311.
 Fraser, Rev. R. McK. 385.
 Frasers Camp 42.
 Freitag's Store 47.
 French 24, 32, 61, 62, 344, 345.
 French Equatorial Africa 368.
 Friderici, J.O. 320, 377, 328.
 Frost 91, 92, 125, 411.
 Frysfonteinberg 195.
G.
 Gaika 383.
 Gaikas Kop 41, 42, 59.
 Gaitu R. 59, 145.
 Galboa, Galgebos, Galgenbosch, 31, 215, 216, 347.
 Gas Ey 305.
 Gannagara R. 316.
 Gaseib R. 352.
 Ganka R. 142, 185, 298, 364, 396.
 Ganna or Lion R. 351, 361.
 Gantoois R. 30, 31, 60, 146, 202, 215, 216, 227, 253, 288, 322, 347, 389.
 Garaga Kloof 117, 247.
Ganges 341.
 Ganna 223.
 Ganna Kloof 429.
 Ganna Leepte 289.
 Gannaggas Wagenpad 117, 247.
 Gansbaai 231.
 Ganzekraal 221, 222, 365, 423.
 Ganzekraal R. 28.
 Gareb R. 352.
 Gariche 354.
 Garie, Garieb R. 307, 308.
 Garies 249, 251, 305, 354.
 Gasocha R. 53.
 Gaika Mts. 216.
 Gauris R. 228.
 Gsuwa R. 50.
 Geelbek 396, 412.
 Geelbek R. 184.

- Geelbekkefont. 184.
 Geelboom R. 146.
 Geelhoute Bosch 31.
 Geelhouthoorn 146.
 Geelhoutboom R. 142, 147.
 Geelhoutboosen R. 217.
 Geelhouteboom 356.
 Geelhoutsboom R. 31, 217.
 Geinab R. 313, 351, 359, 361.
 Geisiqua 311, 315, 317.
 Geliegenftn. 280.
 Geluk 210.
 Gelukkige Val 306.
 Gelukwaard 245.
 Gemerkte Karreehoutboom 248, 268.
 Geognosy 392.
 George 34, 62, 90, 147, 217, 226, 343, 423, 424, 426.
 George III, King 102, 103.
 Geretz, G.D. 295.
 Geselskapbank 266.
 Ghaysiqua 358.
 Giebler, J.P. 241 n, 260.
 Giraffes 240, 282, 304, 305, 307, 334, 351, 354, 355.
 Glacial origins 397.
 Glen Amrose 59.
Glorieux, le 24.
 Gnu 282.
 Gnusha R. 43.
 Goadar R. 46.
 Godcha R. 53.
 Gosa R. 50.
 Goanger R. 53.
 Gocasa R. 45.
 Goedenced 226.
 Goegakama 213.
 Goenjeman Nottentots 304.
 Goenoche R. 46.
 Goerecha R. 47.
 Goerescha R. 52.
 Goeringneis 310, 311.
 Goewaap 261, 265.
 Goewernents Kop 192.
 Gold 152, 158, 238, 239, 251, 260.
 Golden Valley 298.
 Goliats Graal 191.
 Gomee R. 54.
 Gomas R. 53.
 Gommip 305.
 Gonaquas 13, 38, 39, 47, 128, 210, 212, 287.
 Gonaquas Kloof 38, 39.
 Gombie R. 46, 51, 52.
 Gomp Point 261.
 Good Hope 245.
 Goodhouse 241, 250, 265, 266, 362.
 Gordon Collection 324, 334-336.
 Gordon, A. 282.
 Gordon, Jas. 271.
 Gordon, R. 306.
 Gordon, Col. R.J. 7, 11, 12, 105, 106, 173, 192, 239, 244, 250, 258, 259, 263, 264, 265, 270-337, 343, 354, 357, 359, 369, 382, 416, 421, 423, 426.
 Gordon, Mrs. R.J. 324, 325, 334, 337.
 Gordons Bay 242.
 Gordons Kop 275.
 Gordonsfont. 292.
 Goree R. 148.
 Gorne R. 54.
 Gorntz R. 58.
 Gottingen 244.
 Goublons Kloof 119.
 Goudini 183.
 Gouds R. 95, 158, 228.
 Goudsbloems Hoogte 119.
 Goukama R. 147, 425.
 Gough 143.
 Goura, Gouras R. 62.
 Gouringa R. 63.

- Gouritz R. 58.
 Gouritz R. 23, 64, 95, 120, 142,
 158, 227, 389, 420.
 Gous, A. 301.
 Gous, R. 228.
 Gousbloem Kloof 119.
 Gouws, H. 301.
 Graaf Bentings Font. 282.
 Graaff-Reinet 191-3, 200, 253,
 290, 319, 335, 383, 384, 388,
 394, 411.
 Grahamstown 37, 40, 59, 212, 257,
 393, 421, 430.
 Granite 73, 125, 153, 374-5,
 389-91, 392-3, 395-6, 399,
 401-2, 404, 412-3.
 Granitelles 391.
 Grant, C.H.B. 347, 350-3, 365.
 Grasberg 113, 249.
 Grass 38, 97-9, 123, 124, 196,
 198, 210, 257-8, 285.
 Great Looisfont. 186.
 Great Brack Font. 266.
 Great Fish R. (E. Cape) 38, 42, 43,
 55-9, 132, 141, 156, 170, 204-6,
 257, 272, 279, 287, 329, 340, 345-8,
 353, 357, 360, 363-4, 383, 388-9,
 394, 397, 405, 411.
 Great Fish R. (S.W.A.) 342, 351,
 352, 361, 362.
 Great Karras Mts. 267, 351.
 Great Kai R. see Kai.
 Great Thorn R. 249.
 Great Trek 16.
 Great Winterhoek Mts. 126, 216.
 Great Zomo R. 154.
 Great or Sea Font. 265.
 Greef, A. 201.
 Greenwich 380.
 Greenpoint Cession 405.
 Greys Pass 178.
 Griffier Fagels Font. 287.
 Groen Land 147.
 Groen R. 249.
 Groena Kloof 246.
 Groene R. 29, 220.
 Groenen Daal 280.
 Groenekloof 54.
 Groenfont. 280.
 Groenrivier 114.
 Groensrivier 220.
 Groenvlei 280.
 Gronjam 302.
 Groot R. 85, 147.
 Groot Appies R. 29, 148, 220.
 Groot Brak R. 62, 152, 158, 226, 384, 427.
 Groot Doorn R. 28, 84, 223.
 Groot Duans Valley 147.
 Groot Elze R. 146.
 Groot Karras Mts. 267, 351.
 Groot Kragge 229.
 Groot Randt 425.
 Groot Riet 403.
 Groot Riet Valley R. 147.
 Groot Tokom 335.
 Groot Vlakte 115.
 Groot Winterberg 41 n., 204.
 Groote (Gantoon) R. 428, 429.
 Groote (Orange) R. 136, 156, 202, 203,
 277, 294, 296, 303-318.
 Groote Brak Pt. 266.
 Groote Gannalandische R. 223.
 Groote Paardestraal 26, 225.
 Groote Sand R. 249.
 Groote Toenekoe Eijs. 311.
 Grootdrink 309.
 Grootnek 224.
 Grootmist 260.
 Grootplaats 29, 220.
 Grootvadersbosch 163, 217, 230, 427.
Grosvaner 212, 229, 257, 320, 325, 340,
 341, 344, 345, 428.
 Gualana R. 258.
 Guasa R. 44, 45, 53.
 Guiana, Dutch 338, 359.

- Gunst, de 301.
 Gunsteling R. 279.
 Guruchab R., Black 352.
 Guruchab R., White 352.
 Gustav III of Sweden 133.
 Gwokohi R. 53.
 Gydo Pass 77, 94, 182.
 Gypsum 412.
 Gyziquoas 358, 359.
- H.
- Haarlem 29, 147.
 Hadley 429.
 Hadley, C. 370.
 Hadyn 292.
 Haematite 391, 420.
 Hagelkraal 25, 61, 225.
 Hagh, Dr. 171, 172, 181, 232.
 Hail 92, 94.
 Halesowen 55.
 Half Pad R. 112.
 Hall, Capt. 323.
 Hallema, A. 170, 334, 335.
 Halley, E. 369.
 Ham R. 351.
 Hamab, Hamrivier, rly siding,
 351.
 Hamilton, Sir W. 126, 402.
 Hangklip, Cape 72, 242, 387.
 Hankey 31, 60, 347.
 Hantam 88, 106, 115, 124, 248, 251, 334.
 H antams Berg or Mt. 69, 114-5, 248,
 302, 395.
 Hantams R. 114, 115, 116, 247, 248.
 Hantamveld 143.
 Happy Valley 32, 34.
 Harbours 44, 45, 231, 239, 253, 260,
 377.
 Harefield 206.
 Haris 305.
 Harrow 53.
 Hartebeest Kraal 226.
 Hartebeest Kuil 226.
 Hartebeest Poort 280, 281.
 Hartebeest R. Hartbeestrivier,
 117, 147, 187, 220, 249, 308, 384.
 Hartebeestdrift R. 147.
 Hartebeestfont. 117, 184, 299, 301.
 Hartenbos, Hartenbosch 62, 227.
 Hartenbosch R. 227.
 Harts R. 315.
 Harvestvale 383.
 Hatting, Jac. 226.
 Haupt, C.A. 16, 22, 38, 45, 56, 65.
 Hawaii 332.
 Hayboome R. 363.
 Hbia, see Uys.
 Hebrides 199.
 Heenraads R. 201.
 Heerenlogement 103, 170, 251, 341,
 350.
 Heerenlogements Berg 170.
 Heidelberg 69, 229.
 Heights rly siding 30, 219.
 Heip 304.
 Held Woltenade 269, 340.
 Hel, die 113, 114, 251.
 Herero 358.
 Hermans Kraal 25 n.
 Heuy, Heuy 144.
 Hex R. Pass & Valley 69, 86, 103,
 119, 182, 246, 289, 383, 414.
 Hey Garieb R. 312, 313.
 Heydon 292.
 Heys, Widow 220.
 Hickey, W. 236, 237, 274, 276, 318.
 Highlands 60.
 Hijns, Ocker 223.
 Hills Drift 47.
 Hilton 397.
 Hippopotamus bacon 49, 240.
 Hippopotamus hunting 49, 276, 288.
 Hippopotamus trap 285, 295.
 Hoedjes, Hoetjes Bay 328.

- Hoek, de 248,429.
 Hoekingsis 309-11.
 Hoekoe 145,429.
 Hoenderaal 36.
 Hoengeyquaas 37,39.
 Hoengeyquaas Kloof 39.
 Hoffmans Gat, Kloof 209.
 Hofmeyr 279,416.
 Hogsback 257.
^l
^x
 Hogat R. 262,264.
 Holland 272,323.
 Honeville 60.
 Hongerland 306.
 Honingklip 152,163.
 Honingklip R. 227.
 Honingklipkloof 227.
 Hoog Klip Rug 309.
 Hooge Kraal 424-5.
 Hoogekraal R. 425.
 Hooi Vlakte 298.
 Hoop, H. 102,134,136,156,178,
 234,241,250,260,303,324,
 355,356,357.
 Horak, J.A. 231.
 Hot springs 90,95,96,127.
 Breedvlei 95,96,127,162-3,
 414.
 Caledon 95,127,158,243,414.
 Chalybeate 96,127,159.
 Craddock 364,414.
 Hensb 351.
 Olifants R. (western) 95-6,
 127,414.
 Olifants R. (southern) 414.
 Toverwater Poort 95-6,127,
 221,243,428.
 Witenhage 415.
 Wernbad, S.W.A. 351,362.
 Wernwatersberg 234,246.
 Hottentots 128,167,230,312,314,
 316,358,359,378,417.
 Hottentots Holland Mts. 72,85,
 343.
 Hottentots Holland Pass 23,126,
 343,385.
 Hottentotsfont. 118,301.
 Houd Constant 192,290,291.
Houghton 236.
 Houas R. 267,351-2,361.
 Hounslow 59.
 Houswanas 359.
 Hout Bay 104,325,328.
 Houtniquas Land 121,147.
 Houtenbergse R. 77.
 Houw Hoek 343.
 Housouanas 359.
 Howes Poort 53.
 Howison's Poort 257.
 Hubner, H. 25,35,47,48,240.
 Hugo, Mr. 94.
 Huis R. 222,423.
 Hulvis, see Uys.
 Hulalai 332.
 Humansdorp 63,347.
 Humewood 32,34.
 Humboldt, A. von. 97,411.
 Husingais 310.
 Hutcheon, J. 108.
 Hutton, J. Huttonians, 389,390,
 409,410.
 Hygrometer 333.
I.
 Ibtiqueas Series 77.
 Ice 92,125.
 Igneous rocks 73,395.
 Ilhanza R. 45.
 Ij R. 48.
 Ilheos Siccos 261.
 Imelman, D.F. 69,132,168,230.
 Innozani R. 43.
 Incomombo k. 52.
 Intaba-ka-Mloda 42.
 Iron 95,153,249,317,391,417,418.
 Ironstone 153,395,398.
 Irrigation 99,196,245,414.
 Iseleni location 53.
 Izeli R. 53.
 Izouard, J.B.C. 378.
J.

J.

Jackals Font. 185.
 Jachtfont. 119.
 Jackals Pit 262.
 Jacobins 339.
 Jacobse, Widow 183.
 Jagerbosch, or Jagerbosch,
 30, 218.
 Jagers Drift 393.
 Jagersfont. 184, 299.
 Jahleel Is. 214.
 Jakhals R. 184.
 Jakhalsfont. 184.
 Jalsamba 205n.
 Jan Pan 263.
 Jan de Toi's Kloof 86.
 Jan Dissels R. 314.
 Jansenville 212.
 Janssens, General 41, 84, 147,
 217, 218, 223, 255, 256, 298,
 325, 418.
 Japan 67.
 Java 67, 69.
 Jeffreys, Miss K.M. 333.
 Jersaba 205.
 Johnstone, Commodore G. 236.
 Johnsons Post 227.
 Joints 200, 280, 397, 399.
 Jones, Josephus 320, 328.
 Jonker, Major I.F. 265.
 Joubert, J. 245.
 Joubertina 29, 92, 148, 219.
 Jouberts R. 348.
 Joubertsfont. 201.
 Jubers R. 348.
 Juks R. 119.
 Juksfont 119.

K.

Kaaimans R. 63, 147, 343, 426.
 Kaaimanegat 183.
 Kaap R. 257.
 Kaapse Poortje 199.

Kaba R. 204.
 Kabas 305.
 Kabeljous R. 31, 60, 148, 216.
 Kabiskow Mte. 302.
 Kabobiquaa 358.
 K's Cha Chow 256.
 Kafferkuils R. 228.
 Kafferlandsbergen 41.
 Kafferskop 187.
 Kaffirs 35, 47, 205, 297, 302, 320,
 346, 358, 417.
 Kaffir Drift 42.
 Kaffir Kraal R. 41.
 Kaffir War, First 345.
 Kaffirkuils R. 428.
 Kaffirland 8, 25, 154, 155, 204, 206,
 240, 320, 326, 346, 422.
 Kaga R. 54, 58, 204, 205, 206.
 Kagaberg 204.
 Kaggakoe 256.
 Kahoon R. 46.
 Kahre R. 144.
 Kaikaap R. 313.
 Kakamas 308, 309, 312.
 Kakouri R. 204.
 Kalahari 315.
 Kalij R. 144.
 Kamanassie R. 148, 158, 221, 428.
 Kamfer, R. 222.
 Kamiesberg 104, 105, 106, 134, 251, 259,
 269, 303, 352-4, 356-7, 360-2, 385, 388,
 401-2.
 Kamiesberg, Klein 251, 384.
 Kamieskroon 251, 259, 303.
 Kamingou 358.
 Kanna R. 26, 225, 265.
 Kammiebos 30.
 Kampers Drift R. 147.
 Kandelaars R. 27, 223, 224.
 Kaniga R. 201.
 Kap R. 41, 42, 257.
 Kaptein 55.
 Karatara R. 425.

- Kardouw Pass 385.
 Kare, Karee R. 144, 186, 289.
 Karee tree 187.
 Kariega R. 38, 39, 40, 60, 144,
 184, 187, 188, 257, 289, 349, 383.
 Karoo R. 54, 205.
 Karoshebbars 311.
 Karras Mts, Groot 267, 351, 358,
 359.
 Karras Mts. Klein 352.
 Karcree R. 144.
 Karcreeberg 355, 356.
 Karcreeboom Hills 309.
 Karcreeboom Mts & Pass. 72, 217,
 218.
 Karrikarri 316.
 Karroo, Great Karroo 8, 24, 87,
 91, 93, 99, 142, 143, 153, 165, 183,
 296, 348, 349, 364, 383, 411, 412,
 414, 428, 429.
 Karroo, Little 93, 121, 154, 165,
 223, 243, 363, 384, 428.
 Karroo, Robertson 154, 165.
 Karroo syncline 395.
 Karroo system 394, 395.
 Karroo, Tanqua 69, 91, 92, 118,
 124, 246, 247, 362, 385.
 Karroo, Van Rhynsdorp 91, 123,
 247.
 Karrooppoort 79, 246.
 Karrooside 188.
 Karsten, M. 70.
 Kat R. 53, 54, 389.
 Katbosch 193.
 Kau Veld 143.
 Kanka R. 53, 141, 184, 220.
 Kankaijs or Snykraal 311.
 Kankka Mts. 216.
 Kankka R. 216.
 Kavahe R. 55.
 Kealakekua Bay 332.
 Keeron 118, 276.
 Keeron Bergwa, Gordon's 276, 296.
 Keeron R. 63, 147.
 Keetmanshoop 352.
 Kefani R. 47, 52.
 Kei R. 8, 48, 49, 154.
 Keimoes 309.
 Keimoes R. 8, 43, 53, 56, 156, 258, 383,
 389.
 Kelders, Die 231.
 Kestel, Paul 117.
 Keura R. 147.
 Keurboom R. 28, 30, 84, 148, 221.
 Keurboomriviers Bay 426.
 Keurfontein 243, 384.
 Kouri-Kanniagli 145.
 Keusi Kunni aati 145, 254.
 Kaw 69, 102.
 Kay 60.
 Kayka R. 60.
 Kgalagadi, Kgalagari 316.
 Khatoe R. 314.
 Kheis 309, 310, 316.
 Khoisan 314.
 Khoute 256.
 Kijkdijt 281, 287.
 Kijk Ver Berg 287.
 King, Capt. J. 318, 335.
 King Williams Town 44, 51, 383.
 Kingvale 204.
 Kinigha R. 46.
 Kinko 229.
 Kirby, P.R. 340, 345, 428.
 Kirkwood 347, 429.
 Kirsten, J.P. 131.
 Kirwan, R. 390, 391, 396, 397, 410.
 Klaarwater R. 44.
 Klaver 73, 75.
 Klein R. 31, 147, 148.
 Klein Berg R. 86, 181.
 Klein Bosjesmans R. 145, 254.

- Klein Brak, Brakke R. 62, 158, 226, 427.
 Klein Bruintjes Hoogte 429.
 Klein, Kleyne Doorn R. 223, 248.
 Klein Elze R. 146.
 Klein Kamiesberg 251, 384.
 Klein Karas Mts. 352.
 Klein Keur R. 63, 147.
 Klein Moeras R. 27, 223, 224, 428.
 Klein Naauwte 311.
 Klein Pella 305.
 Klein Riet Valley R. 147.
 Klein Tafel^{el}berg 292.
 Klein Toron R. 115, 248, 268.
 Klein Winterhoek Mts. 344.
 Klein Zondags R. 190, 200, 253, 254.
 Kleine Zwartkops R. 214, 215.
 Kleine Brak Pt. 266.
 Kleine, Kleyne Brakke R. 144, 226, 290.
 Kleine Gantous R. 215.
 Kleine Kourbooms R. 147.
 Kleine Paarde Kraal 26.
 Kleinfont. 191, 192, 226, 290.
 Kleyne Cannalandsche R. 224.
 Kleyne Chineesen 57, 276.
 Kleyne Hoge Kraal 425.
 Kleyne Paardekraal 26, 225.
 Kleyne R. 220.
 Kleyshans, D. 229.
 Klijn Papkuijls Font. 214.
 Klijne Jan Mostertshoek 184.
 Klijshans, Theo. 229.
 Klip Krasse R. 41.
 Klip Poort 309.
 Klip R. 28, 148, 201, 223.
 Klipbanks R. 27, 28.
 Klipdrift 29, 148, 190, 191, 220, Klipdrift R. 223.
 Klipfont. 117, 118, 301.
 Kliphuis 310.
 Klippendrift R. 27, 28, 29, 220, 223.
 Klippendriften R. 62.
 Klipriviertje 29.
 Klipvlei 353, 354.
 Klutzkraal 84.
 Knaghoe 311.
 Knegte Banken 117.
 Knolle Vallei 118, 301.
 Knollefont 118.
 Knysna 64, 69, 288, 417, 420, 426.
 Knysna R. 426.
 Koa Valley 250.
 Koang R. 314, 315, 317.
 Koba R. 58.
 Koboop 305.
 Kock, J. see Kok.
 Koeukaska R. 63.
 Koeberg 251.
 Koebi^{is}kouvs Berg 302.
 Koesbesbergen 119.
 Koegas 310, 311.
 Koeijen Font. 429.
 Koekoer, D. 191, 193.
 Koekoer G.J. 190, 191.
 Koeman, C. 175, 181, 190, 325, 327, 329, 388.
 Koornce 36.
 Koeromana R. 315.
 Koessas 262.
 Koeye Font. 429.
 Kogmans Kloof 90, 246.
 Kogo R. 44.
 Kohakoeka R. 54.
 Kok, C. 355, 356.
 Kok, Jacob 111, 121, 217, 240, 253, ^{346.}^
 Kok, S. 354, 356.
 Kokardi 142, 147.
 Kokau R. 147.
 Kokewe R. 53.
 Koks Kraal 278, 346, 348, 363.
 Kolb, P. 96, 102, ^{109,}126, 130, 133, 243, 416. ^

- Kologha R. 52.
 Kom Kom R. 58.
 Komaboas 305.
 Kongha 48.
 Kongha R. 38, 256.
 Koukom R. 58.
 Kouma R. 205.
 Komandagga 145, 207, 208, 209,
 287, 344, 383.
 Kompaniedrift 30.
 Koms R. 42, 177, 383.
 Komsberg Pass 300, 385.
 Konap R. 156.
 Koncay R. 46.
 Koning Hendrik IV Berg 306.
 Kooifont 429.
 Kookfont, Kookfont 113, 260,
 265.
 Kookfont R. 117.
 Kookhuis, Kookhuys 204, 346.
 Koonap R. 54, 58, 205, 348, 389.
 Kooquanie R. 383.
 Koorulands Kleof 118, 301.
 Kocahoo 287.
 Koperbergen 51, 57.
 Koppleskraal 186.
 Kora 359.
 Kora Eija^s 311.
 Korana 308, 313, 317, 358, 359.
 Koragua 311, 359.
 Koragua Klip Poort 309.
 Kornoi R. 212.
 Korouw R. 44, 53.
 Koura meteorite 417.
 Kouka R. 142.
 Koup 91, 143, 299.
 Kouringais 310.
 Koussie, Kouwale R. 249,
 260, 362.
 Kow Chin 253.
 Kowie R. 40, 41, 383.
 Kraai R. 144, 188, 289.
 Kraan Vogel Kuil 188, 289.
 Kraan Vogel Vlei 144.
 Kraane Valleij 292.
 Kraanvogel Kuil 188, 289.
 Kraanvoogels Valleij 292.
 Kraga Hoogte 229.
 Kraggakana, or Kraggakama, 32, 146, 164.
 Krakadouw Pass 384.
 Krakakou R. 147.
 Krake Kouma 146.
 Krakeel Rly. sdg. 29, 220.
 Krakeel R. 29, 148, 219, 220.
 Krakeel R. Poort 220.
 Krakokama Bay 33, 140.
 Krantans R. 116.
 Krantz Drift 57, 59.
 Krauss, Dr. F. 394.
 Kreutafont. 117.
 Kriegavalley 186.
 Krieger, H. 192.
 Kriegers Hoek R. 194, 195.
 Krika R. 187.
 Kron R. 55.
 Kronanka R. 43.
 Kronbek, Kronbeks R. 164, 229.
 Krome Bay 252.
 Krome R. 29, 30, 60, 61, 139, 147, 218,
 219, 221, 252, 347, 363.
 Krome River Kleof 30.
 Kroonan R. 316.
 Kroonie rly. stn. 205.
 Kroonie R. 54, 205.
 Kroonlepoort 54.
 Krugersbaken 292.
 Krugers Kop 284.
 Kruis R. 117, 118, 195, 301.
 Kruysfont. 117.
 Kruys R. 29.
 Kubiskow Mts. 268.
 Kuga R. 142.
 Kuil 117.

- Kuilwater 117.
 Kung Veld 315.
 Kurekoika 145.
 Kurukuru R. 145.
 Kuruman 111.
 Kuruman R. 315, 316.
 Kurumo R. 54.
 Kutse, C. 118.
 Kwani R. 43.
 Kweek Vlei 185, 209, 298, 349, 364.
 Kweekfont 304.
 Kwelegha R. 46, 47, 52.
 Kwenurha R. 47, 48, 52.
 Ky Gariep 313.
 Kys Conna R. 258.
 Kys Guua Kie Katie 254.
 Kyskadie 254, 255.
- L.
- Labords 353, 361, 363.
 La Caille, Abbe N.L. de 24, 87, 88, 96, 102, 133, 150, 252, 259, 373, 378, 416, 409.
 La Pitte de Brasier 327.
 Laingsburg 184, 299.
 Lagoa, Baaij de 34, 207, 362.
 Lake Farm 32.
 Land & sea breezes 331, 370.
 Landmans Kop 212.
 Landdrost R. 200.
 Landslide 151.
 Lang Valley 105.
 Lange Cloofs R. 28.
 Lange Kloof 28, 29, 69, 84, 92, 97, 103, 121, 132, 147, 219, 222, 252, 343, 347, 363, 385, 423.
 Lange Vlei 63, 147.
 Langeberg, -en 69, 85, 243, 316.
 Langley 36, 255n.
 La Noue 339.
 Lapis lazuli 152.
- Latitude 19, 50, 55-6, 65, 176, 179, 212, 234, 259, 261, 263-4, 279, 283, 286, 294, 307, 308, 309, 311, 312, 321, 322, 347, 351, 352, 360, 361, 363, 364, 388,
 Latitude, compression 20, 36, 40, 43, 44, 54, 56, 328.
 Laubscher, G. 27.
 Lava 73, 95, 160, 301, 389, 398.
 Layard, E.L. 343.
 Lazulite 152.
 Lead 419.
 Leagues 82, 137.
 Teetakoo 381.
 Leeuw Poort 279.
 Leeuw R. 55, 148.
 Leeuwe Poort. 214.
 Leeuwenbosch R. 31, 217.
 Leeuwedans 113, 251.
 Leeuwejagt 113.
 Leeuwen R. 148, 217, 298, 361.
 Leeuwenbosch 132, 149.
 Leeuwenbosch R. 31.
 Leeuwenfont. R. 59.
 Leeuwan-Ganno R. 361.
 Leeuwkuil 249, 384.
 Leiste, C.H. 244, 323, 325.
 Lieffont. 353, 385.
 Leonhardi, C.H. 69, 100.
 Lepers 352.
 Le Vaillant, P. 11, 12, 63, 70, 151, 185, 207, 210, 269, 335, 338-367, 369, 372, 378, 403, 422, 424.
 Lichtenstein, W. 84, 114, 116, 119, 125, 151, 182, 185, 202, 218, 220, 245, 262, 276, 300, 301, 312, 316, 317, 354, 355, 366, 377, 387, 404, 418, 419, 420.
 Lieur Coile 249.
 Ligne 71.
 Lignite 419.
 Line 78.
 Limestone 77, 79, 80, 212, 375, 420.
 Limonite 249.

- Liapopo R. 315.
 Line Drift 43,383.
 Linnaeus 131,152.
 Lions Dance 113,251.
 Lions Head 73,74,374,375,
 394,409.
 Lionz R. (Horns) 267,351,
 352,361.
 Lion-Gamma R. 361.
 Lions Ramp 375,376,405.
 Lions Tail 71.
 Lisore 230.
 Little Boshies-sans R. 145.
 Little Bushmans R. 254.
 Little Fish R. 132,204,206.
 Little Longkloof 84.
 Little Looriefont. 186.
 Little Sundays R. 190,200,
 253,254.
 Little Zomo R. 149,154.
 Llangollen Beacon 53.
 Loeri R. 31.
 Lorie 31,216.
 Lorie Font. 186.
 Lorie R. 216.
 Loriesfont. 185,186,268,302.
 Lokenburg 384.
 Lombard, D. 228.
 London Missionary Soc. 231.
 Long Kloof, see Lange Kloof.
 Long Kloof, Little 84.
 Long Lee 36,255.
 Longhope 206.
 Longitude 19,50,55,56,180,264,
 279,285,294,307,308,312,313,
 321,322,347,364,388.
 Longitude, compression 20,36,
 37,39,43,45,46,50,54,56,57,
 328.
 Longmore Forest Reserve 31.
 Lonsdale Bridge 53.
 Looriefont., Great 186.
 Looriefont., Little 186.
 Loery Font. 142.
 Looriefont. 142.
 Lorraine 339.
 Loskop 55.
 Losper, K. 114.
 Lotteringen, G. 289.
 Louderwater R. 29,148,220.
 Louvain 424.
 Louw, A. 117.
 Louw, H. 115.
 Louw, J. 117.
 Louw, P. 212.
 Louwadrift 116,247.
 Löwen R. 351,352,361.
 Lower Griquatown Series 311.
 Lower Shaleband 73,393,394.
 Lucemvale 292.
 Lunar volcanoes 418.
 Luxembourg Regiment 340.
 Lyd, A.N. 428.
 Igndoch, 279.
 Lyster, see Leiste.

M.
 Macarigari 316.
 Macartney, Lord 276,320,324,381,388,
 419.
 MacDougall Harbour 261,262.
 Macleantown 51,52.
 MacOwen, P. 104,105,108,335.
 Macpherson, Sir J. 306.
 Macquarie, I. 270.
 Madagascar 335.
 Madeira 103.
 Mageonj R. 314,315.
 Magnetic variation 19,27,32,46,55,130,
 187,322,376.
 Magnetism, terrestrial 333.
 Magote, Mahhotie 256.
 Mahlasela, B.E. 155.
 Maingard, L.F. 46,213,316.
 Makgalagadi 316.

- Malagas R. 62, 147.
 Malalareen R. 315.
 Malsas Gat 118, 301.
 Malgaten R. 62, 146.
 Malnesbury 341.
 Malnesbury Series 72, 73, 74,
 75, 375, 391, 394, 395, 399,
 403, 404.
 Mammoth 153.
 Mare 102, 133, 387.
 Manley Flats 41.
 Mannevillette, d'Après de 24.
 Manuring 167.
 Map collections
 Bodel Nyenhuis 386.
 Cape Town Castle 325.
 Gordon 324, 326-29, 386.
 Janssen 325, 327, 329, 386.
 Van de Graaff 175, 325, 326,
 327-9, 336n, 377, 386.
 Map projections 139, 321.
 Maps
 Arrowsmith 53, 256.
 Atlas 21, 22, 51, 56, 65, 110,
 135, 138, 139, 362.
 Barnow 181, 185, 207, 243, 251,
 293, 324, 328, 355, 365,
 383, 387-9.
 Beylie 327.
 Blacu 112.
 Brink 136, 260, 304, 313, 323,
 324, 325.
 Burchell 116, 119, 145, 146, 148,
 185, 214, 219, 257, 259,
 316, 384n.
 Chase 46.
 Degrandpre 372.
 De la Rochette 386, 387.
 De Mannevillette 387.
 Dusiny 320, 325, 328, 386.
 Friderici 29, 30, 34, 175, 214, 218,
 216, 219, 220, 226-9, 320, 327-8,
 386, 434.
 Maps contd.
 Gordon Map 3 105, 113, 116-8,
 144, 181, 183-9, 195, 199, 200,
 212, 218, 223, 225, 242, 244,
 247-9, 259, 261, 264-6, 274,
 321-6, 348, 354, 355, 365, 387,
 428, 429.
 Gordon Map 12 29, 137.
 Hall 59, 206, 214.
 Knobel 214, 254, 256.
 Kolb 10, 109, 110, 387.
 La Caille 109, 111, 362, 387.
 Leiste 34, 184, 227, 325, 329.
 Le Vaillant 140, 181, 296, 344,
 347, ~~349~~, 350-3, 360-5, 386, 387.
 Lichtenstein 116, 119, 185, 219.
 Owen 260.
 Paterson 82, 140, 181, 243, 248,
 253, 296, 361, 362, 363, 365, 386.
 Riou 181, 325, 386.
 Schwarz 147.
 Sparrman 10, 30, 82-3, 135-149,
 154, 157, 158, 181, 220, 234, 243,
 244, 257, 361-4, 386-7.
 Valentyn 109, 387.
 Wentzel 17-23, 23-66 passim,
 148, 176, 178, 180, 206-9, 325-6.
 Wernich 325.
 Wikar 249, 306.
 Wyld 113, 245, 251, 316.
 Map 219 (v.d.Graaff) 206-9.
 Map 221 (v.d.Graaff) 178.
 Map 222 (v.d.Graaff) 175-226
 passim.
 Map 224 (v.d.Graaff) 326.
 Map 230 (v.d.Graaff) 207.
 Map 463 (Cape Archives) 174,
 181, 189, 194, 205, 208.
 Maquareen R. 315.
 Marais, P. 357-8.
 Marais Kloof 55.
 Maraisburg Irrigation Scheme 279.
 Marcus, D. 211, 225.
 Marcus, P. 211.

- Marigold Heights 119.
 Marlow 55.
 Mariuswonnas 317.
 Marten Island 267.
 Martin 242.
 Martindale 41-2.
 Massenberg 106.
 Masson, F. 8,9,69,89,92,
 102-29,134,217,221,234-5,
 245,249,268,270,273,301,
 318,320,335,385.
 Massons R. 105.
 Matabele 317.
 Matjes Kloof 28.
 Matjes R. 28,30,222.
 Matjesfont. 117,184.
 Matjoenooe 316.
 Matsikama 112.
 Matthew Rook 262.
 Mauna Loa 332.
 Maurices Heights 119.
 Mauritius 24,106,368.
 Mauritius Cat 118.
 Mediterranean Sea 406.
 Mechow R. 44.
 Meerhofs Casteel 105.
 Meintjes, F. 282.
 Meintjesfont. 299.
 Meintjesplaza 117.
 Melk R. 189,201.
 Melkhout Kraal 148.
 Melkhout R. 148.
 Melkhoutbos 230.
 Melkhoutbosch 30,217.
 Melkhoutkraal 30,217,426.
 Melks R. 348.
 Melon 216.
 Mendelsohn, S. 339,350.
 Menschenooren R. 47.
 Ments, J.F. 132,198,200-1,
 208,217.
 Ments, Lake 356,429.
 Mentsel, O.F. 96,111,121,124,
 144,145,152,558.
 Menzies, A. 331-333.
 Metamorphism 391.
 Meteorites 207,417,418,419.
 Meteorology 330,370.
 Metz 339.
 Meulenaars R. 148.
 Meuron Regiment 340.
 Meyburg 119.
 Meyburg, J. 201.
 Meyer, G. 226.
 Meyer, L. 211.
 Meyer, W. 425.
 Meyjes, R.P. 19,29.
 Mica 391.
 Michausberg 279.
 Michell, J. 79.
 Michells Pass 182.
 Michielshoogte 291,384.
Middelburg 341.
Middelburg 340,341.
 Middleton 207.
 Mierhoofd 105.
 Mijntjes, P. 184.
 Miles, Dutch, Rhineland 19,321.
 Miles, Swedish 137.
 Milk R. 258.
 Minnaar, B. 191.
 Minnaar, R.P.
 Minnaarsberg 191,195.
 Mirages 412.
 Mingund 29,148,220.
 Mitchell Library 236,270.
 Mocambique, Mozambique 314.
 Mochnana 316.
 Modder R. 28,147,224,226,426.
 Molderfont. Mt. 279.
 Moebesa 309.
 Moedverloer R. 384.
 Moeras R. 27,147,217,223,224.
 Moetjoannas 309,313,314,317.
 Moffat, Rev. R. 316.
 Molen R. 26,28,62,225.
 Mologyo R. 315.

- Molsbergen, E.C.G. 19,171,
 172,203,289,328.
 Monacous 90,161,330,370.
 Montagu Pass 225n.
 Montreal 106.
 Mooiplaats 47,51,52,56.
 Noorddal 194,195.
 Moorden Dal 194.
 Moondensars Kop 49.
 Moordenaars R. 29,190,192,
 200,277.
 Noordkuil R. 62,226.
 Morgendaal 194.
 Moritz, E. 353.
 Morroena 317.
 Mosque Mt. 276,293.
 Mossel Bay 23,25,61,69,103,
 110,227,288,319,329,343,404,
 423,427.
 Mossop, Dr. E.E. 23,25,105,113,
 114,119,182,266,306,310,323.
 Mosterts Hoek 182.
 Mostertshoek, Klijne Jan. 184.
Motacilla agulap 350.
 Mount Coke 41,44.
 Mount Pleasant 53,54,205.
 Mount Prospect 53.
 Mountains, formation of 70,71,80,
 shadow of 94.
 Mozambique 314.
 Mugu Ranie 258.
 Muntjuana 316.
 Muir, Dr. J. 229,235.
 Muisekraal R. 117.
 Muishonds R. 200.
 Muiskraal 85.
 Muizenberg 242.
 Mulder, or Muller, H. 229,257.
 Mulder, or Muller, widow M. 229.
 Murage R. 221.
 Mural jointing 280.
 Mardoch, P. 281.
 Murrays Kop 281.
 Murahlong 317.
 Museum, Africana 327,386.
 British 301,354,417.
 British (Nat.Hist) 104.
 S.African 294,417.
 Musgrove 52.
 Muysekraal R. 28,223.
 Muyshonds R. 190.
N.
 Nasarap 354.
 Nabee 323.
 Nagoeri R. 46.
 Nagoezij R. 53.
 Nahoon R. 44,45,46,53.
 Naib, Naip 304.
 Nanaqualand 57,102,106,238,272,
 320,331,356,360,420.
 Nanaqualand, Great 239,342,343.
 Little 301,343,350.
 Nanaquas 285,358.
 Nanaquas, Great 355,358.
 Little 358.
 Nasaroepe 354.
 Nancun Eis 311.
 Nangas R. 299.
 Naisees 305.
 Nanscep 305.
 Naressie R. 115.
 Narina 210.
 Natal, Bay of 329,364.
 Natal, Terra de 111.
 NauCC 323.
 Naule, S.D. 341n.
 Nudes R. 202.
 Nantu R. 257.
 Nazaar R. 38.
 Ndadakazi R. 49.
 Ndebele 317.
Necessaire, le 23,32,62,64.
 Negro, Cape 314.

- Mel, T. 117.
Neptune Orientale, le 24.
 Neptunian, Neptunists 76,96,
 287,366,371,373,389-90,
 392-7,400-2,406-8,417.
 Neushok 309.
 New South Wales 11,236,270.
 New Years Drift 145,208,209.
 New Years R. 59,60,132,208,
 397.
 New York 106.
 New Zealand 131,332.
 Ngani, Lake 315.
 Ngqokwehi R. 53.
 Ngqokweni R. 383.
 Ngqonwehi R. 53.
 Nickert, P. 219.
 Nieuwjaars Drift 208.
 Nieuweplaats 143,220.
 Nieuwveldberg 187,395.
 Nieuwkerken, P. 219.
 Nieuwoudtville 114,384,385.
 Nieuwveldberg 187,198,395.
 Niezhoutkloof 149.
 Nitre 412.
 Nkolo R. 44,53.
 Nonga 429.
 Noe Garieb 313.
 Noekanena R. 315,316.
 Noemzi R. 58.
 Nokanna, Nokannan R. 315,316.
 Nonna R. 149.
 Nooitgedagt 170,181,232.
 Noordhoek 150.
 Nonga R. 62.
 North Island 416.
 Nortier, A. 428.
 Narvals Pont 334.
 Nounks R. 425.
 Noutoe, Now Tho, Now Tu 257.
 Noutoe R. 257.
 Nuy R. 149.
- O.
 Oberholster 195.
 Oberholster, C.J. 194.
 Oehre 420.
 Oei Valley 384.
 Oelofse, Olofson, A. 221.
 Oelofse, Oelofsen, J. 220.
 Oerebies R. 279.
 Ogoqua or Smal Wangen 311.
 Okavango R. 315.
 Oldenburg, F.P. 69,102,103,105,335.
 Olifants Mts. 409.
 Olifants Pad 86.
 Olifants R.(western) 73,99,102,105,
 112,170,243,251,258,268,328,385.
 Olifants R.(southern) 30,142,158,
 364,428.
 Olijve R. 177.
 Oliver, C.E. 112.
 Olivier 118.
 Olivier, G.H. 118.
 Olyvenhoutsbosch R. 42,177.
 Onder Downes 301.
 Ongelegen 147,220.
 Ongeluks R. 119.
 Onverwagt 219.
 Onwetende Pont. 301.
 Oogfont. 249,251,254.
 Oorlogakloof 114.
 Oorlogakloof R. 114,116,301.
 Oosthuizen, N.J. 308.
 Opperman, C. 193,290.
 Opperman, C.R. 193.
 Opperman, G.R. 193.
 Oppermans Kraal 292.
 Orange Grove 53.
 Orange, Prince of 250,263,272,273,
 284,285,307.
 Orange R. 156,203,238,244,250,259,
 263,266,282,283,294,296,303-318,
 322,336,350-362,384,388,395,414.

- Oranje Font. 300.
 Oranje Poort 284, 285.
 Oosfontein Hoogte 291, 383.
 Oosplaats 182.
 Oosse Hoek, 224.
Ostrea prismatica 262.
 Ou Channa R. 61.
 Oude Bokkeveld 182.
 Oude Niquasland 61.
 Oudeberg 192.
 Oudeberg Pass 383.
 Oudskloof, Oukloof 86, 181.
 Oudtshoorn 27, 84
 Ousnerⁿ 359.
 Ouss 266.
 Outeniqua Bosch 226.
 Outeniqua Mts. 16, 28, 91, 97,
 132, 146, 163, 245, 343, 363,
 413, 423, 424.
 Outeniqua Pass 225n.
 Outeniqualand 343, 349, 384, 426.
 Overgrazing 167, 183, 232.
 Overholster, A. 195, 289.
 Overholster, G. 194.
 Overholster, J. 194.
 Overstocking 183, 254.
 Ox-waggon, speed of 186, 188,
 386.

P.
 Paarde Poort 28.
 Paardeberg 119.
 Paardefont. 54.
 Paardekop 27.
 Paardekraal 26, 40, 225.
 Paardevlei 292.
 Paarl 102, 131, 181.
 Paarl Rocks 125, 401, 402.
 Pabagass R. 52.
 Pacaltsdorp 62, 424.
 Padron, Point 146.
 Faintstones 420.
 Pallas, P. 79, 152.
 Palo 346.
 Palmiet R. 226.
 Panpoen Kraal 63, 343.
 Pannekoeke R. 29, 219.
 Papekuile R. 214.
 Paperkuilsfont. 214.
 Papkuilsfont. 214, 384.
 Paramaribo 338.
 Parliament, Library of 327.
 Paris 339, 342, 368.
 Parker, Mrs. M.A. 237.
Pasar 272.
 Paterson, W. 11, 36, 37, 103, 107, 113,
 217, 230, 231, 234-269, 272, 274, 296,
 302, 303, 304, 331, 334, 335, 346, 353,
 357, 358, 361, 362, 365, 369, 384, 420.
 Patersons Baaytje 242.
 Pearston 199, 201, 277, 349.
 Pebbles 74, 75, 76, 77, 78, 392, 397.
 Peddle 43, 383.
 Peking 381.
 Pella 304, 305, 312.
 Pella, Little 305.
 Percival, Capt. R. 151.
 Perde Poort 244.
 Perdeberg 190, 191, 195, 290, 335.
 Poringuoy, L. 417.
 Ferrot, J. 23.
 Perseverance 32, 214.
 Persekeboom Hoogte 191, 290.
 Petrie, W. 323.
 Petrifications 262, 420.
 Phantom Pass 426.
 Pharos (Palo) 346.
 Philippeaux, Philippe, Abbe 339.
 Phoenician Ship 419.
 Phosphatic nodules 396.
 Phuduhutswana 317.
 Phyllites, 72.
 Piekeniers Kloof 178.

- Pienaar, P. 227, 264, 304, 357.
 Pienaar, N. 227.
 Pienaarakloof R. 299.
 Piers, H.W. 75.
 Pietermeintjes 184, 299.
 Piggotts Bridge 59.
 Pijot 242, 252, 319, 320.
 Pinaar, P. 227.
 Pinaars Eiland 304, 306.
 Piquetberg 69, 103, 105, 387, 409.
 Pisang R. 84.
 Pisangrivier 426.
 Pisangriviers Bay 426.
 Plaat, Plat, Platte R. 201, 348.
 Plankstones 403.
 Plateau-steps 87, 247.
 Platrug 211.
 Platteklip 266.
 Platteklip Gorge 74, 373, 374, 418.
 Plattekloof 69, 85, 223, 243, 246, 274.
 Playfair, J. 126, 402, 408.
 Plettenberg Bay 64, 69, 77, 84, 140, 242, 272, 288, 319, 320, 326, 343, 362, 384, 423, 426.
 Plettenberg Beacon 293, 295.
 Plettenbergs R. 276, 292, 296.
 Plooy, H. 226.
 Plutonian, Plutonists 389, 390, 402, 406, 408, 410.
 Pocock, M.A. 78.
 Pofadder 305.
 Ponlicherry, Governor of 377.
 Pondoland 35.
 Ponte, Ingenieur ^{Joseph} 323.
 Poort, de 185.
 Port Elizabeth 8, 33, 122, 343.
 Port Bollooth 261.
 Portuguese 314, 320, 417.
 Potgieter, P. 252.
 Potjes R. 28, 221.
 Prehn, H. J. von 173, 417.
 Prehns R. 279, 323.
 Prehnite 402.
 Prieska 25, 310, 311, 312, 313, 322, 359.
 Primary, primitive rocks 374, 390, 392, 400.
 Prinston 204.
 Primitive mts. 79.
 Prince Albert 179, 289, 349, 364, 396.
 Prince Alfreds Pass 84, 225a.
 Pringle Bay 242.
 Pringle, T. 54.
 Prinsloo, J. 203, 278, 294.
 Prinsloo, W. 202, 203, 277, 278, 297.
 Prins Willem V Berg 284.
 Pseudomorphs 249.
Pterocles bicinctus 350.
 Pyga-Iguane R. 258.
 Pypwater 310.
 Pyrites 152, 249, 374, 415.
 Qacha R. 28.
 Qanata Poort 155.
 Qora R. 50.
 Qua 244.
 Quadrant 361.
 Quagga Flats 255.
 Quagga Pont. 28.
 Quagga, isabella 355.
 Quartz 74, 77, 152, 391, 392, 393, 398.
 Quartzite 72, 73, 78, 374, 392, 393, 394, 395, 399.
 Queekfont. 304.
 Queekvalley 185.
 Queenstown 155.
 Quanoncha R. 47.
 Quinera R. 46.

R.

- Rainfall 90-94, 123, 152, 163,
268, 330, 412, 413.
 Rainfall, summer 122, 258,
285, 413.
 Rainfall, winter 120, 122,
124, 90.
 Raasens Drift 265, 266, 304, 322.
 Raanhoeksberg 116, 385.
 Rameden, J. 259, 285, 333.
 Raubenheimer 27, 349.
 Rautenbach, F. 255.
 Rautenbaehs Drift 36, 38, 57, 60,
145, 205, 209, 210, 255, 383.
 Recife, Cape 146, 288.
 Red Sea 371, 406.
 Redcliffe Hotel 148, 220.
 Redhouse 214.
 Reebokfont. R. 62.
 Rehoboth 238, 239.
 Renier 228.
 Renoster R. 247, 248, 362.
 Renosterbos 167.
 Renosterfont. 260.
 Renosterhoek 248, 268.
 Renosterhoek R. 116, 248.
 Request 192.
 Requestkop 195.
Resolution 10, 67, 102, 107, 125,
131, 318.
 Reunion 106.
 Reusen Wetselwerks Poort 280.
 Rex, C. 426.
 Rhebok 62.
 Rhebokfont. 62, 226, 227, 427.
 Rhinoceros hunting 144, 171, 207,
240, 298.
 Rhinoceros Fount, Ptn. 105, 260.
 Rhinoceros R. 116, 143, 247, 248.
Rhinopomastus cyanonelas 350.
 Rhinosterjagt Dinnelman Vlucht
144.
 Rice, Lieut. W. McP. 388.
 Riebeeks Kasteel 72.
 Riet R. 208.
 Riet Fontaine Poort 184.
 Riet Reebokke Font. 287.
 Rietberg 37, 256, 421.
 Rietfont. 115, 184, 192, 213, 248,
268, 291.
 Rietkuil, Rietkyl 186, 230, 246.
 Rietkuils R. 230.
 Rietvalley 28, 147, 220, 221, 365.
 Rietvalleys R. 29.
 Rietveld R. 54.
 Rietvlei, Company's Post 231, 252,
427.
 Rijk, Mrs. & Widow 113, 251, 268,
302.
 Rio (do) Infante 138, 272, 287.
 Rio la Gon 314.
 Riou, Capt. E. 325.
 Ripon 207.
 River action 157, 407, 408, 409,
414, 415.
 Riversdale 61, 229.
 Riviertje 291.
 Robbe Islet 261.
 Robben Island 151, 372, 375.
 Robben Island alate 34, 375, 377.
 Robberg 77, 78, 139, 140.
 Roberts, A. 350.
 Robertson, A. 282.
 Robertson Karoo 154, 165.
 Robertsons Strowan Mts. 282.
 Robespierre, M. 339.
 Robinson, M.H. 225n.
 Robinson Pass 25, 225n, 245.
 Rockhuret 59.
 Rockrabbits (Hyrax) 412.
 Rogers, A.W. 62, 261, 262, 403.
 Roggenveld, C. 118.
 Roggeveld 8, 69, 86, 87, 88, 91, 92, 99,
103, 106, 111, 118, 124, 247, 301,
334, 362, 385.

- Roggeveld, Klein 104, 105, 299.
 Roggeveld, Lower 118.
 Roggeveld, Middle 118.
 Roggeveldbergen or Mts. 116, 150, 395.
 Rondevlei 63.
 Rood 19, 137, 321.
 Rood Land 111.
 Roods Krans R. 148.
 Roodekop 201.
 Roodekransriviertje 220.
 Roodesandsberg 319.
 Roodezand 79, 86, 93, 103, 334.
 Roodezand Kloof 181, 400.
 Roods, 19, 137, 321.
 Rooi Els 242.
 Rooikrans R. 148, 220.
 Roos 357, 358.
 Roosterhoek 281.
 Rooye Hoogte 148.
 Rosedale 40.
 Rotterdams 229.
 Rousseau, P.J. 78.
 Royal Geog. Soc. 381.
 Royal Soc. 11, 128, 269, 381.
 Rubion, P. 23.
 Rugte Vlei 425.
 Ruis R. 222, 423.
 Ruyter, Ruyter 210, 211, 287.
 Ruyterbosch Pass 225n.
 Rykvoet, C.C. 250, 357.
- S.
- Saaidams 245.
 Saansee Kloof 244.
 Sabiee 266.
 Saffraan, Saffraan R. 27, 28, 224.
 Saffraankraal, Safrankraal, 27, 224.
 St. Francis Bay 19, 31, 110, 121, 139, 164, 252, 319, 320.
 St. Francis, Cape 140, 146, 364.
 St. Helena Bay 13, 102, 134, 170, 329, 363, 377.
 Sakolka R. 50, 51.
 Saldanha Bay 69, 103, 111, 123, 170, 236, 327, 328, 329, 340, 360, 384, 387, 414, 420.
 Saleni R. 53.
Salsola anhylla 223.
Salsola species 121.
 Salt pans ³² 96, 127, 228, 344, 384, 416.
 Salt R. 144, 186, 289.
 Saltaire 208.
 Saltpetre 412.
 Saltpetrekop 301, 412.
 Sand R. 48, 222, 223, 260.
 Sand Drift R. 62.
 Sand Fleet 253.
 Sand Langte 254.
 Sandalbearers 358.
 Sandbars 45, 414.
 Sanddunes 71-73.
 Sandflats 36, 210, 253.
 Sandfont. 213, 305.
 Sandgrouse 350.
 Sandstone 73, 74, 75, 76, 77, 374, 391-392, 393, 394, 397, 398, 399, 400, 402, 405, 412.
 Sand Fleet 253.
 Sans Souci 215.
 Saufluss, 149.
 Schaapkop R. 62.
 Scheepers, G. 213.
 Scheepers, J. 219.
 Scheepers, S. 429.
 Schep Moed Poort 280, 323.
 Schiedam 271.
 Schistfont. 301.
 Schiebrug 204, 206.
 Schildpad Been 243.
 Schistus 391, 395, 396, 404.
 Schoemaker, V. 356.
 Schoenareba 317.
 Schoemaker 356.

- Schoemaker, J. see Schumacher.
 Schoemakers Kop 288.
Schoft or skoft 137, 155.
 Scholl, G. 106, 320.
 Schonbrunn 106.
 Schoonberg, Schoone Berg 222,
 423, 424.
 Schoonsigt 309.
Schoonzigt 68.
 Schoorsteenberg 187.
 Schrijver, I. 24, 25, 228.
 Schuilhoek 293.
 Schumacher, J. 41, 105, 173, 174,
 181, 187, 231, 232, 264, 334.
 Schurftberg 182.
 Schwarz, E.H.L. 62, 425.
 Scots Brigade in Holland 271,
 282.
 Sea, depth 375-6.
 Sea level, alterations in 150,
 151, 262, 331, 348, 365-6, 371-3,
 390, 403-7.
 Sea Point 391.
 Seahre Valley R. 143, 244.
 Seal, Cape 139.
 Seals 261.
 Secondary mountains 80.
 Secondary rocks 374-5, 392.
 Seine R. 70.
 Seller, C.C. 172.
 Semple, R. 147.
 Senegal 133.
 Seuj R. 148-9.
 Seychelles 368.
 Seyd, J.M. 293.
 Seydfont. 293.
 Seymour 41.
 Sezanne 339.
 Shadow of mountains 94.
 Shales 72, 394.
 Sharks 280.
 Shark R. 33, 34.
 Shells, sea 150-1, 262, 348,
 365, 403-4.
 Shipwrecks 288, 364, 377, 417.
 Siberia 152.
 Sidbury 36, 38, 210, 255.
 Silver R. 63.
 Simons Bay 271, 332.
 Simonstown 131, 237, 270, 418.
 Single Doornbooms R. 112.
 Sir Lowrys Pass 126n.
 Sien^u Valley R. 316.
 Sittingbourne 43.
 Sjangbok 354.
 Skoemakers R. 356.
Skoft, see schoft.
 Skurweberg 182, 316.
 Slabbers (Thefont.) 341, 353, 366.
 Slagtersfont. 185.
 Slange R. 85, 229.
 Slate 73, 74, 395, 396, 397, 398, 399.
 Slaves 198, 349.
 Slave-trade 368.
 Sloopsteenberg 83.
 Snaal Wengen 311.
 Snall Brack Pt. 266.
 Smidt, Smit, S. 292.
 Smith, Dr. A. 317.
 Smitswinkel R. 299.
 Sneesebergen 145.
 Sneeuwberg 87, 92, 106, 150, 156,
 157, 190, 191, 195, 275, 277, 291, 319,
 330, 344, 348, 366, 384, 394, 395.
 Sneeuwbergs R. 200, 291.
 Sneee-Hottentots 146, 154, 156, 276.
 Snijkraal 311.
 Snow 91, 92, 94, 125, 158, 161, 166, 319.
 Soap 197.
 Soco Reef's 262.
 Soeri R. 31.
 Soetemelks, Soetmelks R. 61, 228.
 Soetgeneugt 213.
 Soga, J.H. 48.
 Soil destruction, deterioration 167,
 330.

- Soma R. 61.
 Somerset East 10, 132, 202,
 203, 277, 297, 344, 345, 363,
 384, 385.
 Somerville, W. 182, 381.
 Songquasfont. 365.
 Soso R. 59.
 Soubiesjes Font. 305.
 South America 370, 371.
 South West Africa 353.
 Southwell 39.
 Sparrman, A. 8, 10, 33, 36, 48,
 67, 68, 69, 70, 89, 90, 91, 95,
 107, 121, 130-168, 170, 181, 184,
 199, 202, 207, 209, 213, 217, 218,
 219, 220, 222, 228, 230, 234, 240,
 245, 250, 252, 253, 254, 255, 278,
 307, 344, 346, 362, 363, 365, 369,
 372, 403.
 Speelaanskraal 84.
 Spekberg 49.
 Spitz Kop R. 60, 257.
 Spitzbergen 380.
 Spitzkop 279.
 Spring Grove 38, 39.
 Springbok (town) 250, 265,
 356.
 Springboks 124, 188, 268, 272.
 Springbokkenfont. 36.
 Springs 261, 412, 413.
 Staale Kraal 207, 417n.
 Stalactites 77.
 Standvastigheid 300.
Stapeliae Novae 106.
 Starings R. 279.
 Starrenburg, J. 9, 102, 109.
 Staunton, Sir G. 380.
 Stavorinus, Rear Admiral 263,
 274, 282, 283, 288, 296, 303.
 Steedman, A. 27.
 Steenberg 126.
 Steenbok R. 187.
 Steenkamp, W. 117.
 Stellenbosch 102, 170, 232, 381, 387.
 Stephenson, A. 179.
 Steyn, D. 229.
 Steyn, Heemraad J. 230.
 Steynsburg 260.
 Stinkfont. 251, 384.
 Stinkfont. Series 261.
 Stockholm 83, 133.
 Stow, G.W. 167.
 Straat, de 299, 400.
 Straat R. 246.
 Strandloopers 262, 264, 404.
 Strata, inclined 79, 80, 399, 400, 401.
 Stratmore, Lady 11, 235, 236, 237.
 Stratified mountains, 72, 73, 74,
 392, 408.
Strelitzia angusta 426.
 Struysfont. 243.
 Strydpoort 280.
 Strydom, M. 220.
 Stutterheim 41.
 Suohar R. 43.
 Suez, Isthmus of 372, 404.
 Sully Font. 306.
 Sulphur 159.
 Summerstrand 34.
 Sun, observations of 19, 50, 56, 176,
 179, 389.
 Sundays R. 26, 35, 36, 56, 69, 103, 110,
 122, 132, 157, 212, 253, 322, 344, 349,
 356, 383, 419, 429.
 Sundevall, C.J. 342, 343.
 Sunland 35, 36, 157, 253.
Sutera atropurpurea 224.
 Sutherland 301, 119, 125.
 Swanepoel, J. 173, 190, 208, 215.
 Swart Ebbenhoutboom Font. 305.
 Swart Kloof 363.
 Swart Vlei 147.
 Swart Volk 311.

- Swarte R. 144, 187, 189,
 190, 193, 200, 277, 297,
 298, 335, 349, 425.
 Swarte Ruggens 212.
 Swartkops R. see Zwartkops R.
 Swartlintjes R. 260.
 Swellendam 23, 69, 98, 102, 103,
 110, 132, 164, 246, 252, 331,
 334, 343, 427.
 Swellendam, landdrosts of 61,
 231.
 Swellengrebel, H. 7, 10, 20, 27,
 29, 33, 54, 143, 144, 165, 169-233,
 250, 255, 289, 290, 383, 423.
 Swellengrebel, Governor H. 169.
 Swellengrebel, N.H. 169, 170,
 172.
 Swellengrebelfont. 113, 251,
 268, 302.
 Swierler, J.H. 16.
 Syferfont or Syperfont. 261.
- T.
- Taaibosch Koranas 311.
 Table Bay 130, 150, 326, 327, 330,
 391, 404.
 Table Farm 257.
 Table Mt. 73, 74, 80, 88, 94,
 150, 162, 274, 330, 334, 365,
 370, 373-375, 378, 391-394,
 406, 409, 413, 417, 420.
 Table Mt. Series 73, 75, 78, 126,
 393, 398. 394,
 Table Valley 151.
 "Tablecloth" 413.
 Tachard, Father 365.
 Tafelberg 77, 182, 292, 305.
 Tafelkop 305.
 Tahiti 131.
 Takemas 308.
 Taaboegiesland 49.
 Tangla R. 52.
 Tanqua Karroo 69, 91, 92, 118.
 Tanqua R. 119, 247.
 Tarka R. 55, 279, 348, 384.
 Tarkastad 154, 155, 279, 348.
 Taubqua Hordes 312.
 Taw R. 142.
 T'Chachow 256.
 Telloence R. 54.
 Tenbuland 49.
 Temperature, atmospheric 89-94,
 252.
 Temperature, decrease with
 altitude. 93, 94, 247.
 Teneriffe 19, 50, 103.
 Ter Blans, Terblanche, P. 226, 426.
 Teviot 384, 416.
 Tewe R. 53.
 Thee Thoe 256.
 Theal, G. McC. 42, 48, 134, 289, 350,
 378, 424.
 Theefont. 115, 353, 364, 365, 367,
 385.
 Thermometer 90, 158, 161, 414.
 Theron, J. 118.
 Theunis, M. 252.
 Theunissen, J. J. N. 218.
 Thompson, G. 247, 315, 335, 345.
 Thorn R. 248.
 Thornhill 31.
 Thoubie R. 177.
 Thousand Islands 416.
 Thunberg, C. P. 8, 17, 28, 48, 65, 67-101,
 102, 103, 104, 107, 112-119, passim,
 124, 127, 130, 131, 132, 137, 167, 170,
 181, 182, 211, 217, 218, 219, 220, 221,
 222, 223, 230, 234, 243, 247, 249, 269,
 273, 301, 363, 369, 385, 389.
 Thunderstorms, 91, 92, 122, 165, 196,
 267.
 Thys Kraal 119.
 Tides 70, 414.
 Tierberg 77.
 Tierbergs R. 105.
 Tierra del Fuego 131.
 Tiger R. 53.

- Time scale, geological 60,
 373, 375, 404, 405, 409, 410,
 417.
 Tinsa R. 47.
 T'Kam t'Kay 141.
 T'Kam t'Nasi R. 148.
 T'Kansi t'Kay 154.
 T'Kau t'Kay 141.
 T'Kouwyqua 312.
 T'Kur t'Keija etc 149.
 T'Kurenai 253.
 T'Nuka t'Kama 213.
 T'Nu t'Kay 154.
 Toadstone 397.
 Toena 287.
 Toise 150.
 Toleni R. 49.
 Tolkop 281.
 Tongwane R. 48.
 Tonteldoosfont. 301.
 Tooren van Rebel 279.
 Topography 81, 85, 108-12.
 Toringkop 248.
 Torrens R. 383.
 Tour R. 63, 147, 424, 426.
 Toudi R. 177.
 Touwa R. 142, 184, 246, 299, 400.
 Towerwater Poort 95, 142.
 Traska R. 142.
Trachyphonus vaillantii 351.
 Tradouw 230.
 Tradouw Pass 243.
 Traka R. 142, 185, 412.
 Traka de Tkou R. 426.
 Transhumance 91, 124, 166, 247.
 Transitional rocks 390, 400.
 Transport, cost of 197.
 Transvaal, Northern 315.
 Trap Conglomerate 397.
 Trapp 73.
 Trappes Valley 42.
 Travel, rate of 186, 188, 388.
 Traverse, compass 19, 57, 60, 388.
Treize Cantons, les 24.
 Tree-Tree R. 105, 112.
 Troglodytes 403.
 Trompetters Kraal 393.
 Trumpeters Drift 42, 205, 257, 383, 411.
 Truter, A.M. 381.
 Truter, P.J. 182, 381.
 Truter & Boserville 182.
 Trutru 112.
 Tsabies 266.
 Tsao R. 425.
 Tsineko or Ostrich Leg 243.
 Tsitsikama Mts. 218, 363.
 Tsitsikama Point 218.
 Tsitsikama region 218, 219.
 Tsitsikama R. 218.
 Tsojana R. 149, 155.
 Tsomo 154.
 Tsomo R. 155.
 Tswana 313, 314, 316, 317, 358.
 Tubular concretions 77, 78.
 Tulbagh 69, 119, 268, 319, 341.
 Tulbagh, Governor R. 16, 24, 32, 51.
 Tulbagh Pass 86, 181, 182.
 Tunies, Mr. 252.
 Twecu 43.
 Twee Rivieren 29, 148, 219.
 Tweede R. 31.
 Tweede Noeksis 310, 311.
 Tweefont. 190, 248n, 251, 268, 290.
 Twenty-four Rivers 387.
 Twin-kraal People 358.
 Two Brothers 263.
 Two Fountains 251.
 Two Vleis 61, 63, 64.
 Tyger, encounter with 366.
 Tygerberg 151, 185, 419.
 Tyumie R. 53.

- U.
- Obes, see Uys.
- Oitkijk, Oitkijk 59, 118, 119, 193, 195.
- Oitkooit, Oitkooit 290.
- Oitenkraal 365.
- Oitenhage 106, 255, 415.
- Oitenhage Series 213, 229, 416.
- Oitvlugt 84, 115.
- Ondenzani 45.
- Ongwenyaan R. 44.
- Omhallas Kop 52.
- Omkangiso R. 44.
- Omkhola 210.
- Omxesha R. 53.
- Omxele R. 53.
- Unconformity 393.
- Uniondale 83, 95, 221.
- Uppington 306, 309, 312, 313, 315, 317, 358, 359.
- Uppsala 83.
- Uppsala University 68, 130, 133.
- Ural Mts. 79.
- Uriahgat R. 119.
- Us 266.
- Uurs 82, 136, 137, 140, 199.
- Uye Valley 384.
- V.
- Uys, D. 132, 426.
- Vaal R. 312, 313.
- Vaalpoort 281.
- Vaalvlei 383.
- Vaalwater 429.
- Vaderlandsche Rietvalleij 115.
- Vagevuurs Kloof 305.
- Valentyn, F. 9, 102.
- Valsch, Valsche R. 228, 420.
- Valsdrif 292.
- Van Beelen, J. 222.
- Van Beuningen, Widow 222.
- Van Boten, P.D. 326.
- Van Carnan 270.
- Vancouver, Capt. G. 332-3.
- Van Ellewe, J.H. 16.
- Van Heerden, S. 182.
- Van Heiden, Capt. 292.
- Van Heijdens Pont. 292.
- Van Jaarsveld, A. 157, 187, 203, 256, 295, 345.
- Van Nieuvegen, Nieuwegen, G. 84.
- Van Plettenberg, Governor 11, 33, 86, 143, 169, 175, 183, 184, 185, 186, 188, 189, 191, 192, 193, 195, 199, 201, 208, 217, 218, 222, 226, 228, 229, 230, 275, 277, 288, 289-297, 318, 330, 343, 383, 423-427.
- Van Putten, W. 126.
- Van Reenens Hoek 248.
- Van Reenen, D.G. 86, 185, 239, 298.
- Van Reenen, Jacob 111, 228, 344, 428-430.
- Van Reenen, Jacobus 216, 230, 248, 258, 268.
- Van Reenen, S. 237, 238, 239, 246, 250, 252, 258, 260, 265, 357.
- Van Reenen, W. 238, 239.
- Van Rensburg, H.J. 429.
- Van Rensburg, J.J. 228.
- Van Rhen 115.
- Van Rhyns Pass 113.
- Van Rhynsdorp 69, 72.
- Van Rooyen, G. 214, 221.
- Van Royen, Widow G. 423.
- Van Ryns Hoek 248.
- Van Staden, H. 221, 423.
- Van Staden R. 20, 31, 32, 60, 97, 122, 215, 216, 419, 347.
- Van Warmelo, H.J. 315.
- Van Wyk, A. 115, 117.
- Van Wyk, G. 117.
- Van Zyl, P. 251, 258.
- Van de Graaff, Governor 18, 34, 103, 320, 325.
- Van den Berg, A. 198.
- Van der Hyl, Mrs. C.L. 333.
- Van der Heever, J. 249, 265.

- Van der Heever, P. 265.
 Van der Merwe, C. 193.
 Van der Merwe, C. (Davidsz.) ~~194~~ 291.
 Van der Merwe, D. 193, 292.
 Van der Merwe, D. (Davidsz.) 194.
 Van der Merwe, K. 182.
 Van der Stel, Governor 9, 51, 86, 102, 109, 282.
 Van der Stel, W.A. 128.
 Van der Walt, H. 192, 226, 426.
 Van der Walt, J. 295.
 Van der Walt, J.P. 192.
 Van der Walt, T. 192.
 Van der Westhuizen, Widow 353, 354, 359.
 Varon, C. 339, 353.
 Vaud, (Vaux), Pays de 324.
 Vedder, H. 315, 353.
 Vegetation 97-99, 120, 123, 196.
 Veld deterioration 167, 183, 197, 198, 232, 254.
 Veld, sour & sweet 167.
 Veldburning 167.
 Veldakoendraers 358.
 Velloor Kuppen 267.
 Venter, Widow H. 291.
 Venterstad 281.
 Ver Gesigt Poort 281, 287.
 Verkeerde Vlei 119, 183, 246, 299.
 Verlaten Kloof 119, 246.
 Vette R. 228, 229.
 Vette Vlei 221.
 Vetwater R. 61.
 Victoria West 25.
 Victorin, J.F. 147.
 Vinke R. 148.
 Vis Hoek 242.
 Vischers-hoek 243.
 Vissers Hok 251.
 Vlekpoort R. 279.
 Vlucht, de 84.
 Voetpadskloof 248.
 Vogel R. 199, 201, 344, 348, 349.
 Vogelfont. 301.
 Volcanic action 95, 160, 166, 372, 374, 389, 392, 396, 398, 399, 400, 402.
 Volcano 301, 348.
 Volkers R. 356.
 Von Dehn, B. 419.
 Von Humboldt, A. 97, 411.
 Von Prehn, H.J. 173, 417.
 Von Winckelmann, P. 258.
 Von Zittel, K. 416.
 Voorberg 341.
 Vrede, Vreede 144, 187, 290, 297.
 Vredendal 112, 251, 259.
 Vrolyke R. 55.
 Vrouwen R. 55.
 Vuilkop 189, 290, 335.
W.
 Waay Hoek 383.
 Wagenboom, Wagenbooms R. 29, 148, 152, 219, 363.
 Wagemakers Vlei 181, 387.
 Wagenpads Poort 292, 384.
 Waggon Drift 54.
 Wagondrift 216.
 Walvis Bay 239.
 Wansa R. 44, 45-53.
 Wambad 136, 267, 351, 358.
 Warmwatersberg 234, 246
 Warping 245.
 Was, Wasch R. 224, 428.
 Water Valley 144.
 Waterford 39, 344.
 Waterval 85, 264.
 Wave action 38, 75.
 Wave attack 78, 405.
 Waveren 182, ~~348~~ 387.
 Weather 89-94, 160-166, 196, 330-333, 369-371, 411-412.
 Weather records 160, 251.
 Weathering 76, 80.

- Webster 429.
 Welbedagt 116, 247, 248, 251.
 Welcomeswood 44.
 Welgelegen 29, 147, 220.
 Welgevonden 84, 85.
 Wellington 181.
 Welterreden 228, 384.
 Wentzel, C.D. 16, 56, 323, 325.
 Werner, A.G., Wernerians 389, 397.
 Wernich, J.W. 325.
 West Indies 103.
 Wheat 124, 196.
 White Kei R. 154.
 Whitehill 184.
 Whitson Berg 246.
 Wikar, H. J. 170, 250, 259, 303, 305, 307, 310, 311, 312, 313, 317, 354, 357, 358.
 Wilhelmina, Princess 285.
Willen de Vijfde 273.
 Willowmore 244, 384.
 Willows, The 292.
 Wilsonia 45.
 Wilton 207.
 Winkelmann, F. von 258.
 Winds 71, 89, 150, 161, 163, 322, 330, 331, 369, 370, 403, 411.
 Wind-borne sand 71.
 Windheuvcl 119.
 Windhoek Mt. 112, 268.
 Winterbergen 41, 51, 155, 156, 206, 279, 348, 389.
 Winterhoek 182, 383, 429.
 Winterhoeksberg 213.
 Wit Essche Bosch R. 30, 148.
 Wit Essen Boon R. 30.
 Witberg 27, 224.
 Witdraai 425.
 Witte R. 60, 425.
 Witte Els, Else 30, 146, 148, 245.
 Witte Else Drift 30.
 Witte Eschenboom R. 30.
 Witte Klip 126.
 Witte Water R. 184.
 Witteberg 246, 299, 396.
 Witteberg Series 76, 394, 397, 398, 399, 401.
 Witteklip 215.
 Wittepoort Kop 208.
 Witzenberg Pass 93, 182.
 Wolvecruals R. 28.
 Wolvefont., Wolvefont. 184, 207, 299, 344, 347, 383, 429.
 Wolvekraal 28.
 Wolwepoort 249.
 Wonderheuvel 292.
 Woodlands 36, 253.
 Woodville 425.
 Worcester 95, 398, 399.
Worcester 323.
 Worcester fault 152.
 Wyley, A. 397.
 Wynberg 162, 195, 419.

X.
 Xhosa 258, 343, 345, 346.

Y.
 Yellowwoods R. 44, 53.
 Yorke, J. 282.
 Yaternok 224.
 Yves, D. see Uys.

Z.
 Zibaka R. 52.
 Zabisies R. 305n.
 Zabras Font. 250.
 Zak R. 54.
 Zanddrift 146.
 Zanddrift R. 146.

- Zandplaat R. 223.
 Zandvlakte 253,254.
 Zandvliet 254.
 Zebra Font. 224.
 Zeekoe 31,61.
 Zeekoe Bad, Baart 309,310.
 Zeekoe Gat, Zeekogegat, 229,
 289.
 Zeekoe R. 31,60,121,157,
 194,202,203,217,276,277,
 285,292,293,295,313,384,
 385,388,395.
 Zeekoe Rivier (farm) 194.
 Zeekoe Valley 105.
 Zeekoemans 312.
Zeepaard 288.
 Zeolites 402.
 Zittel, K. von 416.
 Zoekop 117,301.
 Zoetemelksfont. 255.
 Zoetemelksvalley 120.
 Zoetendals Poort 186.
 Zoetendalsvlei 186.
 Zoetgeneugt 213.
 Zoetkloof 216.
 Zondag, M. 221.
 Zondag Riviers Hoek, 191,200.
 Zonder End R. 110.
 Zout (Dwyka) R. 185.
 Zoutkloof 216.
~~Zout Kloof R.~~ Zout Kloof R. 145.
 Zoute R. 186.
 Zoute Riviers Berg 187.
 Zoutkloof 216.
 Zoutpans Nek 207,215,344,
 347,383,429.
 Zululand 347,360,364.
 Zuurberg 344,347,421.
 Zuurberg Poort 243,384.
 Zuurbraak 229,230.
 Zuurbron 60.
 Zuurplaats 192.
 Zuurpoort 193.
 Zuurveld 255,257.
 Zwaarhoogte 256.
 Zwart R. 62,343,425.
 Zwart Doorn R. 113,248,249,384,385,
 403.
 Zwarte Heuwels 212.
 Zwarte R. 185,313. ^{299,}
 Zwarteberg 104,142,289,364,395,396,
 409. [^]
 Zwarthoogte 256.
 Zwartkops 32,215.
 Zwartkops Bay 212.
 Zwartkops R. 21,26,32,33,34,35,36,
 60,214,253,344,414.
 Zwartkops saltpan 69,110,127,132,
 157,214,253,287,344,416.
 Zwartkopsriviersdrift 214.
 Zwartvlei 425.
 Zwartwater R. 208.
 Zwellinggift 230.
 Zwellingrebel 113.

APPENDIX C, PART I.

TABLE OF ITINERARY COMPARISONS.

KLOOF THROUGH LANGE KLOOF TO AVONTUUR

EAST.

rn	Klip R.	Doorn R.	Ezelsjagt	Brakke R.	Matjes R.	Ganzekraal R.	Ruis R. at Eenzaamheid	Molen R.	Diep R.	Keurbooms R. (ford of)	Wolvekraal & Potjes R.	Avontuur
th	Klip drift R.	Doorn R.	R. Kamper, Eselsjagt									
		Groote Doorn R.		Brakke R.			Jacobus Buys			Keurbooms R.		Matthijs Zondag
s			Rulof Comhor where Lange Kloof begins									
						Hendrik van Staden	Jacobus Buys		Widow Gerrit van Royen	Jacobus Botha, Keurbooms R.	Nicolaas Prinsloo	Matthys Zondag
	Klippen-drift R.	Groote Doorn R. G. Scheepers	Spruit of Brakke R. Roelof Kamfer	Brakke R.	Matjes R.	Ganzekraal, Hend. van Staden	Jan Buys	Murage R.	G. van Rooyen, road to hot springs	Keurbooms R. Jacob Bota the elder	Nic Prinsloo	Matth. Zondag
	Klipp drift R.	G. Doorn R.		Brak R. start of Lange Kloof		Gantse Craal R.			Diep R.	Keurbooms R.	Pot or Chamika R.	Kukoi R. Avonture
	Klipp R.	Dorn R.	Ezelsjagt (I.211)	Brack R. (II.54)	Matjes Kloof, start of Lange Kloof	Gans Kraal, van Stade's	Buys		Gert van Roijens near Diep R.	Teunis Bota where the valley divides	Hans or Hannes Olofson. (II.55,97) Wolvekraal (I.211)	Matthew Zondag
r t	Muysekraal or Saffraan R.			Lange Kloofs R.	Matjes R. end of Cannaland	Ganscraal R.		Modder R.	Diepe R.	Keurbooms R.	Wolvecraals R.	

Position of the names of
and Muysekraal rivers
1776.

WEST

MODERN IDENTIFICATION	Hagelkraal	Paarde Kraal by Molen R.	Paardekop by Kamma R.	Safranekraal	Safraan R.	Moeras R.	Klein Moeras R.	West trib. of Kandelaars R.	Steep west bank of Kandelaars R.	Kandelaars R.	Klein Doorn R.	Groot Doorn R.
J. VAN REENEN 1790		Klyne Paerde Kraal	Groote Paerde Kraal	Savraana Kraal			Was R.					
GORDON MAP 3	Hagel Kraal	Kleine Paerde Kraal	Groote Paerde Kraal						Canna Lands Hoogte			Sand R. w/ farmhouse nearby
MULLER & HOLTSHAUSEN 1782-83			Groote Paerde Kraal			Moeras R.				Canna Lds		
PATERSON 1777 & 1779 Two journeys	Hagal Kraal				Saffron R.				Channa Lands Height			Okker Hyn
VAN PLETTENBERG 1778												
SWELLENGREBEL 1776	Hagelkraal D. Marcus	Kleyne Paardekraal	Groote Paardekraal	Safraankraal, een ordinaire uytspanplaats	Safraan R.	Modder R.	Wasch R.	Kleyne Cannaland-sche R.	Cannaland-sche Hoogte	Grote Cannand-sche R.	Kleyne Doorn R.	Okker Hyn Muyskraal Zandplaat
SPARRMAN 1775 & 1776 Map & text	Hagelkraal Dirk Marcus		Paardekraal a small river	Zaffraankraal, an irrigated farm		Morass R.			Cannas Hoogte	Ca	Kleindorn R. trib. of Zandplaat R.	Zandplaat R.
THUNBERG 1772 & 1773 Two journeys	Dirk Marcus near Hagelkraal		Groote Paarde-kraal	Zaffraan Kraal					Cannas-hoogte			Aker Heint (II.53) Groote Doorn R. (I.211)
BEUTLER 1752 Map & text	Widow Hasewinkel, Hagelkraal		Paarde Kraal		Saffaen R.	Moeras R.						Klipbanks Klippendrif R.

Note the transp the Klippendrif between 1752 and

ITINERARY COMPARISONS.

BY THE LANGE KLOOF & KROMME RIVER
TO TWO STREAMS.

EAST.

Rivier	By Wagenbooms River 2 miles below Joubertina	Wagenbooms R. at Joubertina	Twee Rivieren	Elandafontein	near Kammebos?	Jagerbosch	Melkhout-kraal	Assegai-bosch	Essenbosch	Two Streams
eel R.	Drie Font. perhaps named wrongly in map & text	Wagenbooms R.	perhaps the Driefontein he maps and mentions	Elands Font.		Jagers Bosch				
om's el R.		Wagenbooms R.	Olivier's west of Drie R.	Elands F.		Jagersbosch			Essenbosch	
dom at eel R. tentot e here.		Kritzinger, west bank of Wagenbooms R.	O. Olivier Twee R.			Jagers Bosch, Thom. Ferreira but occupied by his son Ignatius				C.T. Vermaak Twee Font. at the corner of Elseboschberg
graft, rivier, jdom hers.		Wagenboomsriv. Andries Kritzinger	Olivier Drie R.	Elands Font.		Jagers-bos, Ferreira		Hassegaai-bos		Jakobus & Widow du Plessis Twee Fonteynen, Essebos-berg
ydrom		Kritsinger				Jagerbosch, Thomas Ferreira			Essenbosch, Jacobus Vermaak	
Graaf, rjdom.	Onverwagt, Piet Nieuwkerken		3 Riviere, Piet du Pree	Elands Font. Hercul. du Pree		Jaagersbosch, Thom. Ferreira			Eschenbosch, Jac. Vermaak	
thys ydom	Pieter Cornelis van Nieuwkerken			Andries du Preez		Thomas Ferreyra			Essenbosch, Jan Schols	
m at the ning of rivier	Nieuwkerke		Drie Fontynen	Elandsfonteyn abandoned by And. Dupre			Melkhoute-bosch		Eschenbosch J. Scholtz	
el R.		Wagenbooms R.	Drie Fonteyns		Witte Els		Melkhout R.		Essen-bosch	
eel R. new dung's	Peter Nickert's, Onverwagt.	Waagenbooms R.	Henry Kruger	Andrew de Pre		Thomas Frere			Essebosch	
ne R.		Trib. of Groene R. and last in Lange Kloof.	Three spruits of Pannekoeks R.		Witte Eschenbosch or Witte Eschenboom R.		Melkhoute-bosch		Eschenbosch	

Onverwagt was probably an alternative
to the present position of Joubertina.

WEST.

TABLE OF I
FROM AVONTUUR THROU
VALLE

MODERN IDENTIFICATION	Avontuur	Near Vye-kraal	Welgelegen	Groot R. at Haarlem	Ongelegen	Roodekrans R.	Misgund Diep R.	Stream at Nieuwe-plaats	Stream at Grootplaats on farm Klipheuvel	Louterwater R. on farm Klip Drift	House north of Louterwater R. on farm Klip Drift or Louterwater.	Kraker
THEUNISSEN 1823 Map & text	Avontuur			Groot R.	Ongelegen	Roode Krans Riv.	Misgund		Klipheuvel	Aapjes R.	Louterwater	Krak
BURCHELL 1814 Map	Avontuur Matthys Zondag		Welgelegen Michiel Heinz's	Groote R.	Jan Heinz's	Roode Krans Riv.	Ignace Ferreira		Klipheuvel (misplaced?)	Aapie R.	Rademeyers on north side of Aapie R.	Stryd Kraker
DE MIST 1803-1804	Avontuur M.Zondag	Widow Heinse	De Rietvalleij				Ign. Ferreira Misgund Diep R.		St.Ferreira Klipheuvel	Aapies R. named after a Hottentot.	Veld Cornet C.Rademeyer, Louterwater.	Strid Kraker A Hottentot
LICHTENSTEIN 1803-1804 Map & text	Avontuur Matthias Zondag								Stephanus Ferreira, Klipheuvel		Veldkornet Rademeyer, Louter Water	Dooder Kraker Strid bro
GEN.JANSENS 1803	Matthijs Zondag						Ignatius Ferreira		Stephanus Ferreira		Veldcornet Rademeyer	St
FRIDERICI'S MAP 1789-90	Avonture Mattys Zondag		Welgeleegen aan Ried Val. Widow Heinze		Ongeleegen Klyne R. Widow Heinze	Roodekrans R.	Piet Ferreira Diep R.		Steph. Ferreira, Klippendrift	Aapie R. Joh.Voslow		Dooder Mat.S
VAN PLETTENBERG 1778	Matthys Zondag	Widow Hijns					Pieter Ferreira, Diepe R.				Johannes Olof.	Mat St
SWELLENGHEBEL 1776	Matth. Zondag	Widow Heyns	Rietvalley source of Cauja R.		Veepest of Widow Heyns Kleyne R.	Roodekrans Riviertje	Diepe R. B.Veirera just west of it.	Harte-beest R.	Kleyne Aapjes R. & Verreira 10 minutes west of it.	Klippendrift or Groote Aapjes R.	Joh.Oelofse (R.L.R. 23 p.217)	Stryd begin Groen
SPARRMAN 1776 & 1776 Map & text	Kukoi R. Avonture	Klein Riet Valley R.	Groot Riet Valley R.		Klein R.	Grants R.	Dieu R.	Klein R.	Kleinapjes R.	Gr.Apies R.	Klipdrift	Krak
THUNBERG 1772 & 1773 Two journeys.	Matthew Zondag						Peter Frere Misgunst Diep R.		Stephanus Frere	Aapies R.	Klipp-drift	Krak Ma Stre
BEUTLER 1752 Map & text			Lange Rietvalleys R.		Moordenaars R?		Diepe-gats R.		Kruys R.	Klipriviertje		Gro

⊙ The route through On to the one through t