THE FICTION OF SCARCITY: CONCEPTUALISING SCARCITY IN TERMS OF GLOBAL JUSTICE

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Abstract

This thesis intends to contribute to the discourse on global justice as it pertains to resources, the distribution of resources, and the allocation of resources. The focus is on the concept of scarcity. I examine scarcity for how it is understood, interpreted, and applied in the literature on global justice. This thesis argues that scarcity lacks conceptual clarity in the discourse on global justice and argues that if scarcity is misconstrued, the consequences can be severe. Conceptual clarity is thus necessary to ensure that scarcity is properly referred to in the discourse on global justice so that scarcity is not erroneously used when justifications are sought for material deprivation and consequent human suffering. In the process, I will also examine how scarcity is used as a justification in instances of material deprivation and why this is problematic. Given the lack of conceptual clarity regarding scarcity, I argue that reliance on scarcity as justification may be erroneous. The conflation of absolute scarcity and relative scarcity may amount to a category mistake. This thesis purports to clarify scarcity conceptually in the context of global justice. In doing so, I recommend that a resource-centric approach to resource scarcity is adopted to accurately account for the scarcity status of resources. A resource-centric approach to resource scarcity based on a more nuanced understanding of scarcity avoids the potential category mistake. Such an approach ensures that material deprivation and consequent human suffering are not wrongfully attributed to scarcity.

Declaration

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Michelle Brotherton

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I dedicate this work to my parents who taught me who I am;
to my teachers who taught me what I know;
and to Buster who taught me to believe in myself and my ideas.

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List of Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
MPI	Multidimensional Poverty Index
TRIPS	Trade-related Aspects of Intellectual Property Rights
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Emergency Fund
US	United States
WFO	World Food Organisation
WHO	World Health Organisation
WTO	World Trade Organisation
WWF	World Wide Fund for Nature

INTRODUCTION

Imagine a world where there are not enough resources to meet basic human needs. Imagine a world without enough food to feed the hungry, without enough water to quench thirst, without enough resources to treat the ill and wounded. Imagine a world depleted of its resources, where the earth's provisions have run out or failed to keep up with human growth and development.

Tim Mulgan asks us to imagine such a world in his work, *Ethics for a Broken World*.[1] Mulgan imagines a future world where resources are insufficient to meet basic human needs and postulates that resources may become so scarce because of damage caused by humankind. Thomas Malthus also warned that the Earth's natural resources might not be able to keep up with the growing human population.[2] Malthus foresaw the population growing too fast for food production to keep up with demand.

The depletion of resources is a concern for political philosophy as issues of global justice are implicated by resource availability and resource distribution. The deprivation of resources necessary to meet basic human needs can result in poverty, hunger, illness, and a poor quality of life. Who is subjected to such circumstances is an issue of justice, and why some suffer material deprivation and not others is also a concern of justice. Jean-Paul Sartre holds that "the whole human development, at least up to now, has been a bitter struggle against scarcity."[3]

Concern over the amount of resources available to humankind is prominent in the global justice discourse.[4] Concern over scarcity of resources and how to manage such scarcity is not a new issue in political philosophy. However, scarcity is arguably subject to an outdated approach to resources. Views on resource availability and sustainability have changed since Malthus' argument that the world will not be able to sustain the exponentially growing population. Innovation and technology have developed means for resources to be used more effectively and efficiently and also for resources to be transported where needed or demanded. The movement of resources has increased significantly since Malthus' postulation. This

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[1] Mulgan, Tim. 2011, *Ethics for a Broken World*.

[2] Malthus, Thomas. 1798, *An Essay on the Principle of Population.*

[3] Sarte, Jean-Paul. 1976, *Critique of Dialectical Reason*, p.23.

[4] See Chapter 1 on global justice.

increased accessibility of resources lends itself to arguments beyond just the sustainability of resources, but also concerning the distribution of resources.

Imagine a world without enough food to feed the hungry, without enough water to quench thirst, without enough resources to treat the ill and wounded. Why are there not enough resources to meet these basic needs? Enquiring into the reason behind scarcity of resources demands an answer with more substance than a mere declaration that there is not enough. The amount of food, water, and medicine available is subject to human interference. People control, for example, how much food is produced, farmed, and cultivated. Therefore, insufficient resources need to account for more than the amount of resources available for it to be justifiable. For example, if there is a scarcity of medicine, it does not suffice to say that the medicine is scarce because there are not enough resources. Which resources? Are the raw materials necessary for the synthesisation of the medicine scarce? Or, is there another explanation for the scarcity of the medicine that cannot be attributed to the resource itself but other factors such as economics and politics?

Scarcity of resources is intuitively acceptable.[5] It seems as though there is not enough to go around. However, scarcity itself cannot be the cause and the consequence. Too often, the reason behind the supposed scarcity is neglected, overlooked, and not subjected to scrutiny. The discourse has deemed it acceptable to place scarcity at fault for material deprivation and subsequent suffering. Such a conclusion, however, is premature. Without knowing why scarcity came to be, reliance on scarcity as a justification for material deprivation is invalid. It is possible that the scarcity in question was created by the same party who wishes to use scarcity as a justification for the lack of resources to meet basic needs. For example, a country buys one million units of a vaccine. This country, however, has a population of three million. As a result, the vaccine is considered scarce. This country, responsible for the procurement of the resource (the vaccine), cannot justify insufficient resources by resorting to an argument that the resource is scarce.

We live in a world where there is waste and hunger within the same vicinity. As argued by Amartya Sen, a famine is not, by itself, evidence of insufficient resources:

[5] See Chapter 2 on scarcity.

> "A famine is the result of many people not having enough food to eat, and it is, by itself, no evidence of there not being enough food to eat."[6]

Homelessness is not, by itself, evidence of there not being enough resources for housing. Ill-health is not, by itself, evidence of a lack of health care services. There is a fundamental difference between there being insufficient resources to meet socio-economic needs and a lack of access to necessary resources due to inequality of distribution or allocation of resources.

Scarcity is traditionally regarded as an economic concept. Joseph Stiglitz holds that economics is the study of scarcity, and the study of how resources are allocated among competing users.[7] A resource is deemed scarce when the demand far outweighs the supply. While conventionally defined and attributed to economic discourse, the concept of scarcity has become a prominent feature of contemporary political philosophy as it relates to the distribution of resources. Specifically, scarcity is concerned with distributive justice. It is not only the amount of resources that is implicated by scarcity but also the distribution of these resources.

When considering resources, the concepts of deprivation and sufficiency are relevant, as examined by Paula Casal[8] and Harry Frankfurt.[9] Octavio Ferraz argues that insufficiency is understood as an absolute scarcity of resources, while inequality of resources only speaks to relative scarcity.[10] Jenny Edkins, who sees modernity as a cause of resource inequality, states, briefly and without much elaboration, that "[s]carcity in the general sense is a modern invention."[11]

This thesis seeks to provide a conceptual analysis of scarcity, which is currently ambiguous in the existing literature on distributive and global justice. The global justice discourse has neglected the issue of scarcity of resources. Scarcity of resources is either not addressed or accepted as an indisputable fact in the discourse on global justice. This insufficiency in the

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[6] Sen, Amartya. 2009, *The Idea of Justice*, p.390.

[7] Stiglitz, Joseph E. 2000, *Economics of the Public Sector*, p.61.

[8] Casal, Paula. 2007, "Why Sufficiency is not Enough", *Ethics*, 117(2): 296-326.

[9] Frankfurt, Harry. 2015, *On Inequality*.

[10] Ferraz, Octavio Luiz Matta. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review, 12:* 77-94, p.84.

[11] Edkins, Jenny. 2000, *Whose Hunger?* p.31.

discourse has led to scarcity becoming conceptually convoluted. Scarcity as a concept lacks clarity, and the conceptual ambiguity may result in scarcity being misunderstood or misinterpreted. My work will address this void in the discourse on distributive justice through reconceptualising scarcity in the context of global justice.

As resources are central to questions of global justice, scarcity of resources is equally relevant. Determining whether resources are in fact scarce, or in what way they are scarce, can impact the way resources are managed, allocated, and distributed. Furthermore, conflated understandings of scarcity may wrongfully recognise resources as scarce when they are not or recognise resources as abundant when they are in fact scarce. Scarcity is not a blanket concept that applies to all resources in the same manner, and I will show why.

The discourse on global justice requires conceptual clarity on scarcity in order to ensure accurate recognition thereof and proper handling of resources. The world has not unfolded in the manner that Malthus predicted. It should not simply be accepted that we are running out of resources necessary to meet basic needs. Such a claim requires investigation.

I seek to address this void in the discourse on global justice as it relates to resources. I think there is value in understanding scarcity as a concept. A more nuanced understanding of scarcity may affect how claims regarding the allocation and distribution of resources are grappled with. To do so, I will first look at how resources are central to issues of global justice, as well as expose the gap in the literature regarding scarcity. I will examine scarcity as generally understood and differentiate between absolute scarcity and relative scarcity. After that, I will examine scarcity in the presence of abundance and examine instances of fictitious scarcity. The concept of scarcity is possibly subject to a category mistake in the literature. This will be examined to determine how such a category mistake may occur and what consequences could occur as a result thereof. I will reconceptualise scarcity, arguing for a resource-centric approach to resources. I will also examine possible objections to my conceptualisation of scarcity. Lastly, the COVID-19 pandemic is considered in light of the issues raised and arguments made pertaining to scarcity. This is necessary given the impact of the COVID-19 pandemic on resources, and certain instances of scarcity under the COVID-19 pandemic illustrate the arguments made throughout the rest of the work.

The research question is what scarcity means conceptually as it relates to distributive and global justice. The starting point of this enquiry being the potential category mistake made when conflating relative and absolute scarcity, where relative scarcity is created by institutional arrangements and market forces that influence the distribution of and access to resources.

Aims and objectives of this research include:

a) *Provide an account of how scarcity is assumed and relied upon in the discourse regarding inequality of resources and distributive justice*

I seek to expose the void in the literature regarding scarcity. I will show that scarcity is often neglected or assumed as fact. The reliance on scarcity has consequences to the interpretation and application of theories of global justice and theories of distributive justice. Understanding how scarcity has been treated thus far in the discourse will enable my argument for a different approach to scarcity of resources to have more clout.

b) *Distinguish between resource insufficiency and resource inequality, and argue that there is not an insufficiency of resources but inequality in the distribution of resources*

As illustrated by the example of famine, resource inequality can be depicted as resource insufficiency or scarcity. I seek to answer whether resource insufficiency (or absolute scarcity) can be determined when resources are unequally distributed. Absolute scarcity, I argue, is not the same as insufficiency of resources and is created by economic and social institutions. Thus, it cannot be relied upon for the justification of failures to meet human needs or, in economic terms, meet demands of, in Rawlsian terms, primary goods.[12]

c) *Provide a conceptual analysis of scarcity in the current global socio-economic and political context*

While the practical considerations of understanding scarcity, especially in terms of relative and absolute, are relevant, they are not to be seen as barriers to the conceptual understanding thereof. I, therefore, seek to provide a conceptual analysis of scarcity, the application of which may very well be constrained by practical issues. However, that does not negate its potential

[12] Rawls, John. 1999, *A Theory of Justice*.

theoretical impact on the discourse on distributive justice and how resource inequality is examined.

My conceptual analysis seeks a definition of scarcity of resources within the context of global justice. To reach such a definition, I seek to determine if there are necessary and sufficient conditions regarding the concept of scarcity.

d) *Explain how this conceptualisation can contribute to arguments and justifications relying on resource scarcity*

I seek to show how my conceptualisation can be used to contribute to the arguments seeking greater social and distributive justice. My research provides a contemporary understanding of scarcity in the context of globalisation and the strong interrelationship between economic and political power – which is ever-increasing in the trajectory of globalisation. I seek to demonstrate how my conceptualisation should and should not be used in the discourse on distributive justice. Such a conceptual analysis of a term that is often used but not clearly nor consistently defined can potentially alter the theoretical reliance on the concept of scarcity, especially with regard to justifying the failure to meet human needs and address circumstances of socio-economic crises.

I conceptually analyse scarcity within the scope of global justice, specifically distributive justice, as the practical implications of conceptual clarity on scarcity will influence arguments concerning the distribution or redistribution of resources. I also unveil the category mistake made by the conflation of relative scarcity and absolute scarcity.

I rely on analytical tradition to reconceptualise scarcity. I use analytical techniques to attain conceptual clarity of scarcity and use common experiences and ordinary language to analyse the concept of scarcity. I rely on the philosophical approach of carefully reading and scrutinising the existing literature relevant to my work, thinking and contemplating the relevant issues, and presenting my own conceptualisation of scarcity in response to the existing literature. I contextualise how it contributes to the discourse and how it can be used to further arguments and dismiss arguments in the field of social/distributive justice.

Chapter One considers the context of global justice as a foundation for the enquiry into the concept of scarcity. In an increasingly globalised world, the question of justice has become global. Chapter One examines global justice and the prominent theories in the discourse and the relevant theories in distributive justice. In doing so, key issues of global justice are also considered. These issues are important because they introduce the issue of resources as necessary to address these issues of global justice. This chapter aims to lay a theoretical foundation for the rest of the chapters so as to contextualise the issue in the global justice discourse.

Chapter Two examines scarcity as a concept. It begins to evaluate if scarcity is correctly referred to in the context of global justice. It seeks to show how scarcity is understood. Chapter Two also makes the key distinction between absolute scarcity and relative scarcity. This distinction is clarified through the use of examples and analogies. Chapter Two considers how scarcity can be created through the example of the diamond industry. By outlaying the differing understandings of scarcity, Chapter Two shows how scarcity is referred to in the literature regarding resources.

Chapter Three seeks to illustrate the illusion of scarcity through examples. Instances of scarcity in the presence of abundance are questioned. The first example encapsulating the argument in Chapter Three is that of food, famine, and hunger. The example of famines, in particular, is used to challenge how scarcity of food is viewed. The second example which Chapter Three relies on is access to medicines. This example is also used to challenge the way in which scarcity of resources is accepted and treated. The chapter shows how scarcity can exist in the presence of abundance, bringing into question both the understanding and approach to scarcity in the field of global justice.

Chapter Four evaluates whether scarcity is subject to a category mistake and, therefore, a logical fallacy in the literature of global justice and relevant distributive justice literature. Firstly, Chapter Four provides a conceptual analysis of scarcity. This is necessary to support any notion of a potential category mistake. Subsequently, the nature of a category mistake is examined. Chapter Four then considers whether scarcity is subject to a category mistake based on the distinction of relative scarcity and absolute scarcity. The literature is examined to determine if an assumption of scarcity is made, as such an assumption may amount to a category mistake.

Some issues of global justice considered in Chapter One are reconsidered in light of a more nuanced understanding of scarcity. Chapter Five argues for a resource-centric approach to scarcity, to avoid possible fallacies. Chapter Five also addresses potential objections to the argument that scarcity is subject to a logical fallacy and ultimately misunderstood. These objections include the issue of market freedom, practical limitations, and whether the conflation between absolute scarcity and relative scarcity is merely an issue of semantics. Chapter Five considers these objections and responds to them accordingly. Chapter Five also considers how a more nuanced understanding of scarcity may influence the approach to addressing issues of global justice.

Chapter Six addresses the COVID-19 pandemic. While most of these chapters were written prior to the COVID-19 pandemic, I felt it would be remiss of me not to address it. I felt a separate chapter would be most appropriate, as integrating the issue into my chapters may both detract from my argument on resources and may also not fully encapsulate the effect that the COVID-19 pandemic has had on the world. Thus, Chapter Six addresses the COVID-19 pandemic in light of the arguments made in the other chapters and issues raised throughout the work. Four key examples are used to illustrate the issue of scarcity under the COVID-19 pandemic: toilet paper, the global steel shortage, blood donations, and face masks. These examples are used to illustrate different aspects of the concept of scarcity and illustrate how the COVID-19 pandemic and resultant human reaction have influenced the appearance of scarcity. This chapter is supplementary to the rest of the work in that the COVID-19 pandemic also illustrates how resources can be reallocated.

Scarcity requires careful examination because of the far-reaching implication our understanding of scarcity can have on the management, allocation, and distribution of resources. Arguably, to avoid the world that Mulgan asks us to imagine, we need to know which resources are scarce and should therefore be protected from mismanagement or exploitation. Conversely, suppose certain resources are recognised not to be scarce. In that case, questions may arise as to why some people lack access to such resources or why deprivation of such resources is prominent among some people or in certain areas. Such questions are central to concerns of global justice.

Conceptual clarity of scarcity may uncover flawed justification for material deprivation. Such material deprivation, for example, may then be subject to stricter scrutiny when scarcity cannot be made the scapegoat. Responsibility for material deprivation or lack of access to resources may require re-examination if a resource is found not to be scarce. A more nuanced understanding of scarcity can affect how resources are managed, allocated, and distributed. Conceptual clarity on scarcity has the potential to address questions of global justice as it pertains to the resources necessary to meet basic human needs. Given the potential impact such conceptual clarity may have, it is fundamental that scarcity of resources is adequately addressed and properly approached.

The first chapter examines global justice and lays the theoretical foundations for the subsequent chapters. Global justice is the starting point of the enquiry into the concept of scarcity. Key issues of global justice are raised to introduce the issue of resources necessary for addressing these issues. This first chapter contextualises scarcity in the discourse of global justice.

CHAPTER 1: GLOBAL JUSTICE

> "Justice as ordinarily understood requires more than mere humanitarian assistance to those in desperate need, and injustice can exist without anyone being on the verge of starvation."[13]

Introduction

In an increasingly globalised world, the question of justice is no longer limited to national borders or citizenship. The increase of information-sharing has created awareness of suffering and conflict beyond our immediate communities. We are now faced with not only our own problems (such as those in our immediate vicinity) but also the problems faced by people globally. Arguably, as information is shared on a larger scale than before, and as resources are shared through the growing global economic market, the burden of problems that would ordinarily have only affected a few may now affect many.

As noted by Thomas Nagel, the concept of justice is intricate, and global justice ever more so.[14] Global justice cannot be achieved solely by charity or humanitarian aid – the issues lie deeper than such solutions can provide. This chapter considers what global justice is. I discuss how global justice is defined and understood in the discourse and why global justice matters to philosophers. In looking at why global justice matters, I briefly highlight some issues that global justice concerns itself with, such as global poverty, health inequalities, and the deprivation of fundamental human rights. I consider the work of Adam Smith, Ronald Dworkin, and Robert Nozick as their work is salient to addressing issues of resource distribution. Examining global justice is necessary in laying the foundation for making a case that scarcity of resources is assumed. I discuss John Rawls because I believe that he makes assumptions about the amount of resources available, hence, the usefulness of his views for arguments in chapters to follow.

My goal is not to rehash all the existing theories of global justice or to provide a critique of any theories but to provide a base for my arguments to follow. An understanding of global justice is necessary to understand the scope of this work and why it matters.

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[13] Nagel, Thomas. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, 33: 113–147, p.118.

[14] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.118.

What is Global Justice

Global justice concerns justice beyond the borders of sovereign states and extends across the globe. The question of social justice is relevant as new social orders emerge and expand globally. Theories intended for application in specific societies or sovereign states are being challenged by globalisation, defined by Joseph Stiglitz as "the removal of barriers to free trade and the closer integration of national economics".[15]

Global justice can be defined in various ways. Sujlan Guo describes global justice as the "pursuit of justice at a global level".[16] Global justice concerns justice among individuals across the world, not just individuals within a state. Thus, global justice is not concerned with state-on-state relationships but justice between individuals globally.

It then becomes necessary to distinguish global justice from international justice. Justice between states refers to the latter. International justice is concerned with entities and the justice between entities, such as states. Mathias Risse captures the point of difference in holding that "[i]nquiries into *global* justice differ from *international* justice precisely by not limiting inquiry to what states should do."[17]

Theories of global justice aim to provide accounts of what justice means on a global scale. As Chandran Kukathas recognises, global justice seeks to address issues of "just distribution of benefits and burdens across the world".[18] Allen Buchanan identified the protection of human rights as a duty of global justice.[19] Jennifer Ruger notes that the "experience of human life differs dramatically depending on where one lives in the world."[20] In considering the issues that global justice seeks to address, she notes:

> "One may be condemned to a fleeting and destitute existence simply by the morally arbitrary accident of birth location and no fault of one's own. Is there a duty owed

[15] Stiglitz, Joseph E. 2015, *The Price of Inequality*, p.ix.

[16] Guo, Sujian., *et al*. 2019, "Conceptualizing and Measuring Global Justice: Theories, Concepts, Principles and Indicators" *Fudan Journal of the Humanities and Social Sciences* 12: 511-546, p.515.

[17] Risse, Mathias. 2010, "Global Justice" *Harvard Kennedy School*, p.2, original emphasis.

[18] Kukathas, Chandran. 2006, "The Mirage of Global Justice" *Social Philosophy and Policy* 23(1): 1-28, p.1.

[19] Buchanan, Allen. 2004, *Justice, Legitimacy, and Self-Determination: Moral Foundations for International Law*, p.45.

[20] Ruger, Jennifer Prah., & Ng, Nora Y. 2014, "Global Justice" *Bioethics* 4:1353 -1362, p.1353.

> universally to all persons or is duty confined within associative boundaries of communities or nations? What is the extent of this duty – how much help must be given? To whom do duties belong? Theories of global justice seek to address these questions."[21]

The idea of global justice is rooted in cosmopolitanism.[22] Cosmopolitanism holds that all human beings are members of a global community.[23] In this regard, the obligations imposed by virtues of justice are not limited to people within a state or to people who share citizenship.[24] Luis Cabrera further notes that in light of cosmopolitanism, obligations regarding the distribution of resources are not limited to distribution within state borders.[25]

Gillian Brock provides for a cosmopolitan account of global justice.[26] She proposes a model of global justice "that allows us to address not only matters of global distributive justice but other global justice issues as well."[27] Brock argues for a "needs-based minimum floor principle"[28] which she argues would enable social and political arrangements to protect and secure opportunities to meet one's needs and enjoy one's basic liberties.[29] Brock's approach aligns with Amartya Sen's capability approach in that Brock holds that people ought to have decent opportunities and be able to meet their basic needs.[30]

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[21] Ruger, Jennifer Prah., & Ng, Nora Y. 2014, "Global Justice" *Bioethics* 4:1353 -1362, p.1353. Under international law it is recognised that there are duties to respect, protect and fulfil human rights. The origin of this tripartite typology is from the work of Henry Shue. He referred to the duty to avoid depriving, to protect from deprivation and to aid the deprived in Shue, Henry. 1980, *Basic Rights, Subsistence Affluence and US Foreign Policy*. This approach was then adopted by the United Nations Committee on Economic, Social and Cultural Rights in General Comment No. 12: *The Right to Food (art 11)* UN Doc E/C. 12/2999/5.

[22] Cabrera, Luis. 2004, *Political Theory of Global Justice: A Cosmopolitan case for the World State* p.28-30.

[23] James, Paul. 2014, "Political Philosophies of the Global: A Critical Overview" *Globalization and Politics* 4, p.x.

[24] Cabrera. 2004, *Political Theory of Global Justice: A Cosmopolitan case for the World State*, p.1.

[25] Cabrera. 2004, *Political Theory of Global Justice: A Cosmopolitan case for the World State*, p.1.

[26] Brock, Gillian. 2009, *Global Justice: A Cosmopolitan Account*.

[27] Brock. 2009, *Global Justice: A Cosmopolitan Account*, p.45.

[28] Brock. 2009, *Global Justice: A Cosmopolitan Account*, p.45. See also Sen, Amartya. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*.

[29] Brock. 2009, *Global Justice: A Cosmopolitan Account*, p.45.

[30] See Sen, Amartya. 1982, "Equality of What?" in Sen, Amartya, *Choice, Welfare and Measurement*, p.4.

Brock also addresses reasons why some may be sceptical about the feasibility or even desirability of global justice.[31] Amongst her reasons, she highlights, as many others recognise, the lack of global institutions and authorities that can act on, enforce and promote global justice. She also highlights the difficulty in motivating parties to act on issues of global justice or to take steps towards global justice "when this requires sacrifice and runs counter to perceptions of self-interest."[32] Those who benefit from current global injustice and are in a position of power to act or affect change are unlikely to do so as it may be to their immediate detriment.

As Brock argues, in responding to critiques of her account being too minimal, global justice should seek to ensure that everyone can enjoy the prospects of a decent life.[33] This requires that people are "enabled to meet their basic needs, basic liberties are protected, and there are fair terms of co-operation in collective endeavours."[34] As such, social and political institutions need to operate in a manner that enables the realisation of a "decent life". Brock defends her account of global justice against critiques of being too minimal by emphasising the need for practical feasibility of implementation or realisation of the account.

While global justice may be intuitively appealing, and its roots in cosmopolitanism may follow given the rate of globalisation, it is still necessary to question why we should concern ourselves with such theories, why we should care about global justice. As Bruce Landesman poses:

> "Should we have a more equal world? Should we have a world in which everyone can provide for their basic needs and have their basic rights protected? Should we have a world in which people are roughly equally well off regardless of where they live? Or is the global inequality that now exists, or some ameliorated version of it, morally acceptable and just?"[35]

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[31] Brock. 2009, *Global Justice: A Cosmopolitan Account*, p.325.

[32] Brock. 2009, *Global Justice: A Cosmopolitan Account*, p.325.

[33] Brock, Gillian. 2009, "Concerns about *Global Justice*: A Response to Critics" *Journal of Global Ethics*, 5:3, 269-280.

[34] Brock. 2009, "Concerns about *Global Justice*: A Response to Critics" *Journal of Global Ethics*, p.269.

[35] Landesman, Bruce. 2011, "Global Justice" in Chatterjee, Deen K (ed.), *Encyclopedia of Global Justice*, p.421. See also Okeja, Uchenna. 2017, "Introduction: Globalizing or transcending Global Justice?" *Philosophical Papers,* 46:1, 1-11.

Why is global justice something that we should concern ourselves with? Many theorists grapple with this question. I believe it becomes more apparent when looking at the specific issues with which global justice concerns itself such as global poverty, health inequalities, and environmental issues, to name a few. It is therefore also salient for theories of global justice to question the reason behind global injustice.

Charles Beitz approaches this question by asking whether global inequality matters, for inequality is often at the centre of injustice.[36] He examines reasons for why we should care about global inequality that is not rooted in purely egalitarian values but in issues with poverty and material deprivation.[37] Beitz seeks to determine whether there is a reason we should be concerned with global inequality apart from the "idea that social inequality is, per se, a bad thing."[38] He concludes that the best and morally most compelling reason to be plagued by global inequality is because of the consequences of material deprivation. Thus, according to Beitz, we could care about global inequality, not because we think inequality is fundamentally bad, but because inequality resulting in material deprivation is not morally acceptable. Examples of material deprivation could be lack of access to housing, food insecurity, access to health care, and socio-economic deprivations.

In the discourse on global justice, the work of Thomas Pogge and Thomas Nagel feature prominently in the discourse. Nagel captures the concern of global justice in the following way:

> "We do not live in a just world. This may be the least controversial claim one could make in political theory. But it is much less clear what, if anything, justice on a world scale might mean, or what the hope for justice should lead us to want in the domain of international or global institutions, and in the policies of states that are in a position to affect the world order."[39]

Nagel recognises the "facts of inequality"[40] in the world and proceeds to ask how we should respond to these facts. Similarly to Beitz, who argues that we should care about the injustices not just because of inequality, Nagel holds that we should care about issues such as poverty not

[36] Beitz, Charles. 2001, "Does Global Inequality Matter?" *Metaphilosophy*, 32: 95-112.

[37] Beitz. 2001, "Does Global Inequality Matter?" *Metaphilosophy*, p.97.

[38] Beitz. 2001, "Does Global Inequality Matter?" *Metaphilosophy*, p.97.

[39] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.113.

[40] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.118.

just because we are concerned with global justice, but because it is a basic duty of humanity[41] "to provide humane assistance to those in desperate need."[42]

Nagel identifies that there are two conceptions of global justice: cosmopolitanism and a political conception.[43] Under cosmopolitanism, the pursuit for global justice derives "from an equal concern or a duty of fairness that we owe in principle to all our fellow beings".[44] Under the political conception of global justice, according to Nagel, justice is to be understood and viewed as a political value. The political conception provides that "justice is something we owe through our shared institutions only to those with whom we stand in a strong political relation."[45] Under the political conception, Nagel thinks that given the lack of global justice follows from the fact that there is a lack of global sovereignty and a lack of global institutions able to enforce or promote global justice.[46] Nagel focuses on both theoretical and normative questions closely tied to practical questions about the pursuit of global justice. He recognises that some of these questions are questions about institutions that do not exist or do not *yet* exist.[47]

Nagel concludes that the "path from anarchy to justice must go through injustice."[48] He explains that he does not think global structures of power can exist in the interests of any other but the most powerful nations, at least initially. Only when such a system collapses or is

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[41] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.118.

[42] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.118.

[43] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.119.

[44] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.119.

[45] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.121. Nagel elaborates:

> "On the political conception, sovereign states are not merely instruments for realizing the preinstitutional value of justice among human beings. Instead, their existence is precisely what gives the value of justice its application, by putting the fellow citizen of a sovereign state into a relation that they do not have with the rest of humanity, an institutional relation which must then be evaluated by the special standards of fairness and equality that fill out the content of justice." p.120.

[46] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.121 – 122.

[47] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.113.

[48] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.147.

democratically (on a global scale) apprehended may they exist in the interest of global justice.[49] While pessimistic, Nagel may be right in so far as the practical development of global institutions that influence governance which could hinder or further global justice. It does seem unlikely that institutions may arise in the interests of those suffering from global inequality when the power and resources to pursue redistribution lies with those who benefit from the current global order.

Pogge's contributions to the discourse on global justice are predominantly concerned with the issue of global poverty. Pogge recognises the persistent increase in global inequality since its 'creation' in the colonial era. Pogge's work greatly captures the extent of global inequality and its implication for the pursuit of global justice. He argues:

> "For the first time in human history it is quite feasible, economically, to wipe out hunger and preventable diseases worldwide without real inconvenience to anyone – all the more so because the high-income countries no longer face any serious military threat."[50]

Pogge is concerned with questions around globalisation regarding human rights duties and responsibilities, whether a global democracy is feasible or even desirable,[51] and what role tax justice can play in such issues of global poverty and injustice. Pogge further argues for institutional arrangements to change in a manner to mitigate against biases and prejudices that create inequalities, especially those manifested by history.

According to Pogge, there are three morally significant reasons why poverty and global injustice is an issue affecting everyone, rich and poor:

1) everyone stems from the same world history which caused the current world order;
2) everyone is reliant on the same resource base; and
3) everyone co-exists in the same economic system or market.[52]

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[49] Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, p.146.

[50] Pogge, Thomas. 2001, "Priorities of Global Justice" *Metaphilosophy* 32 (1/2):6–24, p.14.

[51] Brock, Gillian., & Pogge, Thomas. 2014, "Global Tax Justice and Global Justice" *De Gruyter*, 1: 1-15, p.2.

[52] Brock. & Pogge. 2014, "Global Tax Justice and Global Justice" *De Gruyter*, p.14.

Therefore, Pogge holds that global justice theories need to be sensitive to international social and economic inequalities.[53] In this regard, he proposes a global resources tax as an instrument to control international inequality.[54] A global resource tax would recognise that states own and control their own resources within their territory, but it will be taxed on any resources extracted. A global resource tax would essentially then be taxation on consumption and would provide access to basic amenities and services to the global poor.

Pogge argues that because developed countries impose a coercive global order on the poor, and this global order arguably results in foreseeable and avoidable harm, these countries have, according to Pogge, a responsibility to reform the global order to address such harm.[55] Resource and borrowing privileges allow leaders of states to sell natural resources and borrow money in the name of the state. This, according to Pogge, plays a vital causal role in perpetuating inequalities. A global resource tax would diminish this abuse of power and provide a means of rectification for past injustices that have resulted in present-day inequalities.

Pogge holds that the global elite is withholding resources from the global poor through political and economic power.[56] Pogge takes a human rights-based approach for poverty reduction and global economic reforms. He is also very concerned with the protection and conservation of natural resources and sustainable development in light of global warming:

> "This is the task that should now command serious interdisciplinary and political attention: the task of designing in full detail, and presenting a comprehensive justification for, a global funding mechanism that would produce massive environmental and conservational gains through its revenue collection as well as massive poverty reductions through its targeted expenditures. Achieving such a mechanism would slow depletion of natural resources and the deterioration of our environment while also greatly reducing the huge unjust burdens now imposed on the world's poor."[57]

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[53] Pogge, Thomas. 1994, "An Egalitarian Law of Peoples" *Philosophy and Public Affairs*, 23 (3), 195–224, p.195.

[54] Pogge. 1994, "An Egalitarian Law of Peoples" *Philosophy and Public Affairs*, p.200.

[55] See Pogge, Thomas. 2002, *World Poverty and Human Rights*.

[56] Pogge, Thomas. 2011, "Allowing the Poor to Share the Earth" *Journal of Moral Philosophy*, 8: 335-352, p.335.

[57] Pogge. 2011, "Allowing the Poor to Share the Earth" *Journal of Moral Philosoph*y, p.352.

Pogge relies on John Rawls' difference principle in arguing for collective responsibility.[58] He holds that such principles consist of a subset of principles that apply to the global economic order. Duties bind all that participate. His Global Resource Dividend rests on the principle of collective responsibility.

Pogge is prominent in the current discourse as he focuses on the global world order and the interrelationships between states. He recognises that the circumstances of poverty are not caused solely by the state in which it exists but by other states which extract, export, and exploit its resources. Pogge is cognisant of the fact that there are power imbalances both politically and economically which affect the distribution of resources globally. He is not ignorant that some poor countries have resources they themselves do not have access to because of a lack of purchasing power in the global economic market. It is on this basis that Pogge argues for his Global Resources Tax and Global Resources Dividend. This work is predominantly concerned with his understanding of the imbalance in access to and availability of resources. Pogge does look to the reasons for these inequalities – something few of those seeking to address inequality tend to do. His work in this regard is valuable in providing insight into how power and privilege play into poverty and injustice in the context of resources.

Amartya Sen does not seek to conceive what a perfectly just society would look like but instead seeks to determine how we can make society more just. In doing so, Sen develops his capability approach, which, according to him, is an extension of Rawls's primary goods in "shifting attention from goods to what goods do for human beings."[59] The capability approach focuses on a person's capabilities – their ability to do things they value.

Sen's theory recognises four critical sources of variation:[60]

1) personal (age, gender, sex, etc.)
2) diversities in the physical environment (temperature, flooding, etc.)

[58] Midtgaard, Søren Flinch. 2012, "On Thomas Pogge's Theory of Global Justice: Why We Are Not Collectively Responsible for the Global Distribution of Benefits and Burdens between Individuals" *De Gruyter*, 12: 207-222, p.208.

[59] Sen, Amartya. 1982, "Equality of What?" in Sen, Amartya, *Choice, Welfare and Measurement*, p.4.

[60] Sen, Amartya. 2009, *The Idea of Justice*, p.255.

3) variations in the social climate[61]

4) Relational perspectives (patterns of behaviour in a community, customs, etc.)

Sen emphasises the relationship between resources and capabilities, recognising that one may be without value if not for the other.

Thomas Malthus held that hunger due to scarcity would lead to starvation, famine, and death.[62] He predicted that the population would exceed the planet's resources, resulting in scarcity with devastating consequences. In *Poverty and Famines*, Sen dismissed this rhetoric of scarcity in the context of food and hunger, showing that it is not a scarcity of food resources that results in famine.[63] Sen's renowned work on famine recognises specifically that poverty and famines may result not from food supplies decreasing, but because social and economic determinants lead to hunger and starvation.[64] Pertaining to this issue, with regard to capabilities, Sen notes: "[i]t is, of course, quite a different matter to recognise that inequality and poverty are associated with each other, and to note that a different distribution system may cure poverty even without an expansion of the country's productive capabilities."[65]

Again, Sen makes clear the relationship between capabilities and resources, not just in the case of the individual but in the case of states. A lack of capability such as diminished or non-existent purchasing power, for example, could significantly impact the health or access to food of a country, despite the resources being physically available.

Sen is cognisant of the social and economic determinants which affect access to resources. His work appreciates the difference between lack of resources and lack of access to resources. Sen thereby recognises the determinants of access to resources and the inequalities manifested

[61] "[T]he conversation of personal resources into functioning is influenced also by social conditions, including public healthcare and epidemiology, public educational arrangements and the prevalence or absence of crime and violence in the particular location. Aside from public facilities, the nature of community relationships can be very important". Sen. 2009, *The Idea of Justice*, p.255.

[62] Malthus, Thomas. 1798, *An Essay on the Principle of Population.*

[63] Sen, Amartya. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.39.

[64] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.39.

[65] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.15.

in these determinants, such as different purchasing powers between states and how this affects access to food via the global market.

Sen is cognisant of the inequalities that exist regarding access to resources and puts that it is due to these inequalities that access to some resources is denied to some, resulting in devastations such as famine. Although Sen does not dismiss the causal link of scarcity in its entirety, he acknowledges that it is not scarcity that creates poverty. It is hereby evident that Sen distinguishes between scarcity in the absolute sense and relative scarcity – where he refers to inequality.

In arguing that famine results from many people going hungry, but famine is not in itself evidence of lack of food availability,[66] Sen has provoked work in the discourse of global justice and distributive justice to look at resource inequalities differently. It is indeed this argument that provoked my interest in the field. I wish to take this line of argument by Sen further. It may apply to more than just food, but to resources generally or theoretically, as it provides a basis from which to dismiss scarcity in the relative sense. It affords a foundation from which to argue that there has, but for Sen's work, been a general category mistake made in the way scarcity is relied upon regarding resources and inequality of resources.

Sen, an economist, notes the causes of the inequalities – much like Pogge. He does not just state that there are inequalities, but he grapples with the causes thereof and the market power imbalances, political influences, and economic power. This is fundamental in his reasoning. It provides evidence to show that other determinants such as the socio-economic climate influence access to resources, and it is not just a matter of availability of resources.

Like Sen, Darrel Moellendorf seeks an account of transcendental justice, not 'perfect justice.'[67] As Sen argues:

> "[C]omparisons of societies that already existed or could feasibly emerge, rather than confining their analyses to transcendental searches for a perfectly just society. These focusing on realization-focused comparisons were often interested primarily in the removal of manifest injustice from the world that they saw."[68]

[66] Sen. 2009, *The Idea of Justice*, p.390.

[67] Sen. 2009, *The Idea of Justice*, p.162.

[68] Sen. 2009, *The Idea of Justice*, p.7 See also Moellendorf, Darrel. 2013, "Transcendental institutionalism and global justice" *Critical Review of International Social and Political Philosophy*, 16:2, 162-178, p.163.

In light of this, Moellendorf argues that global justice should seek to address the issues of injustice in the world and not just provide accounts of "perfect justice."[69]

What then are the issues of global justice? What issues should global justice concern itself with, especially in an approach put forward by Sen and supported by Moellendorf? This next section briefly examines the major issues of global justice to provide content for the discussion on scarcity to follow.

Issues of Global Justice

Issues of global justice, considering the definition and understanding of global justice discussed above, concern injustice on a global scale. Such injustices generally stem from global inequalities. While inequality and injustice are not synonymous, inequality can be a source of injustice. Inequality, however, is not the sole 'issue' of global justice. Material deprivation results in hunger, food insecurity, lack of access to water, lack of access to housing, and ultimately poverty. Issues of refuge and immigration are of concern of global justice, as is access to physical space. These issues all ultimately concern the realisation and protection of human rights. The environment and sustainable development are also critical concerns of global governance. The matter of global governance is prominent in the discourse of global justice because it is questionable how global justice can be achieved without global sovereignty or a global form of governance.[70] However, world poverty and global health are probably at the forefront of concerns regarding global justice due to the grave human suffering experienced as a result of poverty and ill-health or lack of access to health care.

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[69] Moellendorf. 2013, "Transcendental institutionalism and global justice" *Critical Review of International Social and Political Philosophy*, p.162.

[70] See Nagel. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*.

The Sustainable Development Goals of 2015,[71] which seek to "ensure that all human beings can enjoy prosperous and fulfilling lives"[72] reflect some of the major global problems reflective of global justice issues. The goals include ending poverty; ending hunger and addressing food insecurity; ensuring health for all; guaranteeing inclusive and equitable education for all; achieving gender equality; provide for sustainable management of water and sanitation; "[p]romote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all"[73]; promote sustainable development and industrialisation; reduce inequality between countries; make cities and settlements safe and inclusive; promote responsible consumption and production; take action on climate change; marine and water conservation; land conservation; promote access to justice for all; and strengthen "global partnership for sustainable development".[74] Given the Sustainable Development Goals, there seems to be some global consensus on some pertinent global issues. Issues of global justice that feature prominently in the discourse reflect this. I want to highlight the following issues as issues of global justice that have a bearing on scarcity for the chapters to follow.

[71] United Nations Sustainable Development Goals para 54 of United Nations Resolution A/RES/70/1 of 25 September 2015. As paragraph 55 of the Resolution provides:

> "The SDGs and targets are integrated and indivisible, global in nature and universally applicable, taking into account different national realities, capacities and levels of development and respecting national policies and priorities. Targets are defined as aspirational and global, with each government setting its own national targets guided by the global level of ambition but taking into account national circumstances. Each government will also decide how these aspirational and global targets should be incorporated in national planning processes, policies and strategies. It is important to recognize the link between sustainable development and other relevant ongoing processes in the economic, social and environmental fields."

[72] United Nations Sustainable Development Goals para 54 of United Nations Resolution A/RES/70/1 of 25 September 2015.

[73] Goal 8 of Sustainable Development Goals.

[74] Goal 17 of the Sustainable Development Goals.

Poverty

There are approximately 724 923 201 people in the world currently living in extreme poverty.[75] According to the World Bank, extreme poverty is anyone living on less than $1.9 per day.[76] Given the current global population of approximately 7 787 622 282 people, roughly one in 10 people in the world live in extreme poverty. Although poverty is often discussed in monetary terms, quality of life is an important consideration.

The United Nations Development Programme (UNDP) has recently begun to refer to "multidimensional poverty" which is not solely related to income but refers to material deprivations such as drinking water, access to electricity, and toilet facilities. According to the UNDP, multidimensional poverty indicators include nutrition; child mortality; years of education; cooking fuel; sanitation; drinking water; electricity; and housing.[77] Deprivation of these can amount to people living in poverty, even if their income may be higher than the set poverty line. The UNDP recognises that:

> "[P]overty entails more than the lack of income and productive resources to ensure sustainable livelihoods. Its manifestations include hunger and malnutrition, limited access to education and other basic services, social discrimination and exclusive, as well as the lack of participation in decision-making."[78]

Environment

Referring to the United Nations Framework Convention on Climate Change of 1992, known as the 'Paris Agreement,' Marcelo Santos captures why environmental issues are issues of global justice: "a global agreement on climate change comprises normative challenges which entail a fair distribution of responsibilities and costs, and is, therefore, a matter of global justice."[79]

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[75] World Data Lab, <https://worlddata.io/> (accessed 10 November 2020).

[76] World Bank <Worldbank.org/en/topic/poverty/overview> (accessed 10 November 2020).

[77] United Nations <Un.org/en/sections/issues-depth/poverty/> (accessed 10 November 2020).

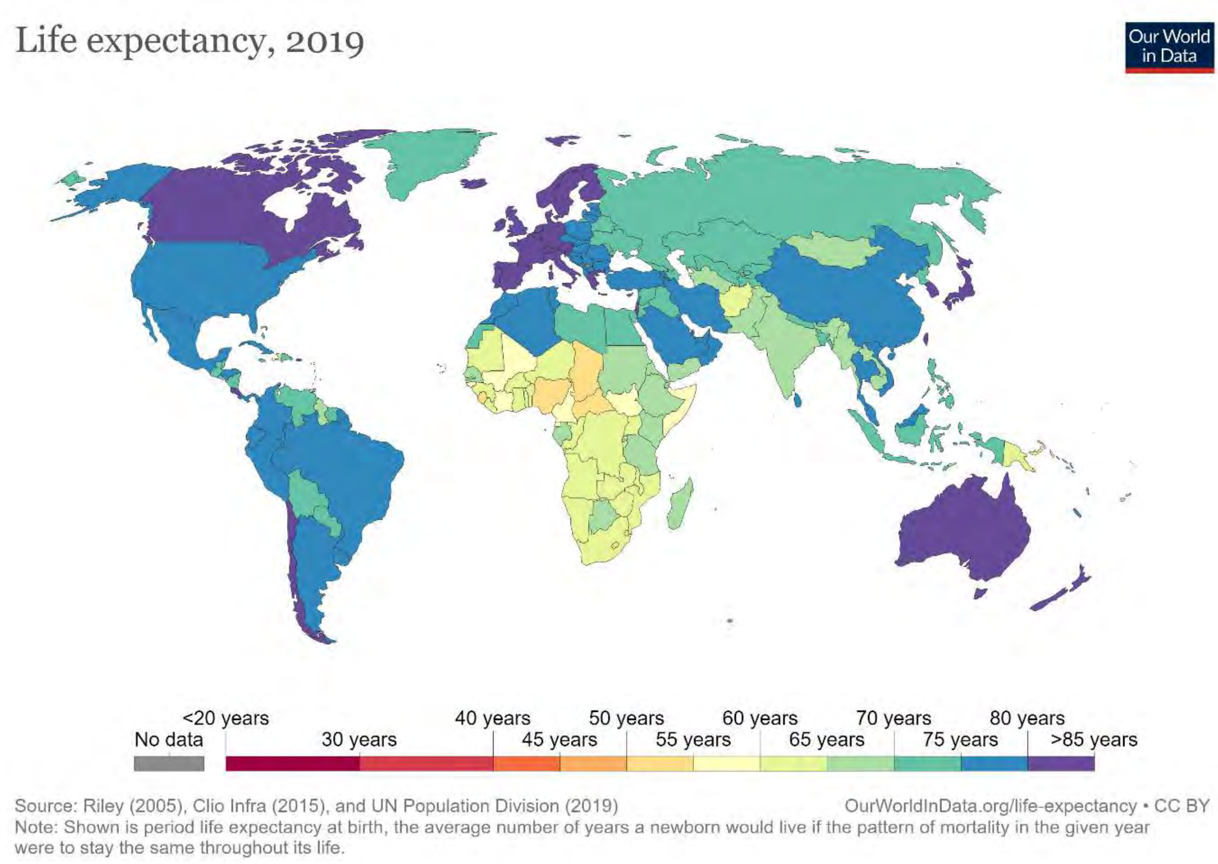
[78] United Nations <Un.org/en/sections/issues-depth/poverty/> (accessed 10 November 2020).

[79] Santos, Marcelo. 2017 "Global and Environmental Governance: Analysis of the Paris Agreement" *Revista Brasileira de Politica Internacional* 60(1): 1-18, p.2.

While environmental justice has its own realm, branching into substantive environmental justice and procedural environmental justice, environmental justice issues are also issues of global justice. Issues such as climate change, conservation, pollution, and sustainability are matters of global justice.

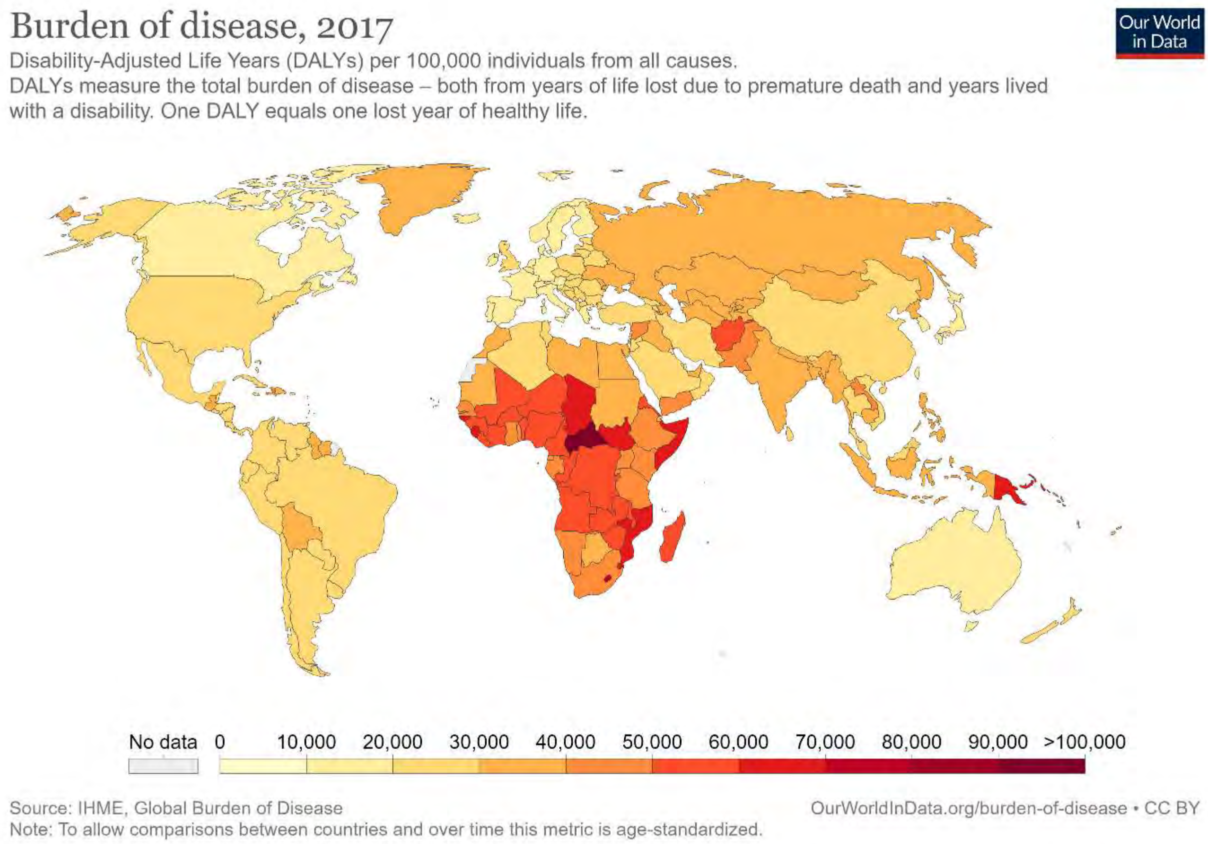
Health

The World Health Organisation (WHO) recognises health as vital for the enjoyment of life. Ill-health affects our ability to enjoy life and good quality of life.[80] Inequalities in health are a source of injustice. Inequalities in life expectancy, infant mortality, and burden of disease (among others) are all examples of issues of global justice concerning health.



[80] Ortiz-Ospina, Esteban., & Roser, Max. "Global Health" <www.ourworldindata.org/health-meal> (accessed 10 November 2020).

The map above illustrates inequality in life expectancy globally. There is a correlation between the wealth of a country and life expectancy. Persons living in wealthier countries have a higher life expectancy.

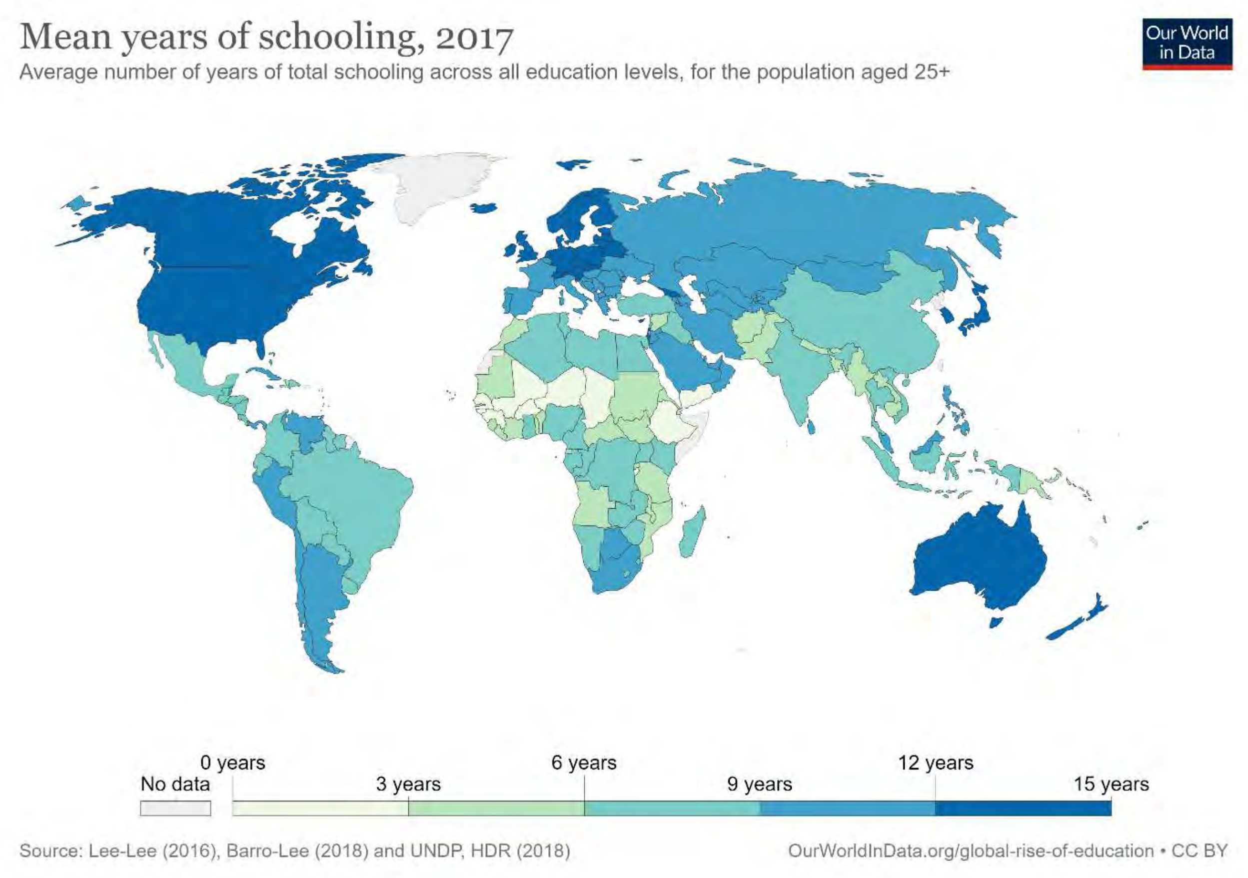


The map above illustrates the burden of disease born by each country. Again, inequalities are reflective of the economic wealth of a country. Additionally, the burden of disease correlates to an extent with the life expectancy of a country. The higher the burden of a disease a country has, the lower the life expectancy.

These are issues of global justice. We should not simply accept that this is just the way things are. Instead, we need to question why these differences exist. Issues of global justice concerning health are especially pertinent as human suffering and demise are the consequences thereof.

Education

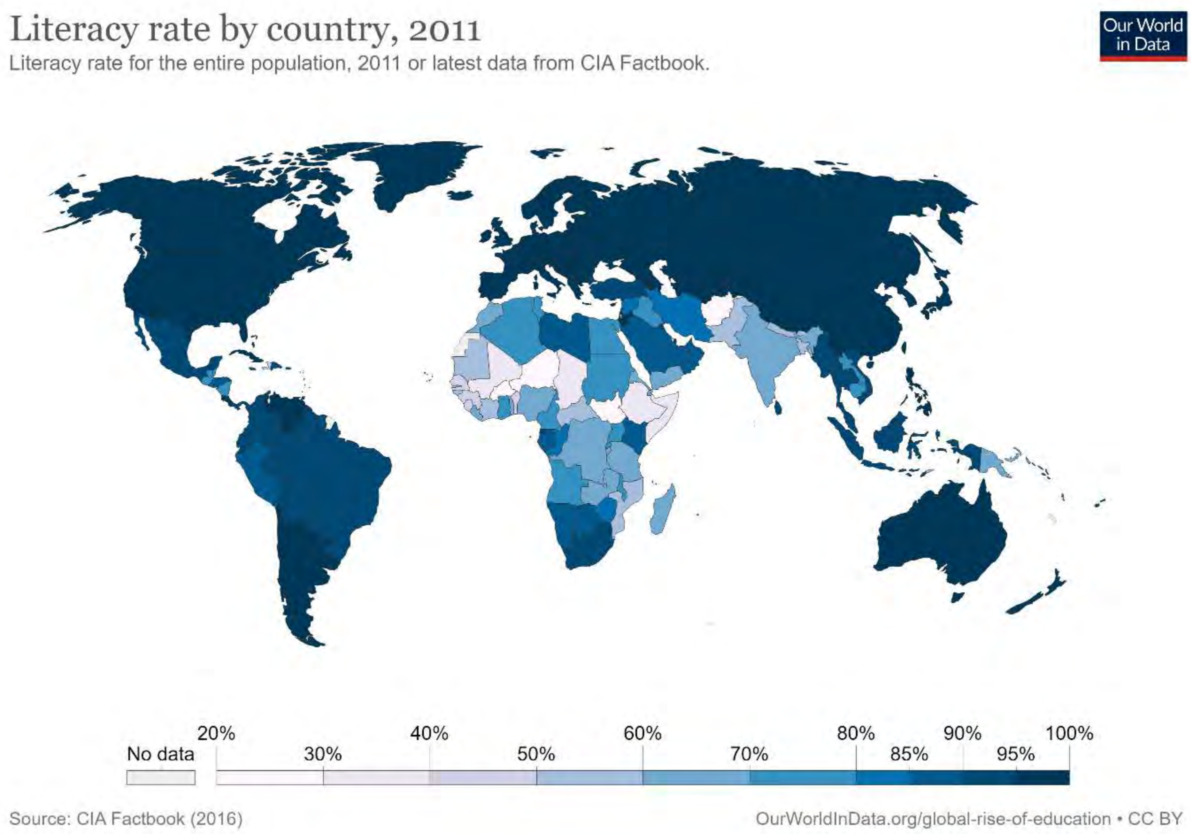
The World Bank recognises that: "[e]ducation is foundational for countries' growth, productivity, and development; for individual and family incomes and welfare; for improved health outcomes []; for active participation in civics and political life; for social cohesion and active participation of individuals and societies in the global economy."[81] Education is recognised as a basic human right that is essential to fulfilling other human capabilities. The United Nations Educational, Scientific and Cultural Organisation (UNESCO) identifies literacy as a "key skill and key measure of a population's education".[82] Years of schooling directly influence literacy rates.



[81] World Bank, *Ending Learning Poverty: What Will It Take?* p.7.

[82] Our World In Data <Ourworldindata.org/global-education> (accessed 10 November 2020).

The map above illustrates the average number of years of total schooling. This is related to literacy rates.



In comparing the two maps, there is a correlation between the number of years of schooling and the literacy rate of a country. Literacy rate is an important indicator of the overall education level or access to education available in a country. The World Bank has recorded that "at least 53% of all children in low- and middle-income countries are not able to read proficiently by age 10 – or even at age 12".[83] Where literacy rates are low and where the number of years of schooling is low, countries are impacted economically on an individual and national level; there are consequences on health, political participation, and social cohesion.

[83] World Bank, *Ending Learning Poverty: What Will It Take?* p.7.

Space

Questions of global justice related to space often concern issues of national borders and immigration. Should states have complete control of their borders and control over who they let in? How do we prevent discrimination in immigration? Do states have responsibilities to people seeking refuge?

Yukinori Iwaki holds that there are two overarching dimensions in the requirements for a decent life: time and physical space.[84] Population growth is sometimes blamed for deteriorating living conditions. Yet, there is more than enough physical space in the world for the global population, even as it increases. Many lives could be significantly improved merely by an increase in physical space. Why? Overcrowding or overpopulation can cause a decline in living conditions; services may be put under strain, and the burden of disease may increase.

The average population density in the world is 25 people per km². However, there is a staggering difference between countries. Bangladesh, for example, has a population density of over 1252 people per km².

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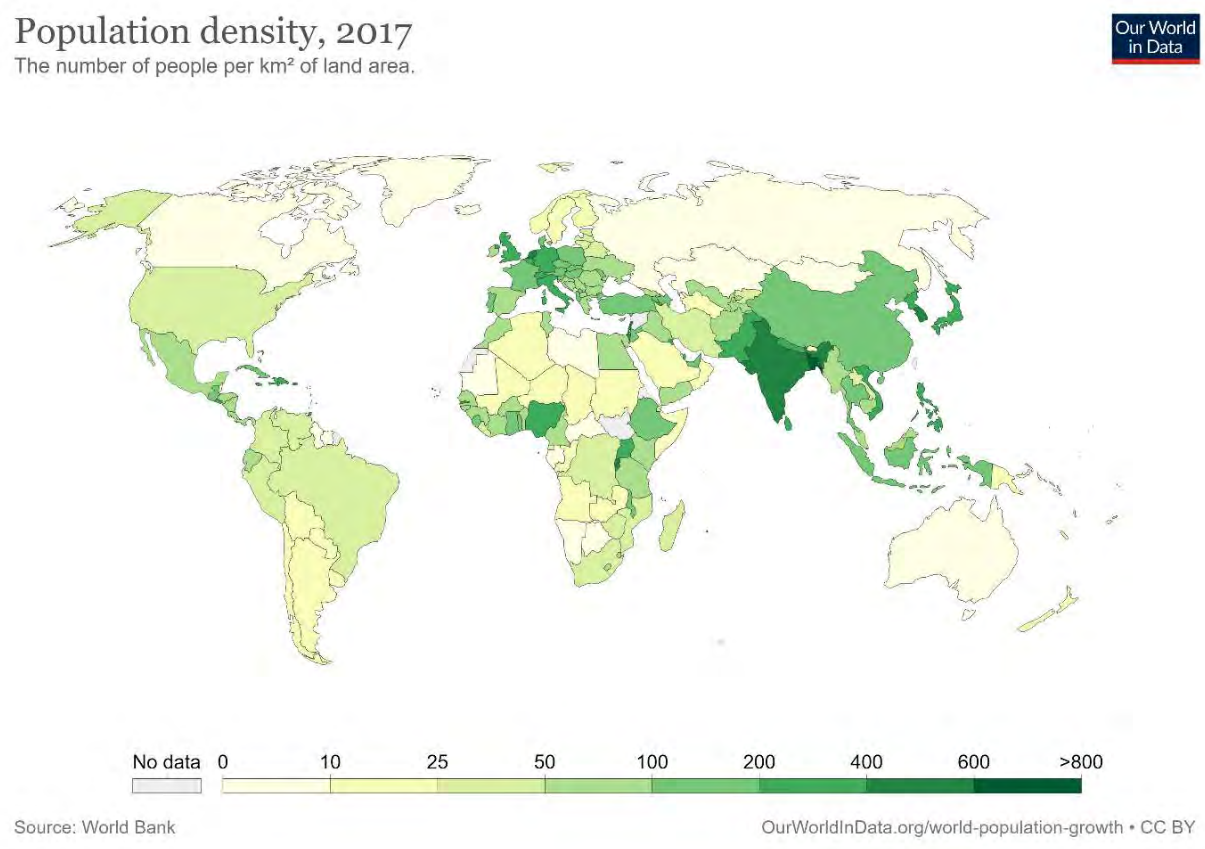
[84] Iwake, Yukinori. "Human Time, Ecological Space, and Global Justice" <http://www.sps.ed.ac.uk/jwi/research/current_projects/human_time,_ecological_space,_and_global_justice> (accessed 10 November 2020).



The map above illustrates the disparities in population density across the globe. Global justice arguably needs to address global cohabitation – the idea of sharing physical space and resources.

Natural resources

In the context of natural resources and physical space, Brock points out:

> "Accounts according to which we have equal rights to resources, land, ecological space and so on, are often accused of suffering from an important common problem. It is difficult to defend a clear and compelling account of the value of resources as these can vary considerably in different social, cultural and technological contexts. But we need to be able to quantify resource values to some plausible extent, if we are to determine whether people are enjoying or exceeding their equal shares."[85]

[85] Brock, Gillian. *Global Justice*, <plato.standford.edu/entries/justice-global> (accessed 10 November 2020).

Natural resources are arguably a contentious issue of global justice. Who owns natural resources? Are states entitled to the resources within their countries? How do we address past exploitation of natural resources? How many natural resources do we have? How do we preserve natural resources? Who should benefit from the natural resources? How can just distribution be ensured? These questions are becoming increasingly important in the context of globalisation. There is significantly less limitation on the movement of resources than there was a few decades ago. How does this affect our 'sharing' or distribution of resources? What are the market implications?

Scarce resources are sometimes interpreted as naturally scarce resources. However, when concerning natural resources, there are natural resources that are subject to absolute scarcity and natural resources that are subject to relative scarcity. There is a difference between naturally scarce resources, and natural resources which are not subject to relative scarcity. An example of a naturally scarce resource would be gold and also aluminium. These resources are limited to what exists in the earth. Once those resources are depleted then there will be no more gold to mine. Another example would be fossil fuels. Fossil fuels are non-renewable sources of energy. Their non-renewable nature means that when the resource is depleted, there will be no more of that resource left to use. Unlike gold, fossil fuels are used and cease to exist when used, whereas gold is mined and made into various things, but it does not cease to exist. These are examples of natural resources that are subject to absolute scarcity by virtue of there being a finite amount of the resource in existence and the inability for more to be created.

This differs greatly from natural resources, such as plants, fruits and vegetables, that are natural in the sense that they exist naturally but are not subject to absolute scarcity in the same manner that minerals and elements found in the earth's surface are. Plants, fruits and vegetables can be farmed, cultivated, and produced. The number of a given plant, fruit of vegetable in existence is not only subject to nature, but also subject to the economic laws of supply and demand. Undoubtedly there may be some plants, fruits and vegetables that are more scarce than others due to factors such as climate, soil, water and such, but these can still be affected by human intervention to some degree. A distinction must be drawn between natural resources that are scarce in the absolute sense, and natural resources that may only be subject to relative scarcity due to human intervention. Robert Halvorsen and Tim Smith refer to the former as "exhaustible natural resources"[86] which captures this point adequately.

Natural resources, such as elements and minerals found in the earth's surface are distributed unevenly across the world. A reoccurring question in political philosophy is who owns the natural resources. This question falls outside of the scope of my enquiry. However, it remains important to note that this is an issue because of the financial gain attached to natural resources. Natural resources, or exhaustible natural resources, are also contentious in this regard in the field of global justice and particularly distributive justice among theorists arguing for redistribution of resources or compensation for the unequal distribution of natural resources, such as Pogge.[87] David Miller criticises redistributive principles on the ground that the value of a resource to a particular society cannot be determined.[88] Therefore, without knowing the value of a resource, it cannot be determined whether people have an equal share of natural resources or not. Miller holds:

> "The value of a natural resource depends upon the technical skills and knowledge of the people who intend to use it. Uranium-bearing rock had no value until very recently: no one knew how to extract the uranium, and no one would have been able to think of a use for it even if they had."[89]

Thus, according to Miller, the value of a natural resource to a society is instrumental in the consideration of the distribution of natural resources. A country may have a scarcity of a particular resource, but if that resource is of no value to the people of that country, then the scarcity of that resource is insignificant.

Ultimately the concern regarding natural resources, and in particular exhaustible natural resources, is that they will be depleted by human consumption and result in absolute scarcity. As Tim Hayward notes:

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[86] Halvorsen, Robert., & Smith, Tim R. 1984, "On Measuring Natural Resource Scarcity" *Journal of Political Economy*, 92:5, p.956.

[87] See Pogge. 1994, "An Egalitarian Law of Peoples" *Philosophy and Public Affairs*, p.200; Pogge. 2002, *World Poverty and Human Rights*.

[88] Hayward, Tim. 2006, "Global Justice and the Distribution of Natural Resources" *Political Studies*, 54, p.350.

[89] Hayward. 2006, "Global Justice and the Distribution of Natural Resources" *Political Studies*, p.350.

> "The last two centuries have seen unprecedented growth in human population and economic well being for a good portion of the world. This growth has been fed by equally unprecedented natural resource consumption and environmental impacts, including conservation of large portions of the natural world to human use, which have prompted recurring concern about whether the world's natural resource base is capable of sustaining such growth."[90]

Because the issues of global justice concern resources and particularly natural resources, distributive justice becomes relevant. When looking at the distribution of resources and distributive justice, assumptions about the amount of resources that there are available to distributive becomes relevant. This next section will consider resources and distributive justice to lay the foundation for how assumptions of scarcity are made in consideration of resources.

Resources and Distributive Justice

To understand how ambiguous the concept of scarcity is within the context of global justice, resources and their distribution are to be considered. This somewhat presupposes the existence of an economic market – which is essentially a political institution and should therefore be subjected to the scrutiny of theories of justice. The global context of inequality and the impact of market forces complicate the pursuit of social or distributive justice. The ambiguity around the concept of scarcity further hinders arguments for distributive justice. Scarcity is used to justify market indicators and the needs for resources, but scarcity remains conceptually ambiguous despite the strong reliance placed thereon. Onora O'Niell argues that a "just global order would have to consist of institutions whose underlying principles do not neglect human, including material needs under actual conditions."[91]

Economic theory is fundamental to the issue of distributive justice. Adam Smith is thought to be the "father of economics"[92] as he laid the foundations for classical free market economic

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[90] Krautkraemer, Jeffery A. 2005, "Economics of Natural Resource Scarcity: The State of the Debate" *Resources for the Future*, p.5.

[91] O'Niell, Nora. 1986, *Faces of Hunger: An Essay on Poverty, Justice and Development*, p.149.

[92] Sharma, Rakesh. 2019, "Adam Smith: The Father of Economics" *Investopedia*, <https://www.investopedia.com/updates/adam-smith-economics/> (accessed 10 October 2019).

theory through his work on the division of labour and on how self-interest and competition can lead to economic prosperity.[93]

Smith's laissez-faire economics was embraced during the industrial revolution. Through *The Wealth of Nations*, Smith sought to provide an economic alternative to mercantilism[94] which opposed free trade.[95] Smith advocated for his position, arguing that such a commercial system would be in the interests of all and to the betterment of all people in society due to increased labour and thereby increased wealth.[96] Similarly to David Hume, Smith recognises the self-interest inherent in the actions of humans.[97] Smith holds that a free market is to the betterment of the community *because of* the self-interest of individuals as "[i]t is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own self-interest."[98] Thus people use their advantages or skills to further their self-interests, thereby driving a commercial system based on labour for reward. Simply put, Smith asserts that the baker, for example, is only a baker by trade because it furthers their own self-interest. The baker does not bake to share their talent out of generosity or goodwill. The market thus exists to further self-interests.

Although assumed otherwise due to his commercial theory, Smith is critical of the rich:

> "Men may live together in society with some tolerable degree of security, though there is no civil magistrate to protect them from the injustice of those passions. But avarice and ambition in the rich, in the poor the hatred of labour and the love of present ease and enjoyment, are the passions which prompt to invade property, passions much more steady in their operation, and much more universal in their influence. Wherever there is great property there is great inequality. For one very rich man there must be at least five hundred poor, and the affluence of the few supposes the indigence of the many. The affluence of the rich excites the indignation

[93] Smith, Adam. 1776, *The Wealth of Nations.*

[94] Mercantilism refers to an economic trade system which was common in the 16th, 17th, and 18th centuries. Mercantilism increased imports but restricted exports and thus did not allow for free trade. States would often rely on military force of threat to protect supply markets, reinforcing the idea that the state's wealth was dependent on its supply of capital (as opposed to, for example, purchasing power). Bloomenthal, Andrew. 2019, "Mercantilism" *Investopedia*, <https://www.investopedia.com/terms/m/mercantilism.asp> (accessed 20 November 2019).

[95] Smith. 1776, *Wealth of Nations*, Book IV: i, p.539.

[96] Smith. 1776, *Wealth of Nations*, Book I: viii, p.36.

[97] Hume, David. 1739, *A Treatise of Human Nature*.

[98] Smith. 1776, *Wealth of Nations*, Book I: ii, p.2.

> of the poor, who are often both driven by want, and prompted by envy, to invade his possessions."[99]

His criticism is tied to his belief that wealth is related to one's labour, and that the 'system' should not be manipulated.

Smith's metaphor of the 'invisible hand' depicts that a free market consisting of persons acting in their self-interest would deliver the best socio-economic outcomes. Smith does not mean that individuals are necessarily selfish, but that regarding market relations, when motivated by self-interest such as their well-being and that of their family, a free market would deliver better socio-economic circumstances than one driven by some broader conception of the good.[100]

John Rawls argues for justice as fairness and understands injustice as inequality that is not to the benefit of all. Rawls holds:

> "All social values – liberty and opportunity, income and wealth, and the social bases of self-respect – are to be distributed equally unless an unequal distribution of any, or all, of these values is to everyone's advantage."[101]

The above outlines his theory of justice as fairness. His theory consists of two fundamental principles, which, according to Rawls, only apply to the basic structure of society – the basic structure of society being the political institutions and the primary economic and social arrangements. His reasoning behind the principles applying to these is because people are born into these institutions, these institutions are not chosen.

Rawls creates a hypothetical scenario called the original position in which his principles of justice are developed by having people choose them in this original position. People in the original position are free, equal, rational[102] , and self-interested.[103] In the original position, people are behind a 'veil of ignorance'. The people in the original position do not know their place in society, their class, their natural assets or liabilities, their conception of the good, their

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[99] Smith. 1776, *Wealth of Nations*, Book V: ii, p.766.

[100] Smith. 1776, *Wealth of Nations*, Book II: i, p.852.

[101] Rawls. 1999, *A Theory of Justice*, p.54.

[102] Rawls. 1999, *A Theory of Justice*, p.123.

[103] Rawls. 1999, *A Theory of Justice*, p.103; 112.

ambitions in life, the features of the psyche, the details of their society, the generation they belong to, or any other details about themselves such as gender, sex, race, origin, or age.[104] In this position of ignorance, they choose principles under which they are happy to live with the consequences, whatever the facts of their personal circumstances turn out to be.

Rawls assumes that people in the original position will choose conservatively because of the limited amount of information, thereby protecting themselves against the worst possible outcome. The two principles of justice that Rawls deduces from his thought experiment are:

1) each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others
2) social and economic inequalities are to be arranged so that they are both to the greatest benefit of the least advantaged; and attached to positions and offices open to all under conditions of fair equality of opportunity.[105]

While the first principle concerns basic liberties, the second principle ultimately consists of two parts. Firstly, it provides for fair equality of opportunity. The second part of the second principle is known as the difference principle. It concerns the distribution of income and wealth, positions of responsibility and power, and the social basis of self-respect. The difference principle holds that inequalities in the aforementioned are only permissible if such inequalities benefit the least well-off in society.[106]

So if given,

option a) everybody gets one apple

or

option b) some get five apples, but everyone gets at least two

Rawls would opt for option b) or rather argue that people in the original position would pick option b) because the worst off would be in a better position under unequal distribution than they would under equal distribution. According to Rawls, everyone is better off by the

[104] Rawls. 1999, *A Theory of Justice*, p.118.

[105] Rawls. 1999, *A Theory of Justice*, p.52-53; 107.

[106] Rawls. 1999, *A Theory of Justice*, p.66; 67; 68.

inequality, and it is, therefore, rational.[107] Rawls contends that people in the original position would prefer more primary goods than less, primary goods including rights and liberties, powers and opportunities, income and wealth, and self-respect.

Rawls holds that issues pertaining to justice only arise in certain circumstances, those of moderate scarcity and conflicts of interests. Pertaining to moderate scarcity, Rawls refers to scarcity of resources as well as questions of distribution.

Regarding Rawls's claim that questions regarding justice arise in certain circumstances, such as those of scarcity, I do not disagree. It is in circumstances of inequality, inequity, unfairness, and societal imbalance in which we question the nature and scope of justice. Much focus is placed on the meaning of justice, with little to no attention given to the need for such an enquiry (which would be the causes of the unfairness, inequity, inequality, etc.). While this focus may be argued to be a proactive approach, it is necessary to consider whether a conception of justice can be determined if the causes of the injustices seeking to be addressed are not adequately identified.

Rawls's difference principle supports inequality if it is to the benefit of the least well-off in society. Above, I have explained that Rawls holds that people in the original position would choose inequality over equality if it would mean that everybody would be better off. While this line of reasoning is sound in terms of his argument, Rawls does make one assumption on which the difference principle rests: that there is a limited amount of resources. It may be the case that given the example of something like apples above, the difference principle works. For even if apples could be grown continuously and indefinitely, there will always at any one time be only x number of apples to divide up between y number of people. The difference lies in the assumption of scarcity of resources. However, if we remove the assumption of scarcity of resources, the options in the difference principle change:

option a1) everybody gets one apple, forever

or

option b1) some get five apples, but everyone gets at least two, forever

[107] Rawls. 1999, *A Theory of Justice*, p.68; 133; 138.

Given these options, it is not as intuitive that people in the original position would choose option b1. The lifetime of inequality poses different consequences than a once-off distribution. People may also then be inclined to assess their needs and capabilities – how many apples do they need, and would they be able to save some.

Rawls relies on the difference principle to argue that inequality is rational if it is to benefit even the least well-off in society. This notion of inequality, however, rests on the condition of a limited supply of resources. The principles of justice chosen in the original position would arguably be different if an assumption of scarcity of resources were not to be made.[108]

It is essential to note the time at which Rawls wrote. Things were different in 1958 when he wrote *Justice as Fairness*. The industrial revolution, together with globalisation, has exponentially increased humans' ability to make and move resources. Resources are not limited to where they originate from or where they are made. They are not limited to a natural occurrence, as is the case with synthetic diamonds which will be discussed in Chapter Two. Rawls's conceptualisation of moderate scarcity took place in a world where access to resources was fundamentally different than it is today. One cannot know if Rawls would have stood by his difference principle had he witnessed the levels of inequalities experienced today. Given the change in circumstances and growing inequality, it is necessary to revisit theories such as Rawls's in the current context. Specifically, where assumptions regarding scarcity or abundance of resources fundamentally affect the conceptualisation of justice, analysis is necessary as, arguably, a category mistake may be present in the discourse.

Ronald Dworkin's conception of justice centres around the idea of equal concern.[109] Dworkin holds that everyone should be able to carry out their conception of the good. To do so fairly or justly, people require equal resources. Dworkin thus argues for equality of resources, but if inequality of resources arises from individuals' choices, Dworkin does not deem that inequality to be unjust.[110]

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[108] Many have criticised Rawls' difference principle as well as assumptions made by Rawls regarding the choices that people would make in the original position. See Sandel, Micheal. 1998, *Liberalism and The Limits of Justice*, p.14; Cohen, G A. 2000, *If You're An Egalitarianm How Come You're So Rich?*; Cohen, G A. 2008, *Rescuing Justice and Equality*; Sen, Amartya. 1992, *Inequality Reexamined*. See also economists Arrow, Kenneth. 1973, "Rawls's Principle of Just Saving" *The Swedish Journal of Economics* 75(4), p.323-335; and Harsanyi, John C. 1975, "Can the Maximin Principle Serve as a Basis for Morality? A Critique of John Rawls's Theory" *The American Political Science Review* 69(2), p.594-606.

[109] Vujadinovic, Dragica. "Ronald Dworkin – Theory of Justice" *European Scientific Journal*, 8: 1-13, p.2.

[110] Vujadinovic. "Ronald Dworkin – Theory of Justice" *European Scientific Journal*, p.10.

Dworkin further acknowledges that natural abilities and talents are arbitrary and that the distribution of resources should not be affected by such. However, he still holds people responsible for their choices. In essence, all people, according to Dworkin, are to be afforded equal concern in the distribution of resources.[111]

Dworkin uses the example of a shipwrecked group of people to illustrate his principle of equal concern. The survivors could not simply divide all the resources into equal shares, and each acquires precisely the same,[112] for this is not practical (because say, due to natural ability, some may be able to use certain resources that others cannot), and there is not necessarily an equal number of each resource. Dworkin solves this problem by holding an auction whereby each survivor is given the same amounts of clams to bid with and purchase various resources. By acquiring resources through this method, the 'envy test' is satisfied whereby no one will envy what another has as each had the opportunity to get what they want.[113] In applying the envy test: "it requires that no-one envy the bundle of occupation and resources at the disposal of anyone else over time, though someone may envy another's resources at any particular time."[114]

The auction's distribution would thus be one of equal concern as each individual started off with the same resources. Still, each individual remains responsible for the choices made of what to do with those resources. Dworkin holds that an equal distribution "is a distribution that would result from people's choices under certain circumstances".[115] To treat people as equals, equal concern (more than just equal resources).[116] Dworkin acknowledges that an equal distribution of resources presupposes an economic market of some form.[117]

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[111] Dworkin, Ronald. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, 10: 283–345, p.282.

[112] Dworkin. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, p.285.

[113] Dworkin. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, p.286.

[114] Dworkin. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, p.306.

[115] Dworkin. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, p.344.

[116] Dworkin, Ronald. 1981, "What is Equality? Part 1: Equality of Resources" *Philosophy and Public Affairs*, 10: 185–246, p.189.

[117] Dworkin. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, p.184.

Dworkin's redistributive scheme is more desire-sensitive and less-endowment sensitive.[118] In reference to the shipwreck example, Dworkin is more concerned with natural talents and abilities and inequalities that exist naturally amongst persons according to innate desires, not social circumstances.[119] The envy test – that nobody should envy what anybody else has from the auction since each had the same means and opportunity to attain what they wanted – reflects this standpoint.[120] So, according to Dworkin, a distributive scheme in which there are inequalities would still be just if such inequalities resulted from choices and not social circumstances. Dworkin legitimises chosen inequalities, such as those resulting from the economic market, as it allows for both liberty and responsibility.

Dworkin seeks a conception of equality that can support redistributive justice and justify state interference with the liberty of individuals in that regard.[121] While Dworkin's argument for equal concern in distributing resources is appealing, he appears not to make any assumptions as to the scarcity or abundance of resources (but for in his shipwreck example), his lack of concern with social circumstance is troubling.[122] In his shipwreck example, Dworkin comes to have an auction because he cannot conceive of a place where there is an equal amount of everything for everyone. This is still sound. He places emphasis on desires and thereby applies the envy test. This allows for inequalities if they occur as a result of choices and not social circumstances.

What then about inequalities that do occur as a result of social circumstances? What about choices that are made because of social circumstances? His argument works in the shipwreck example where he has removed social inequalities. All people are stranded and essentially start from the same position but for the differences in their personal desires. However, when applied to the real world and the massive inequalities are driven predominantly by social circumstance,

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118 Vujadinovic. "Ronald Dworkin – Theory of Justice" *European Scientific Journal*, p.5.

119 Vujadinovic. "Ronald Dworkin – Theory of Justice" *European Scientific Journal*, p.5.

120 Vujadinovic. "Ronald Dworkin – Theory of Justice" *European Scientific Journal*, p.7; see also Kymlicka, Will. 1990, *Contemporary Political Philosophy*, p.77.

121 Iorns, Catherine J. 1993, "A Feminist Looks at Ronal Dworkin's Theory of Equality" *Murdoch University Electronic Journal of Law*, 1, <http://classic.austlii.edu.au/au/journals/MurUEJL/1993/6.html> (accessed 10 October 2019).

122 Vujadinovic. "Ronald Dworkin – Theory of Justice" *European Scientific Journal*, p.6.

the envy test seems to have minimal scope of application in determining what is just. We cannot rewind or place everyone on equal footing and hold an auction of resources.

Dworkin's means of realising the envy test outside of this thought experiment is through a market mechanism. He makes a case for an economic market on the grounds of equality: "the idea of an economic market, as device for setting prices for a vast variety of goods and services, must be at the centre of any attractive theoretical development of equality of resources."[123] This is somewhat counterintuitive as markets as generally seen to be a source of inequality. Dworkin, however, argues that free markets can bring about equality in resources. While this is hard to conceive of given the current global economic market and the power imbalances that exist therein, Dworkin's reasoning works. A market that truly reflects demand and supply could, arguably, result in at least a more equal distribution of resources or a more needs-based distribution of resources.

With regard to scarcity, Dworkin does not explicitly assume scarcity nor abundance. His shipwreck example adopts limitations. When considering an economic market, scarcity becomes fundamental. Scarcity in economics refers to the gap between supply and theoretically infinite demand. Economic scarcity is not absolute. The example of diamonds to be discussed in Chapter Two will illustrate how market scarcity can be created by manipulating supply and demand.

Regarding the argument of a category mistake to be made, if we are speaking of economic scarcity, it must be relative scarcity, not absolute. The conflation between absolute scarcity and relative scarcity may amount to a category mistake as I will argue in Chapter Four.[124] Such a category mistake can have consequences on the interpretation of resources available and the subsequent distribution and access to them. While Dworkin does not explicitly grapple with the issue of scarcity, the distribution of resources necessarily concerns scarcity and resource availability. Suppose means of distribution of resources have been theorised on the basis of absolute scarcity when in fact, it should be relative scarcity, then the distribution of such resources and how they are prioritised may be erroneous. In that case, a category mistake will exist, which may affect the interpretation, understanding, and application of theories such as Dworkin's.

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[123] Dworkin, Ronald. 2000, *Sovereign Virtue*, p.66.

[124] See Chapter 4 on scarcity as a category mistake.

Robert Nozick's theory of justice amounts to an entitlement theory, holding that distribution of resources is just if those who hold the resources are entitled to them. He places less emphasis on equality and more emphasis on freedom and liberty.[125] Nozick holds that if we were to assume that everyone was entitled to the goods currently in their possession, then a just distribution would simply be whatever distribution occurs from people's free exchanges of those goods. Any distribution arising from the free transfer of entitlements is therefore just, "from each as they choose, to each as they are chosen",[126] according to Nozick.[127]

Nozick's entitlement theory raises three issues:[128]

1) the original acquisition of holdings;
2) the transfer of holdings; and
3) how unjust acquisitions and transfers should be dealt with.

Nozick finds patterned theories of justice unacceptable, as they tend to infringe on liberty. To Nozick, ultimately, whether a distribution is just, depends on how it came about. Nozick's entitlement theory holds a strong libertarian position, condemning redistributive justice.

Building on the three principles of his entitlement theory (acquisition, transfer, and rectification), Nozick elaborates on Lockean self-ownership: "[a] process normally giving rise to a permanent bequeathable property right in a previously unowned thing will not do so if the position of others no longer at liberty to use the thing is thereby worsened."[129]

In pursuing this line of argument, Nozick relies on the well-known Wilt Chamberlain example to dismiss patterned theories of justice.[130] Nozick holds that patterned theories of justice do not work because free transfers amongst people will eventually disrupt any distributive patterns. According to Nozick, free exchanges are just, and free exchanges disrupt

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[125] Nozick, Robert. 1973, "Distributive Justice" *Philosophy & Public Affairs*, 3(1): 45-126, p.48.

[126] Nozick, Robert. 1974, *Anarchy, State and Utopia*, p.160.

[127] Nozick. 1974, *Anarchy, State and Utopia*, p151.

[128] Nozick. 1974, *Anarchy, State and Utopia*, p.150.

[129] Nozick. 1974, *Anarchy, State and Utopia*, p.178.

[130] Nozick. 1974, *Anarchy, State and Utopia*, p.161.

patterns. It follows that liberty disrupts patterns.[131] To illustrate this argument, Nozick invites us to imagine a scenario where resources are distributed according to some pattern. People then freely and voluntarily purchase tickets to watch Wilt Chamberlain play basketball. Wilt Chamberlain thereby acquires a significant amount more resources than others.

The question posed is whether this distribution of wealth is just – Nozick would say yes as it satisfies the criteria required by his entitlement theory. This illustration exhibits how it is intuitively acceptable to uphold the liberty that comes with Nozick's entitlement theory over any patterned theory of justice, which, by contrast, is not intuitively unproblematic. It does not seem okay to say that people may not use the resources they have to watch Wilt Chamberlain play basketball if they so wish.

Nozick relies on the Lockean proviso – "where someone appropriates the total supply of something necessary for life."[132] An appropriation may only violate the Lockean proviso if the person later compensates others for it so as not to worsen their circumstances. If compensation is not given, then the Lockean proviso will be violated, and the acquisition will be unjust. Nozick uses the example of a medical researcher creating a new drug. A medical researcher synthesizes a new drug to treat a disease.[133] The medical researcher has specific terms upon which she will sell the drug – this holds Nozick does not worsen the circumstances of others. Other people can possess the same materials that the researcher used to synthesize the drug – she has not made them scarce and thereby violated the Lockean proviso.[134] Nozick explains that the Lockean proviso is not an "endstate principle"[135] as it is centered around its effect on people.[136]

This is fundamental in illustrating Nozick's understanding of scarcity. Whether one agrees with it or not, the reliance on the Lockean proviso implies a hesitancy to accept that a resource can be entirely appropriated. Nozick's choice of the example of the medical researcher

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[131] Nozick. 1974, *Anarchy, State and Utopia*, p161.

[132] Nozick. 1974, *Anarchy, State and Utopia*, p.178.

[133] Nozick. 1974, *Anarchy, State and Utopia*, p.181.

[134] Nozick. 1974, *Anarchy, State and Utopia*, p.181.

[135] Nozick. 1974, *Anarchy, State and Utopia*, p.182.

[136] Nozick. 1974, *Anarchy, State and Utopia*, p.182.

evidently demonstrates his understanding that certain resources can be made and made in various ways. This example of Nozick will be fundamental in examining if a category mistake exists in his understanding of scarcity. Nozick may be one of few who do not assume that there are not enough resources. It is with a bit of irony, that in an argument for distributive justice, support may be found in the likes of Nozick's entitlement theory which strongly opposes redistribution. I, therefore, wish to reassert my focus here – that to provide a conceptualisation of scarcity in pursuit of global justice. This requires a clear understanding of scarcity – which, at least on the face of it, Nozick seems to have.

These theorists, Dworkin and Nozick in particular, are central to examining how scarcity is understood and whether the presence thereof is presumed when resources are discussed in the global justice discourse. Some of the theoretical framework has been discussed under global justice and some under resources and distributive justice. This is intentional and has been done to provide a theoretical framework for the issues of scarcity to be examined in the following chapters. Understanding global justice is needed for context and comprehending the aims of this endeavour whilst a theoretical foundation regarding resource distribution is needed to examine how scarcity is currently approached, or neglected, in the discourse of global justice and the issues it issues seeks to tackle.

Conclusion

In this chapter, I have attempted to provide a conceptual analysis of scarcity, which is currently ambiguous in the existing literature on distributive and global justice. This chapter examined global justice and the issues that global justice concerns itself with. This examination lays the foundation for making a case that scarcity of resources is erroneously assumed by some theorists of global justice.

Global justice concerns social justice beyond the borders of sovereign states but across the globe. The question of social justice is relevant as new social orders emerge and expand globally. Theories intended for application in specific societies or sovereign states are now challenged by globalisation, defined by Joseph Stiglitz as "the removal of barriers to free trade and the closer integration of national economics".[137]

[137] Stiglitz, Joseph E. 2015, *The Great Divide*, p.ix.

I seek to articulate how scarcity is portrayed as a justification (or reason) for inequality in the distribution of resources and how this is erroneous. This is done in the context of global justice, and resource availability, resource movement, and resource needs globally. While, as mentioned above, some authors recognise the misinterpretation or misrepresentation of scarcity of resources, others simply assume absolute scarcity and use it to justify arguments against the redistribution of resources, be it through a global tax, as suggested by Pogge, or by other means.

The majority of the literature on global justice presupposes the existence of scarcity and accepts the market to be reflective of needs. However, Sen's entitlement approach to resources does not consider the market to be reflective of "biological needs or psychological desires".[138] In relying on a study by the World Bank,[139] indicating that there are enough resources available to meet basic human needs across the globe, Octavio Ferraz argues that the issue is not scarcity but distribution.[140] Sendhil Mullainathan and Edlar Shafir claim that if the causes of scarcity are followed, it leads to an existence of abundance elsewhere.[141] While some, such as Sen,[142] Ferraz,[143] and Abhijit Banerjee and Esther Duflo,[144] recognise that there is no absolute scarcity, others, such as Paulette Dieterlen,[145] assume scarcity. Assumptions of scarcity are also evident in assessments of global inequality, poverty, and social circumstance.

Some implications result from the lack of distinction between absolute and relative scarcity. For example, policies are written and executed on the assumption that there is an absolute scarcity of, say, food or water when there is actually just relative scarcity due to unequal distribution. A conflation between absolute scarcity and relative scarcity is problematic

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[138] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.161.

[139] World Bank, State of Human Development Report, 1998, p.37.

[140] Ferraz, Octavio Luiz Matta. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review,* 12: 77-94, p.79.

[141] Mullainathan, Sendhil & Shafir, Eldar. 2013, *Scarcity*, p.234.

[142] See Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*.

[143] See Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review.*

[144] See Banerjee, Abhijit V., & Duflo, Esther. 2011, *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*.

[145] Dieterlen, Paulette. 2005, *Poverty: A Philosophical Approach*.

because scarcity is used in policies and political institutions to justify or defend deprivation and lack of access to resources. There needs to be a clear understanding of what scarcity means in the discourse on global justice. Without having conceptual clarity of scarcity, the reliance thereon is arguably erroneous.

Such a conceptual analysis could negate arguments against distributive justice on the grounds of resource availability and suppress the use of scarcity as a scapegoat for inequality of resources. By using this foundation of theories of global justice, I can begin the enquiry into whether a category mistake has been made by conflating relative scarcity with absolute scarcity and what the consequences of such would be.

Having considered global justice and issues of global justice, the next chapter considers scarcity conceptually. The following chapter considers scarcity as understood in the literature, scarcity as generally understood, and some misconceptions and assumptions of scarcity. This builds on the foundation laid in this chapter, contextualising the issue of scarcity in the discourse of global justice. It follows that scarcity itself as a concept must also be examined.

CHAPTER 2: SCARCITY

Introduction

Scarcity is an intricate concept. It needs to be scrutinised carefully to evaluate if reference to it is made accurately in the context of issues of global justice. This chapter considers scarcity as a concept. In examining different understandings of scarcity, a distinction is made between absolute scarcity and relative scarcity. This distinction is explained through examples. Through the use of analogies, conceptual clarity on scarcity is sought. This chapter also examines how scarcity may be malleable and how scarcity can be created. However, scarcity cannot be considered in a vacuum. Scarcity needs to be placed in context. Scarcity is convolutedly related to inequality regarding resources. Therefore, inequality serves as a useful starting point of enquiry to contextualise questions of scarcity regarding resources.

Scarcity and Inequality in Context

In 2018, I participated in a race in honour of Nelson Mandela. Then 24 years into South Africa's democracy and 22 years since the enactment of the Constitution of South Africa,[146] which promises a better life for all – a sad irony awaited on this running event in honour of Nelson Mandela's legacy of a better future for all South Africans. We ran past homeless men sleeping outside of an abandoned, locked-up building. I thought to myself and later made a note that we need to question this 'lack of resources' excuse, which is repeated and relied upon by those obligated to meet the needs of the people. There should not be homelessness where there are empty buildings, just as there should not be hunger where there is waste.

South Africa's socio-economic inequalities, such as access to food, housing, and health care, were engineered by colonialism and apartheid.[147] Services were segregated, and spending by the state was unequal between races.[148] The disenfranchisement of the black African population was depicted by the differential treatment between races and the consequent deprivation of

[146] Constitution of South Africa of 1996.

[147] Liebenberg, Sandra. 2010, *Socio-Economic Rights Adjudication under a Transformative Constitution*, p.2.

[148] For example, in 1987 government health expenditure per white person was R597, and only R137 for each black South African, Hassim, Adila., *et al*. 2007, *Health and Democracy*, 11-13.

access to health care, education, food, and housing.[149] The apartheid system manifested inequalities through laws that neglected to address housing, safe working conditions, education, and health care for most of the population. The apartheid regime thus imposed socio-economic circumstances upon people through their disenfranchisement. Policies such as the 'homeland policies' were introduced, which were administrative mechanisms to move black Africans away from urban areas into certain designated areas.[150] Similarly, laws such as the Reservation of Separate Amenities Act[151] controlled access to public spaces and services based on race, deeming white people entitled to better amenities.[152]

These inequalities did not disappear in 1994 when South Africa held its first democratic election and recognised equality among its people. Nor did they disappear upon the enactment of the South African Constitution, which is internationally praised for recognising socio-economic rights such as the right to health care, the right to food, and the right to housing. Many inequalities created by colonialism and manifested during the apartheid regime still run deep in South African society today. There is significant income inequality, and there is an increasing concentration of wealth where less than 20 percent of South Africans hold over 68 percent of income. In comparison, the bottom 40 percent of the population holds only 7 percent of income.[153] There are significant disparities between rural areas and urban areas, with the rural areas being far poorer when measured by income per capita.[154] These inequalities still strongly exist among racial lines.[155] The country's transformation to a constitutional democracy, one which recognises socio-economic rights, has the potential of realising a better

[149] Liebenberg. 2010, *Socio-Economic Rights Adjudication under a Transformative Constitution*, p.2.

[150] Liebenberg. 2010, *Socio-Economic Rights Adjudication under a Transformative Constitution*, 2.

[151] Act 49 of 1953.

[152] See section 3(b) of Act 49 of 1953.

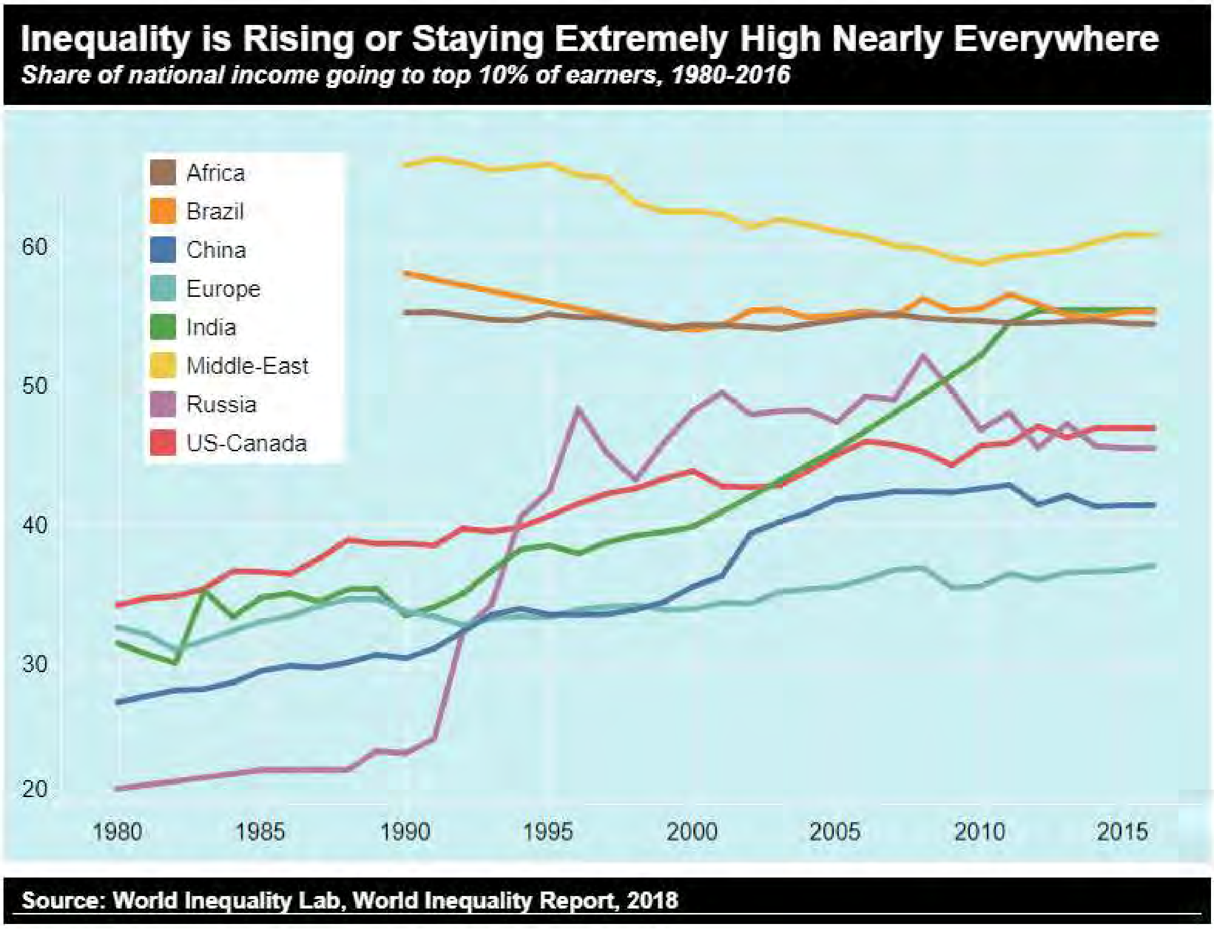
[153] International Monetary Fund, 2020, *Six Charts Explain South Africa's Inequality* <https://www.imf.org/en/News/Articles/2020/01/29/na012820six-charts-on-south-africas-persistent-and-multi-faceted-inequality> (accessed 20 January 2020).

[154] International Monetary Fund, 2020, *Six Charts Explain South Africa's Inequality* <https://www.imf.org/en/News/Articles/2020/01/29/na012820six-charts-on-south-africas-persistent-and-multi-faceted-inequality> (accessed 20 January 2020).

[155] Statistics South Africa. 2019, *Inequality Trends in South Africa*, p.145.

life for all as purported by Nelson Mandela's legacy. However, inequalities are entrenched, inherited, and self-perpetuating.

Such inequalities do not only exist within South Africa and within other countries, but among countries. The world is rife with inequality. Facts such as "the world's richest 1% have more than twice as much wealth as 6.9 billion people"[156] or that "the 22 richest men have more wealth than all the women in Africa"[157] depict global inequality.



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[156] Oxfam International. *5 Shocking facts about extreme global inequality and how to even it up*, <https://www.oxfam.org/en/5-shocking-facts-about-extreme-global-inequality-and-how-even-it> (accessed 20 January 2020).

[157] Oxfam International. *5 Shocking facts about extreme global inequality and how to even it up*, <https://www.oxfam.org/en/5-shocking-facts-about-extreme-global-inequality-and-how-even-it> (accessed 20 January 2020).

The graph above depicts inequality as a global phenomenon.[158] A correlation exists between life expectancy and the wealth of the country: people in more affluent countries live longer.[159] The World Health Organization (WHO) and the World Bank have found that the level of inequality also influences life expectancy: people living in more equal countries live longer.[160] People from more affluent areas have 10 to 20 years longer life expectancy than those living in more impoverished areas.[161]

The world is full of incongruities. In 2019, The Guardian reported, "World hunger on the rise as 820m at risk, UN report finds".[162] While in 2018, The Guardian had reported, "Food waste: alarming rise will see 66 tonnes thrown away every second".[163] It is not that between 2018 and 2019, the world ran out of food – these realities co-exist. There is waste and hunger in the same vicinity. The absurdity of such circumstances is encapsulated in an argument made by Amartya Sen, that a famine is not, by itself, evidence of insufficient resources: "[a] famine is the result of many people not having enough food to eat, and it is, by itself, no evidence of there not being enough food to eat."[164]

Similarly, homelessness is not, by itself, evidence of there not being enough resources for housing. Headlines depicting the circumstances in England illustrate this. "Homeless

[158] Inequality.Org. *Global Inequality* <https://inequality.org/facts/global-inequality/> (accessed 20 January 2020).

[159] Inequality.Org. *Global Inequality* <https://inequality.org/facts/global-inequality/> (accessed 20 January 2020).

[160] Inequality.Org. *Global Inequality* <https://inequality.org/facts/global-inequality/> (accessed 20 January 2020); The World Bank. *Gini Index* <https://data.worldbank.org/indicator/SI.POV.GINI/?year_high_desc=false> (accessed 20 January 2020).

[161] Oxfam International. *5 Shocking facts about extreme global inequality and how to even it up*, <https://www.oxfam.org/en/5-shocking-facts-about-extreme-global-inequality-and-how-even-it> (accessed 20 January 2020).

[162] Boseley, Sarah. 2019 15 July, "World hunger on the rise as 820m at risk, UN report finds" *The Guardian*, <https://www.theguardian.com/world/2019/jul/15/world-hunger-un-report> (accessed 12 August 2020). See also Mundasad, Smitha. 11 September 2018, "Global hunger increasing, UN warns" *BBC*, <https://www.bbc.com/news/health-45477930> (accessed 12 August 2020).

[163] Ratcliffe, Rebecca. 20 August 2018, "Food waster: alarming rise will see 66 tonnes thrown away every second" *The Guardian*, <https://www.theguardian.com/global-development/2018/aug/20/food-waste-alarming-rise-will-see-66-tonnes-thrown-away-every-second> (accessed 12 August 2020). See also Erdman, Shelby. 2020, "Global food waste twice as high as previously estimated, study says" *CNN* <https://edition.cnn.com/2020/02/20/health/global-food-waste-higher/index.html> (accessed 12 August 2020).

[164] Sen, Amartya. 2009, *The Idea of Justice*, p.390.

households in England rise by 23% in a year", The Guardian reported in December 2019.[165] Yet earlier that year, The Guardian had a headline that read: "Number of empty homes in England rises to more than 216 000".[166] London, in particular, depicts this paradox: on October 30th, 2019, it was reported that "[a]lmost £11 billion-worth of London housing is sitting empty",[167] yet a day later another headline read: "[s]omeone becomes street homeless in London almost every two hours as rough sleeping hits record high".[168] It does not follow that England, or London more specifically, has run out of spaces for people to live just because there is an increasing presence of homelessness. There is both an increasing level of homelessness *and* an increasing number of spaces standing empty.

A child's simple logic might say, well, put the homeless in the empty homes – but the relationship between resources, in this case, housing, and provision thereof to those in need is not that simple. There may factually be enough space to house all the homeless, but this does not mean it is feasible to do so economically or politically. The resources may be there – there may be empty buildings to provide homes to those without or to turn into some form of social housing, but this requires political, social, and economic hurdles to be overcome. Who owns the empty buildings? Why are they empty? Why is homelessness increasing? These underlying questions of both circumstances need to be addressed in searching for a solution. There is a fundamental difference between there being insufficient resources to meet socio-economic needs, such as food and housing, and a lack of access to necessary resources due to inequality of distribution or allocation of resources.

People being homeless because they cannot afford housing does not mean that there simply is no housing. Global food security is not at risk because of a shortage of food. Rather, food

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165 Busby, Mattha. 18 December 2019, "Homeless households in England rise by 23% in a year" *The Guardian*, <https://www.theguardian.com/society/2019/dec/18/homeless-households-in-england-up-by-23-in-a-year-official-figures> (accessed 13 August 2020).

166 Kollewe, Julia. 11 March 2019, "Number of empty homes in England rises to more than 216 000" *The Guardian*, <https://www.theguardian.com/society/2019/mar/11/empty-homes-england-rises-property> (accessed 13 August 2019).

167 Peat, Jack. 2019, "Almost £11 billion-worth of London housing is sitting empty" *The London Economic*, <https://www.thelondoneconomic.com/property/almost-11-billion-worth-of-london-housing-is-sitting-empty/30/10/> (accessed 13 August 2019).

168 Bulman, May. 31 October 2019, "Someone becomes street homeless in London almost every two hours as rough sleeping hits record high" *Independent*, <https://www.independent.co.uk/news/uk/home-news/homeless-crisis-london-rough-sleepers-uk-chain-figures-a9178876.html> (accessed 13 August 2019).

insecurity exists because of how food is distributed and how access to food is controlled. Economists may argue that resources are scarce because people cannot afford them. However, in just looking at the examples introduced by the headlines regarding housing and food, a resource can exist in abundance yet not be accessible to people. These issues and arguments will be elaborated on in Chapter Three.

Understanding Scarcity

Scarcity is traditionally regarded as an economic concept. [169] Economics regards scarcity as a fundamental problem that arises due to resources being finite, but society's wants and needs for resources being infinite. Scarcity exists as an economic phenomenon because of supposedly limited resources and the unlimited wants and needs of people. A resource is thus deemed scarce when demand far outweighs supply. While conventionally defined and attributed to economics in public discourse, the concept of scarcity has become a prominent feature of contemporary political philosophy as it relates to the distribution of resources.

The dictionary meaning of scarcity refers to three states of affairs. The concept could refer to being in short supply of something, lacking something, or something that has the property of being hard to find.[170] However, what is common to all three possible meanings is that something is not available to all. The word scarcity is synonymous with shortage; lack; insufficiency; inadequacy; or unavailability. The opposite of scarcity is abundance; sufficiency; or excess. The term sufficiency as a contrast is important to bear in mind. If water is scarce in the desert, then someone does not need a flood for scarcity to no longer be present; they merely need sufficient water.

Translated into market terms of supply and demand, scarcity refers to the circumstance in which the demand for a resource exceeds the supply, and scarcity can thus exist where there are fewer resources than necessary to fulfil human needs. Scarcity is arguably, therefore, relative to some need. [171] Scarcity can be demand induced – where the high demand for a

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[169] Mackellar, F. Landis., & Vining, Daniel R. 1989, "Measuring Natural Resource Scarcity" *Social Indicators Research*, 21:517-530, p.518.

[170] Cambridge International Dictionary of English (1995).

[171] Malenbaum, Wilfred. 1975, "Scarcity: Prerequisite to Abundance" *The Annals of the American Academy of Political and Social Science*, 420:72-85, p.74.

resource results in it being scarce. It can be supply-induced if the supply for a resource in demand is running out. Scarcity can also be caused structurally through the mismanagement of resources or inequality in distribution or provision of access.

To begin to understand scarcity, and the different ways in which it can manifest, imagine you live in a country where access to clean and safe water is an issue. Most of the population does not have access to clean water that is safe for consumption. If you want water, you have to buy it, and the price of water is ever increasing. In fact, if you want 50 litres of water a day which the WHO recommends is the amount needed to maintain health and hygiene, in this country you will have to spend half your daily salary or earnings. While this is very expensive, the alternative can be fatal as water sources are contaminated with diseases and can cause diarrhoea and respiratory infections. One might assume this is a country where water is a scarce resource, yet this country has a very high annual rainfall. The average monthly rainfall is 300mm. It is also a resource-rich country with reserves of crude oil, natural gas, gold, copper, silver, nickel, and cobalt. It is also a major source of timber, cocoa, coffee, and palm oil. So not only does this country have water, given its high rainfall and wet climate, but it also has the resources to, at least potentially, catch, store, maintain, supply, or manage this water given its potential income from its exportation of other natural resources. Why then does such a small margin of the population have access to safe water? How then is safe water a scarce resource in a country that is rich in natural resources and not subject to drought and that has water sources? What then is the cause of the water scarcity?

The above is more than a theoretical scenario. The country depicted here is Papua New Guinea. More than 63 percent of Papua New Guinea's population lack access to basic water services. This is despite high annual rainfalls.[172] Additionally, despite Papua New Guinea being a resource rich country,[173] it has high levels of poverty,[174] adding another barrier to water accessibility. As depicted, 50 litres of water costs $2.61, which is half the daily average

[172] World Bank, *Climate Change Knowledge Portal*, <https://climateknowledgeportal.worldbank.org/country/papua-new-guinea/climate-data-historical> (accessed February 1, 2021).

[173] Human Rights Watch, *Papua New Guinea* < https://www.hrw.org/world-report/2019/country-chapters/papua-new-guinea> (accessed February 1, 2021).

[174] Human Rights Watch, *Papua New Guinea* < https://www.hrw.org/world-report/2019/country-chapters/papua-new-guinea> (accessed February 1, 2021).

salary.[175] People end up drinking water from sources such as ponds, small dams, rivers, and wells. Waterborne diseases are spread rapidly, such as cholera and waterborne malaria.[176] Children are particularly vulnerable to unsafe water as their immune systems are still developing.[177] The United Nations Children's Emergency Fund (UNICEF) holds that over 6000 children die in Papua New Guinea every year as a result of diarrhoea.[178]

Yet as described, Papua New Guinea is a resource rich country.[179] It is then feasible to imagine that revenue generated from those resources could be used to ensure safe water supply to the population – especially given that there isn't a shortage in water given the high rainfall. Yet access to water in Papua New Guinea has not improved in the last two decades.[180] Most of the population do not have access to safe drinking water and are subjected to waterborne diseases through the water they rely on for domestic use. There are a number of underlying reasons for this situation facing the population of Papua New Guinea. Primarily, supplying clean, safe water to the people is just not a priority of the State.

Additionally, there is a lack of policy on water provision and management; a severe lack of infrastructure for containing water and then providing it to households; a lack of budget and

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[175] WaterAid. 2016, *Water: At What Cost?* <https://static.globalinnovationexchange.org/s3fs-public/asset/document/WaterAidWWD_report_WEB.pdf?EXRKa1muvp3j2TeXYA0chajeGbILEw6g> (accessed February 1, 2021).

[176] WaterAid. 2016, *Water: At What Cost?* <https://static.globalinnovationexchange.org/s3fs-public/asset/document/WaterAidWWD_report_WEB.pdf?EXRKa1muvp3j2TeXYA0chajeGbILEw6g> (accessed February 1, 2021).

[177] UNICEF, Papua New Guinea, *Water, Sanitation and Hygiene* <https://www.unicef.org/png/what-we-do/water-sanitation-and-hygiene#:~:text=PNG's%20estimated%208.5%20million%20people,water%20supply%20in%20the%20world.&text=Over%2060%20per%20cent%20of,open%20defecation%20in%20rural%20communities.> (accessed February 1, 2021).

[178] UNICEF, Papua New Guinea, *Water, Sanitation and Hygiene* <https://www.unicef.org/png/what-we-do/water-sanitation-and-hygiene#:~:text=PNG's%20estimated%208.5%20million%20people,water%20supply%20in%20the%20world.&text=Over%2060%20per%20cent%20of,open%20defecation%20in%20rural%20communities.> (accessed February 1, 2021).

[179] Human Rights Watch, *Papua New Guinea* < https://www.hrw.org/world-report/2019/country-chapters/papua-new-guinea> (accessed February 1, 2021).

[180] International Bank for Reconstruction and Development/ The World Bank, 2015, *Water Supply and Sanitation in Papua New Guinea* <https://www.wsp.org/sites/wsp/files/publications/WSP-PapuaNewGuinea-WSS-Turning-Finance-into-Service-for-the-Future.pdf> (accessed February 1, 2021).

economic mismanagement; and weak monitoring systems.[181] The cause of water scarcity is not a lack of water – the people of Papua New Guinea see it rain weekly; the cause lies elsewhere. The purpose of this example is to illustrate that scarcity is not simply the lack of something. It can rain without people having water to drink. In exploring the concept of scarcity, I will seek to explore this phenomenon.

This chapter seeks to explore what is understood by the term scarcity. In distinguishing between relative and absolute scarcity, I seek to set the foundation for the following chapters where arguments will rely on this distinction. I use examples to illustrate the difference between relative and absolute scarcity. I go on to show how scarcity, in the relative sense, can be created. I then depict how scarcity is generally understood.

Relative and Absolute Scarcity

To clarify the need for distinguishing between absolute scarcity and relative scarcity, imagine the world ran out of coffee. This can happen because of reason *x* or because of reason *y*. Reason *x* being that some mutant insect has wiped out the coffee seed and the plant, which produces the cherries with the seeds that become our beloved coffee beans. Reason *y* for the world running out of coffee is related to the process of producing the coffee bean from the fruit of the coffee plant. The processing plants or factories have unanimously decided it is no longer profitable enough to make coffee – the profit margins are too small, and the business of coffee production dies out.

Now imagine coffee is the staple produce of your country, much like the potato is for Ireland. Many countries have staple foods, which they are very much dependant on; Bangladesh relies on rice, Egypt on samna or ghee, and many countries, including the United States and South Africa, rely on maize. Your country is dependent on coffee. The government subsidises it, and it is the staple product that the population relies on. But now the world has run out of coffee, creating a problem for your country. The government says that there is nothing they can do. If the reason for coffee running out is *x*, then it would be justified for the government to say this and arguably unreasonable to expect them to do something about the situation that arose from a force of nature and is, ultimately, out of their control. However, if

[181] International Bank for Reconstruction and Development/ The World Bank, 2015, *Water Supply and Sanitation in Papua New Guinea* <https://www.wsp.org/sites/wsp/files/publications/WSP-PapuaNewGuinea-WSS-Turning-Finance-into-Service-for-the-Future.pdf> (accessed February 1, 2021).

the circumstances arose because of *y*, then such a response by the government would seem rather callous. Is there not something they could do? Is there not something that the government should do, given the essential nature of coffee for the country's population.

Now, all this might sound preposterous, but the principles behind it are the same we find in using the concept of scarcity used to justify inequalities both locally and globally. Coffee ceasing to exist because of *x* and coffee ceasing to exist because of *y* are two entirely different situations. Still, both result in coffee's demise – let's say *p*. Now because the end result, *p*, is the same, whether caused by *x* or by *y*, the reaction to the situation, the justifications given, and the rationale provided is sometimes the same as it would have been whether caused by *x* or *y*. This may be problematic because different causes of *p* could indicate that there are different solutions to *p*. If the cause of the coffee crisis is *y*, and the government is able to further subsidise coffee producers to enable them to continue coffee production and thereby ensure that the population has continued access to coffee, should it not do so? This is a possible solution that would not apply if the cause of the coffee crisis is *x*. Both *x* and *y* result in coffee scarcity, but not in the same way.

On the one hand, little can be done about the crisis, but on the other, there are steps that the government could take to try to make coffee available and accessible. Arguably, the government cannot justify the lack of coffee if caused by y in the same way it can justify the lack of coffee caused by *x*. Yet often, this is what happens. We do not look beyond *p* and accept the rationale provided by the government that resources are scarce. Yet this deference does not address the issue of resources sufficiently. Are resources scarce like *x* or like *y*? Why are they scarce? Is it possible to get more? It is thus essential to clarify what we mean when we say a resource is scarce.

It is necessary to clearly distinguish between absolute scarcity and relative scarcity. I will argue that absolute scarcity and relative scarcity are conflated in the discourse on global justice and distributive justice. This conflation possibly constitutes a category mistake, which impacts on the interpretation and application of theories of justice relied upon in political philosophy – especially justice in relation to the distribution of resources.

Studies such as those by the World Bank, for example, are often relied upon in the discourse on global justice, and theorists like Thomas Pogge, Ronald Dworkin, and Gillian Brock rely on such evidence of inequality and deprivation to support their theories and arguments.[182] However, the reliance on studies and statistics of this nature neglects to indicate that there is not necessarily absolute scarcity of the resources concerned, but inequality. The reason being that there are often contrary studies. For example, reliance may be placed on a study regarding lack of food security, but such reliance could be misleading without also considering also studies regarding food waste and food loss. Arguably, such contrasting studies indicate inequality, for if there is food insecurity and hunger but also food waste, it follows that there is an imbalance or inequality in the distribution of resources. As a result, inequality of resources is then erroneously addressed on the assumption of there being limited resources, rather than examining the inequality of resources as a starting point of enquiry.

In a situation where scarcity is consistently assumed to account for poverty, lack of resources to meet basic minimum needs, and material deprivation, the reasonable thing to do is to seek clarity about the meaning of scarcity as a concept. As we will see shortly, an attempt to explain the concept quickly runs into difficulties. In the literature, the standard way in which theorists have dealt with these difficulties has been to distinguish between absolute scarcity and relative scarcity. To this end, I will sieve out the difficulties that arise when we try to say exactly what we mean by scarcity and highlight how distinguishing between absolute and relative scarcity circumscribes these problems. Distinguishing between absolute and relative scarcity does not suffice as the concepts are still susceptible to conflation. The way in which absolute scarcity and relative scarcity are conflated have, I argue, created a need for conceptual clarity about scarcity in the discourse on global justice.[183] I purport to argue that it would be erroneous to justify unequal distribution of or unequal access to resources by appealing to scarcity of resources. To justify or dismiss the reliance on limited resources in arguments about global justice, it is vital to clarify what scarcity means.

Conceptual Clarity through Analogy

The first comparison I rely on to illustrate the distinction between absolute scarcity and relative scarcity is polar bears and pumpkins. Polar bears are considered scarce by virtue of them being

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[182] See Pogge, Thomas. 2002, *World Poverty and Human Rights*; Dworkin, Ronald. 1981, "What is Equality? Part 1: Equality of Resources" *Philosophy and Public Affairs*, 10: 185-246; Brock, Gillian. 2009, *Global Justice: A Cosmopolitan Account.*

[183] See Chapter 4 regarding conceptual clarity on scarcity.

endangered and there factually only being a finite number left on this planet. The World Wide Fund for Nature (WWF) Arctic programme estimates that there are only between 22 000 and 30 000 polar bears left in the world. A 2018 study by Hamilton and Derocher[184] estimates that only 23 000 are left as a result of global warming threatening their habitat and inhibiting their hunting and breeding patterns. Polar bears are listed on what is known as the species Red List of Threatened Species[185] - categorising them as vulnerable to extinction. Therefore, factually, polar bears, much like water in a desert, are naturally scarce as a fact.

Subsequently, it *does not* follow that polar bears are scarce because:

a) they are only found in a certain area;

b) they are only available to some;

c) people prefer polar bears over any other species.

The first of these statements relates to an argument regarding distribution in that polar bears are not considered scarce because they are only found in a certain area. The second statement speaks to an argument of unequal access – in this instance, polar bears are not considered scarce because only some people have access to them. The third statement is an argument regarding the laws of supply and demand. Polar bears are not considered scarce because people prefer polar bears over other species, and thus there is a high demand for polar bears, exceeding their supply and thereby rendering them scarce.

Now compare this to pumpkins. Pumpkin export is a lucrative industry. In 2018, revenue from pumpkin exports by countries totalled over 1.26 billion US dollars.[186] If there were to be a scarcity of pumpkin, it *does* follow that pumpkins can be scarce because:

a) they are only found in a certain area;

b) they are only available to some;

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[184] Hamilton, Stephen G., & Derocher, A E. 2018, "Assessment of Global Polar Bear Abundance and Vulnerability" *Animal Conservation,* 22: 83-95.

[185] Wiig, Oystein., *et al. Ursus Maritimus. The IUCN Red List of Threatened Species,* 2015.

[186] Workman, Daniel. 2019, "Pumpkin Exports by Country" *World's Top Exports* <www.worldstopexports.com/pumpkin-exports-by-country> (accessed 5 November 2019).

c) people prefer pumpkins over any other vegetable.

In this regard, pumpkins could be considered scarce because of their distribution. Similarly, pumpkins could be considered scarce because of unequal access to pumpkins. Thirdly, pumpkins could be considered scarce because they are preferable to people, and therefore the demand for pumpkins exceeds the supply. The supply and demand can determine the degree of scarcity.

In fact, to illustrate the last point of comparison, substitute diamonds for both polar bears and pumpkins, the substitution would work with pumpkins. It is, in fact, conceivable that pumpkins could be marketed and their market-manipulated in a manner to make them as 'scarce' and valuable as diamonds are thought to be. This is simply not possible with polar bears, however. Polar bears' scarcity is not subject to be determined or manipulated by market forces.

By this comparison between polar bears and pumpkins, it is evident that one cannot accept the scarcity of pumpkins in the same sense in which one could accept the scarcity of polar bears. The polar bear example illustrates absolute scarcity, and the pumpkin example illustrates what I mean by relative scarcity. The scarcity of pumpkins is influenced by distributional patterns, access, and market forces—all three of these concern institutional arrangements and political and economic contexts. I will seek to argue that one cannot deduce scarcity (in the absolute sense) if something is subject to patterns of distribution, access, or market forces. As these consist of institutional arrangements situated within the political economy, they can be scrutinised by theories of distributional justice to conceptually analyse scarcity.

To further consider the distinction between absolute scarcity and relative scarcity, consider flowers and fossil fuels. Both are considered natural resources given that they occur naturally. Fossil fuels include coal, oil, and gas – all non-renewable energy sources found within the Earth's crust. Fossil fuels are scarce by virtue of them being limited to that which exists in the Earth's crust, and the fact that they are non-renewable sources of energy. It *does not* follow that fossil fuels are scarce because:

a) they are only found in some places;
b) they are only available to some;

c) people prefer fossil fuels to any other energy sources (people tend to prefer the most economically feasible source, which for a long time has been fossil fuels but this does not necessarily indicate a preference to fossil fuels over any other energy source).

Fossil fuels are not considered scarce because they are only found in some places. They are also not considered scarce because unequal access have rendered them only available to some. Fossil fuels are not considered scarce because of the economic laws of supply and demand. Fossil fuels are not scarce because people's preference for fossil fuels has increased the demand for fossil fuels to exceed the natural supply of fossil fuels. The scarcity of fossil fuels is more than an economic scarcity.

Compare this to flowers. If there were to be a scarcity of flowers, it *does* follow that flowers could be scarce because:

a) they are only found in some places;
b) they are only available to some;
c) people prefer flowers to any other plants.

Flowers could be considered scarce because of the way in which they are natural distributed. Flowers could also be considered scarce because of unequal access to flowers. Access may be hindered by price or geographic accessibility. Flowers could also be considered scarce because people prefer flowers to any other plants and therefore there is a high demand for flowers, and if this demand exceeds the supply, then there may be a flower scarcity.

Flowers are evidently not scarce in the same way that fossil fuels are scarce. more flowers can be grown or cultivated, an array of different flowers exist and can be farmed. Flowers are subject to the economic laws of supply and demand and to human intervention which influences the amount of flowers in existence beyond those naturally occurring. Unlike flowers, the amount of fossil fuels in existence cannot be increased or manipulated by human intervention.

The supply of fossil fuels is constrained to that which exists and when those resources are depleted there will be an absolute scarcity of fossil fuels. Flowers are not constrained to the number of flowers in existence due to flowers having become a commodity that is farmed and cultivated for economic activity. The amount of flowers in existence can increase and decrease according to market demands. Similarly to polar bears and pumpkins, two different instances of scarcity apply to fossil fuels and flowers.

My third comparison is between painkillers and chairs. This comparison is centred more around the construction or creation of scarcity. Say country *X* does not have any chairs – it is not because there are not enough chairs in the world, as chairs can be made in various ways out of various materials. It may be, however, that no one in country *X* knows how to make a chair, or that country *X* has laws or policies preventing anyone in country *X* from making a chair or even importing a chair, despite the fact that country *X* may have the resources available to make chairs or import chairs.

Country *X* may have a need for chairs; there may be a demand for chairs in terms of need, but there is no *market demand* due to a lack of purchasing power, regulations, or laws. In this instance, the scarcity of chairs is entirely dependent on the structure of the market and political and economic institutions. The lack of chairs is not due to a lack of demand and, therefore, a lack of supply, but due to the institutional structures that control the supply and demand and serve as the source of scarcity of chairs.

Now consider painkillers. Painkillers too can be made in various ways out of various materials. Country *X* may have the resources to make or import the painkillers necessary to meet the population's needs but may be barred from doing so by patent laws, regulations, or market structures. Thus, if painkillers are scarce in country *X,* it is not necessarily as a result of there not being resources to make or import painkillers to meet the demand. Much like the example of chairs, painkillers can be made in various ways using various materials. Country *X* may know how to make painkillers but may be barred from doing so by patent laws, regulations, or market structures. Accessibility to painkillers, per this example, is often dependent on purchasing power. Subsequently, even if country *X* has the resources and skills to make painkillers to meet the needs of its population, it may not be *allowed* to do so. It may not be able to buy painkillers or access them by other means as a result of market structures and its purchasing power.

As chairs in this example, painkillers are not scarce in the way described as absolute scarcity above. They are scarce relative to the institutional structures in place, affecting their availability and accessibility. In areas where they are deemed scarce, it is not because a finite resource is running out. Just as something could always be used to serve the function of a chair, there is always something available somewhere to relieve pain. Infinite combinations of ingredients, proportions, and reactions hold somewhat endless possibilities as to the supply of painkillers. The only sources of scarcity per this example of chairs and painkillers are patent laws, regulations, and market structures. These make countries dependent on the global market for access, which can diminish their purchase power and render them unable to access the necessary resources to meet the needs of their population, resulting in this farce scarcity.

Unless one can conceive of chairs being susceptible to absolute scarcity, one cannot concede that medicines are, perhaps with the exception of medicines that contain ingredients that are absolutely scarce. Painkillers thus serve as a good example. People have been relieving pain for centuries before modern medicine. Still today, many people rely on homeopathic or herbal remedies for pain relief. Survivalists, campers, hikers, and indigenous peoples rely on fauna and flora for pain relief. Ingredients and knowledge exist for pain relief to be available to people within the vicinity of those resources.

Chairs cannot become absolutely scarce. There will always be a rock, log, or mound to sit on, and that can serve the purpose of a chair. There will always be something to mould into something suitable for sitting on. It is unimaginable for something serving the purpose of a chair to no longer exist, for chairs to simply run out. Similarly, painkillers – that being things used to relieve pain – cannot cease to exist. Painkillers existing before modern medicine; painkillers exist outside of modern medicine. Their make-up (ingredients) is not limited. As mentioned above, there are somewhat endless possibilities regarding the concoctions and means that could serve the function of painkillers. They are not something, conceptually, which can simply run out.

This is where it seems counter-intuitive because the news reports that there are stock-outs of medicines or limited supplies of medicines. But this is when one needs to ask why? It does not necessarily follow that the medicines are scarce, at least in the absolute sense as described above. The market determines the supply of medicines in accordance with the demand, which is dictated by patent laws, regulations, and purchasing power. The amount of medicines made are determined by the market demand. However, while there might be a demand in a certain country, that country may be barred access to the market. If the country does not have purchasing power or if regulations or policies prevent market participation, then the factual demand that exists in the country may not be translated into an economic demand.

If a country does not have the means to purchase painkillers and patent laws prevent it from making its own, can we really say that painkillers are scarce? It is conceivable that enough of painkiller *Z* exists for country *A*, but country *A* simply cannot access painkiller *Z* due to market barriers. This inaccessibility is not the same as scarcity. Conceptually then, just as one can conceive of every person in Mozambique having a chair to sit on, every person in Mozambique *could* receive malaria medication. The lack of malaria medication in Mozambique does not suffice as evidence of scarcity of malaria medication. Malaria medication is synthesized using raw materials which are commonly available. Unless these materials or ingredients become scarce in the absolute sense, then the potential to create malaria medication exists. An absolute scarcity of malaria medication can only occur if a necessary material or ingredient is no longer available or itself absolutely scarce. If malaria medication is scarce, it is likely only relatively scarce in the sense that it is not accessible to those who need it. This could be as a result of the country being unable to make the medication itself, the country being unable to purchase the medication due to a lack of purchasing power, or political barriers impeding access to the medication. Issues pertaining to economics and politics can cause relative scarcity by hindering access to a medication. Yet, just because Mozambique, per this example, does not have access to the medication does not mean that the medication is absolutely scarce. Much like a chair, malaria medication could theoretically be afforded to all if financial, political, institutional, and structural barriers were to be overcome.[187]

These examples may appear trivial, but they illustrate the different ways in which scarcity is understood conceptually. They also illustrate the need to distinguish between absolute scarcity and relative scarcity in showing that we do not think of things as scarce in just one way. This is important because of the consequences that both relative scarcity and absolute scarcity have. Absolute scarcity can be understood as a condition where the supply of a resource cannot be increased. Relative scarcity can be understood as a "condition that exists when a particular resource is in short supply in one or more areas, because of inadequate or disrupted distribution."[188] The concept of scarcity thus has two different dimensions, absolute and relative. Relative scarcity is more subject to social relations and human influence, hence the existence of marketing, which can create relative scarcity. The next section considers how

[187] See Chapter 3 where the example of access to HIV medication in South Africa is discussed.

[188] Park, Chris. 2007, *A Dictionary of Environment and Conservation* <https://www.oxfordreference.com/view/10.1093/oi/authority.20110803100412697#:~:text=A%20condition%20that%20exists%20when,Contrast%20absolute%20scarcity.> (accessed 10 February 2021).

relative scarcity can be created through market manipulation. This further serves as evidence that relative scarcity must be distinguished from absolute scarcity, for the former is malleable.

How Scarcity can be created: the case of diamonds

Due to the way modern economies operate – or is structured – it is possible to create scarcity. The 'value' of diamonds is a prime example of this as it illustrates how the economic value of a commodity can be manipulated by the supply and demand thereof – which can, as in this instance, present something as 'scarce' and thereby inflate its economic value.

Diamonds are supposedly a rare commodity. It is considered a prized possession, though one that almost every other person (at least in the Western world as well as the Far East)[189] flaunts. In fact, over a quarter of diamonds sold in 2018 were for engagements.[190] Still, diamonds are considered scarce. This apparent contradiction is the result of a masterful illusion created by the De Beers family.

De Beers, the renowned diamond industrialists, founded by the infamous Cecil John Rhodes in 1867, managed to capture a monopoly of South Africa's mines.[191] Diamonds were initially scarce and therefore expensive and sought after, creating the initial attraction and allure to the glimmering stone. However, large deposits of diamonds were then found in South Africa. De Beers, again and again, intercepted the discovery of which to maintain a monopoly over the mining industry and especially the diamond mines.

By having this monopoly over diamond mines (as well as others), De Beers successfully maintained an illusion that diamonds are scarce by manipulating the supply to the market.[192] By restricting supply – which they could afford to do as they had a monopoly over the supply – the price remained high. At the same time, De Beers also drove a very successful marketing

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[189] De Beers Group, The Diamond Insight Report, 2018, p.9. See also MacIntosh, Chris. 2014, "The Ugly Truth about Diamonds Monopoly" <https://capitalistexploits.at/the-ugly-truth-about-diamonds/ > (accessed on 10 July 2019).

[190] De Beers Group. 2018, *The Diamond Insight Report*, p.46.

[191] MacIntosh, Chris. 2014, "The Ugly Truth about Diamonds Monopoly" <https://capitalistexploits.at/the-ugly-truth-about-diamonds/ > (accessed on 10 July 2019).

[192] Bergenstock, Donna J., & Maskulka, James M. 2001, "The De Beers Story: Are Diamonds Forever?" *Business Horizons*, 44:37-44, p.1.

campaign with N. W. Ayer & Son Advertising Agency[193] to increase the demand for diamonds. Furthermore, they ingeniously restricted further trade-in diamonds by encouraging people to keep their diamonds for sentimental reasons with the successfully renowned slogan, "diamonds are forever".[194] This line of marketing has been maintained successfully, by De Beers, as the current chief executive officer, Bruce Clever, explains: "[d]iamonds have been the ultimate representation of life's most meaningful demonstrations of love and commitment for generations."[195]

While some diamonds are genuinely rare or scarce, many can be manufactured in laboratories.[196] Diamonds have been manufactured successfully in laboratories for over 60 years.[197] Diamonds are certainly not scarce in the economic sense as supply far exceeds demand. The market is just craftily manipulated to reflect otherwise. In terms of market manipulation, De Beers managed to limit supply and increase demand, which artificially increased the value of the commodity. The perception of scarcity created by De Beers has survived and thrived for decades, despite the history, economics, and politics behind the diamond industry now being better understood.

It is no secret that diamonds are not naturally scarce – the information is readily and openly available. However, it is the supply of the diamonds, not the information, which has the power to influence the market, together with De Beers' influence on the demand with their marketing campaign. In 2018, it was estimated that 147 million carats of diamonds were produced from mines worldwide.[198] At the same time, the global diamond market value increased by almost 2 billion US dollars to 82 US billion dollars. This is not consistent with the simple economic rule that prices should decrease where supply exceeds the demands. This incongruency just

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[193] MacIntosh, Chris. 2014, "The Ugly Truth about Diamonds Monopoly" <https://capitalistexploits.at/the-ugly-truth-about-diamonds/ > (accessed on 10 July 2019).

[194] MacIntosh, Chris. 2014, "The Ugly Truth about Diamonds Monopoly" <https://capitalistexploits.at/the-ugly-truth-about-diamonds/ > (accessed on 10 July 2019).

[195] De Beers Group. 2018, *The Diamond Insight Report*, p.2.

[196] Bergenstock., & Maskulka. 2001, "The De Beers Story: Are Diamonds Forever?" *Business Horizons*, p.1.

[197] Bain & Co. 2018, *The Global Diamond Industry 2018*, p.24.

[198] Gardside, Melissa. 2019, "Diamond Industry – Statistics & Facts" *Statista*, <www.statista.com/topics/1704/diamond-industry> (accessed 12 October 2019).

illustrates the perception of scarcity, and therefore value, which has been created and upheld regarding diamonds.

It does not follow that a resource with increased production, and increased market value, is scarce. If we take the simple economic understanding of scarcity as the demand exceeding the supply, these statistics indicate that diamonds cannot be scarce. The illusion of scarcity, of diamonds as a rare commodity, is one of complete fabrication by crafty manipulation of supply and demand dynamics.[199] Diamonds serve as a prime example of how scarcity, as understood generally and in the economic sense, can be created and can be an artificial quality attached to a commodity through market manipulation.

Different understandings of scarcity

Different things are considered scarce in various ways and for numerous reasons. Diamonds, vintage cars, collectable stamps, precious stones, rare parrots, or other exotic pets, plants, and foods are all subject to being labelled as scarce in some way. However, none of these things can be considered scarce in the same way or for the same reason. To see why, we would have to look at the conceptual understanding of scarcity, especially through the analysis of conventional references to scarcity.

Scarce as feathers on a fish / Scarce as hen's teeth. The similes of scarce as a feather on a fish and scarce as hen's teeth refer to situations of impossible likelihood. A fish with feathers is not possible as feathers are a property of being a bird, and hen, as a matter of fact, do not have teeth. Thus, a fish with feathers or a hen with teeth is not just scarce but non-existent. Therefore, this comparison works when referring to something that is presumably so 'scarce' that it does not exist.

Scarce as water in the desert. This comparison is very different. A dessert is, by its very definition, lacking in water. But it is still possible for there to be water in a desert. Someone could travel into a desert with a bottle of water, for example. So while water may be naturally scarce in a desert where there is not an abundance of water sources, it is not impossibly scarce.

Rare as a snowbird in hell. Rare, being a synonym to scarce makes this example appropriate for consideration, at least in the context of these illustrative comparisons. Logically, a snowbird

[199] Bergenstock., & Maskulka. 2001, "The De Beers Story: Are Diamonds Forever?" *Business Horizons*, p.2.

is a creature adapted for the cold, not heat. Its very name indicates it is to be found where there is snow. Hell is supposedly hot and fiery, and so the presence of a snowbird in hell does not follow. However, there is no way for us to actually know if there is a snowbird in hell. This reference to scarcity or 'rareness' is based on an assumption, albeit a logical one. It is, however, not a certain scarcity.

Good men are hard to find. This example is problematic and effectively illustrative precisely for that reason. The saying implies that 'good men' are scarce. However, this would, in fact, be dependent on one's subjective understanding of what makes a man good and possibly also what one considers 'hard to find'. In this sense, the implication is that scarcity is relative. Is an Easter egg on a hunt hard to find, or is the Loch Ness Monster hard to find? The scarcity implied is entirely subjective to one's subjective understanding of the words. Imagine a group of teenage girls discussing the men they wish to marry one day – each of theirs will be different. Similarly, as with this example, scarcity can be entirely subjective to one's interpretation and understanding.

Scarcity is, evidently, understood in more than one way. It is used regarding absolute scarcity, as with polar bears. Scarcity is also understood in relative terms, as illustrated by the example of artificial or created scarcity of diamonds. This ambiguity or equivocation influences the plausibility of relying on scarcity in an argument. For example:

1. all lawyers are sharks
2. no shark has legs
3. therefore, no lawyer has legs

But here, the conclusion does not follow because the word 'shark' is being used metaphorically. The argument does not establish the conclusion and equivocates to the word 'shark'. The same ambiguity exists around the word scarcity and the fact that it can be understood as absolute scarcity or relative scarcity.

However, at play here is more than a conflation of interpretations and an issue of terminology. The ambiguity of the term scarcity merely indicates the potential issues with interpretation and reliance thereon. This is an issue that is deeper than one of terminology. It is not just a matter of correctly defining scarcity but conceptualising it in the context of global justice to avoid unfounded reliance on such conflation as a justification of human suffering.

Natural resources are central to the enquiry on scarcity. Yet, there is no sure way of measuring natural resources accurately and objectively.[200] Scientists in various fields have been unable to reach a consensus on whether resources are becoming scarcer.[201] In addition to the ambiguity around the epistemological understanding of scarcity, the source of scarcity is another contested issue. Even before the great inequality explicitly apparent today and the alarming disparities between the wealthy and the poor, Plato already recognised the incongruency wherein wealth 'creates' poverty:

> "In a state which is desirous of being saved from the greatest of all plagues – not faction, but rather distraction; – there should exist among citizens neither extreme poverty nor, again, excess of wealth, for both are productive of great evil."[202]

Many acknowledge that inequality is defining feature of global politics.[203] Globalisation is only exacerbating the gap between those living in poverty and the rich.[204] David Miller recognises the growing inequality across the world.[205] However, Miller is most ethically plagued by inequalities that occur by chance, such as circumstances one may face based on where you are born. Miller uses the example that if Tanzania were a province of Germany, then the inequalities between Tanzania and the rest of Germany would appear to be a gross violation of justice.[206] He questions why the political separation of the two states makes a moral difference to how we view the inequality. Considering this, he distinguishes between inequality and material deprivation and suggests that we are actually concerned with material deprivation. He argues:

> "Suppose I have £1000 and you have £10. Why might this be objectionable? One reason is simply that inequality is wrong. In the absence of countervailing reasons,

[200] Halvorsen, Robert., & Smith, Tim R. 1984, "On Measuring Natural Resource Scarcity" *Journal of Political Economy*, 92:954-964, p.955.

[201] Mackellar, F Landis., & Vining, Daniel R. 1989, "Measuring Natural Resource Scarcity" *Social Indicators Research*, 21: 517-530, p.528.

[202] Plato, 360 B.C. *Laws*, Book V, p.112.

[203] Hurrell, Andrew., & Woods, Ngaire (eds). (1999) *Inequality, Globalization, and World Politics*, p.8.

[204] Hurrell., & Woods. (1999) *Inequality, Globalization, and World Politics*, p.8.

[205] Miller, David. 1999, "Justice and Global Inequality" in Hurrell, Andrew., & Woods, Ngaire (eds). *Inequality, Globalization, and World Politics*, p.187.

[206] Miller. 1999, "Justice and Global Inequality" p.187.

> it is unfair for you to have more than me, so we ought to have £505 each. A quite different reason is that you have too little to meet some basic standard – for instance with your £10 you can't afford a bed for the night. *The fact that I have £1000 matters because it shows that there are resources available which could raise you above this threshold.* Suppose that I gave you an additional £15 you could then find a room to rent. If all we are concerned about is avoiding deprivation and not with reducing inequalities as such, them a £985/£25 division is as good as a £505/£505 one. There is no reason to go further in the direction of equality once everyone has crossed the relevant threshold."[207]

This example of Miller's raises the point that if there is extreme wealth, there is evidence that there does not have to be extreme poverty and that the resources exist to ensure all basic needs are met. Looking at inequality as objectionable because of material deprivation is relevant to many issues of global justice, such as poverty, where material deprivation causing human suffering is the result of inequality. Yet addressing inequality in its totality is an insuperable task compared to addressing material deprivation and ensuring people have enough to meet their basic needs to avoid suffering. Material deprivation is central to the issue of scarcity of resources. People do not have access to certain necessary resources because they are deemed 'scarce'. Material deprivation as a result of scarcity of resources could be problematic if the resources in question are not, in fact absolutely scarce, and only relatively scarce.

When considering resources, the concepts of deprivation and sufficiency are relevant, as examined by Paula Casal[208] and Harry Frankfurt.[209] Octavio Ferraz argues that insufficiency is to be understood as absolute scarcity of resources, while inequality of resources only speaks to relative scarcity.[210] Jenny Edkins, who sees modernity as a cause of resource inequality, states, briefly and without much elaboration, that "[s]carcity in the general sense is a modern invention."[211]

Charles Clark asserts that the rise of neoclassical economics shifted the emphasis away from economic growth to that of the allocation of scarce resources. In other words, wealth became

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[207] Miller. 1999, "Justice and Global Inequality" p.188.

[208] Casal, Paula. 2007, "Why Sufficiency is not Enough", *Ethics*, 117(2): 296-326.

[209] Frankfurt, Harry. 2015, *On Inequality*.

[210] Ferraz, Octavio Luiz Matta. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review*, 12:77-94, p.84.

[211] Edkins, Jenny. 2000, *Whose Hunger?* p.31.

valuable and desirable, argues Clark, as a result of being considered scarce.[212] Consequently, the generation of wealth was not concerned with the well-being of the population as a whole.[213] Clark encapsulates what he believes scarcity came to mean under neoclassic economics:

> "Scarcity is not based on the inability of nature to provide the necessities of life to support the population of a society but is an artificial scarcity, one that is created by the business system in order to maintain the rate of return on wealth and the social power that attaches to 'scarce' wealth."[214]

Subsequently, as wealth is seen as the result of productivity, poverty is seen as the absence thereof.[215] This is where Clark argues that the neoclassical approach erroneously attributes variables associated with wealth and poverty to individual characteristics and not to social structures and institutions.[216] The wealthy are thereby absolved of any responsibility of creating or perpetuating poverty. According to Clark, all of this is due to scarcity – which he holds is a social construction necessary to generate wealth.[217] Complimentary to this view, Wilfred Malenbaum holds that scarcity appeals to those who are unwilling to share power and resources.[218]

Alan Booth defines scarcity differently from the economic approach. He defines it from more of a social or anthropological stance. He sees scarcity as a *perception* held by a significant segment of a community as to the decline in necessary resources such as food and water.[219] Booth holds that it does not matter whether or not the perception held is accurate. If people

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[212] Clark, Charles, M. A. 2002, "Wealth and Poverty: On the Social Creation of Scarcity" *Journal of Economic Issues*, 36:415-421, p.416.

[213] Clark. 2002, "Wealth and Poverty: On the Social Creation of Scarcity" *Journal of Economic Issues*, p.417.

[214] Clark. 2002, "Wealth and Poverty: On the Social Creation of Scarcity" *Journal of Economic Issues*, p.417.

[215] Clark. 2002, "Wealth and Poverty: On the Social Creation of Scarcity" *Journal of Economic Issues*, p.418.

[216] Clark. 2002, "Wealth and Poverty: On the Social Creation of Scarcity" *Journal of Economic Issues*, p.418.

[217] Clark. 2002, "Wealth and Poverty: On the Social Creation of Scarcity" *Journal of Economic Issues*, p.418.

[218] Malenbaum. 1975, "Scarcity: Prerequisite to Abundance" *The Annals of the American Academy of Political and Social Science*, p.84.

[219] Booth, Alan. 1984, "Responses to Scarcity" *The Sociological Quarterly*, 25:113-124, p.114.

perceive scarcity and respond accordingly, it exists as it still causes a decline in the standard of living.[220]

Thomas Robert Malthus introduced the idea of absolute scarcity into classical economics in the context of food.[221] Malthus was concerned about population growth and held that if the population continued to grow faster than food production, there would be a decline in the population. This thesis was later disputed Amartya by Sen in his book *Poverty and Famines: An Essay on Entitlement and Deprivation*.[222] Malthusian theory accepted that hunger, famine, and starvation were due to a lack of food supply. Sen's work shifted thinking away from this approach in showing that the problem is not always a lack of food but a lack of *access* to food.

The majority of the current literature on global justice presupposes the existence of scarcity and accepts the market to be reflective of needs. Though, as with the example above of painkillers, this is not necessarily the case. Amartya Sen, in taking an entitlement approach to resources, does not consider the market to be reflective of "biological needs or psychological desires".[223] Although Sen presents a theory of justice in a very broad sense,[224] he describes the relationships between resources and poverty and the people and the environment in which they live.[225] This examination of the relationship between people and resources leads him to argue for his capability approach,[226] which does not necessarily seek the ultimate, ideal, just society. Still, it looks to how changes can be made, given these intricate interrelationships, to make societies more just.[227] Sen argues for a plurality in approach between equality and liberty, holding that both should be given consideration in developing a theory of justice.[228]

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[220] Booth. 1984, "Responses to Scarcity" *The Sociological Quarterly*, p.114.

[221] Malthus, Thomas. (1798) *An Essay on the Principle of Population*.

[222] Sen, Amartya. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*.

[223] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.161.

[224] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.ix.

[225] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.254.

[226] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.231.

[227] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.263.

[228] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.317.

Octavio Ferraz,[229] in relying on a study by the World Bank indicating that there are enough resources available to meet basic human needs across the globe,[230] argues that the issue is not scarcity but distribution. Ferraz points out that there is an assumption of insufficiency of resources "in, if not all countries in the world," to realise social rights such as the right to food and the right to health care.[231] He refutes the assumption that the world is too poor to care for its people.[232] The World Bank declared back in 1998:

> "The world has more than enough resources to accelerate progress in human development for all and to eradicate the worst forms of poverty from the plant. Advancing human developing is not an exorbitant undertaking. For example, it has been estimates that the total additional yearly investment required to achieve universal access to basic social services would be roughly $40 billion, 0,1% of world income, barely more than a rounding error. That covers the bill for basic education, health, nutrition, reproductive health, family planning and safe water and sanitation for all."[233]

In light of this, Ferraz argues that once it is acknowledged that the issue of deprivation is rooted in inequality and not insufficiency, then the question shifts on how to address this severe inequality in the distribution of resources, and this is where theories of justice become fundamental.[234]

Sendhil Mullainathan and Edlar Shafir claim that if the causes of scarcity are followed, it leads to an existence of abundance elsewhere.[235] They examine the assumption that failure leads to poverty and purport, and poverty, in fact, results in failure.[236] One of the examples

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[229] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review*, p.79.

[230] World Bank, State of Human Development Report, 1998.

[231] Ferraz2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review*, p.79.

[232] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review*, p.81.

[233] World Bank, State of Human Development Report, 1998, p.37.

[234] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review*, p.85.

[235] Mullainathan, Sendhil., & Shafir, Eldar. 2013, *Scarcity*, p.234.

[236] Mullainathan.. & Shafir. 2013, *Scarcity*, p.155.

which they use to illustrate this point using data is that of taking medication. Their data shows consistently that the poor take their necessary medication the least consistently.[237] They challenge the assumption of causality, contesting the narrative that people are suffering because they are failing to take their medication, to one where causation is rooted elsewhere – people are failing to take their medication because it is too expensive and suffering as a result of the prices, not their personal failure to take the medicine.[238] Works such as theirs provide a different lens to look at poverty and deprivation issues, which are becoming increasingly relevant and necessary as inequality grows.

Nicholas Xenos argues that scarcity is a modern invention.[239] Per Xenos, our modern understanding of scarcity resonates with the depictions of human desire described by Adam Smith and David Hume. These 'modern' desires have become more social in nature and thus cannot be fulfilled, resulting in an ever-present, perpetual cycle of insufficiency. Assumptions of scarcity are evident in assessments of global inequality, poverty, and social circumstances. As a result, when speaking of inequality in theories of justice, there appears to be an underlying assumption of scarcity which makes inequality somewhat inevitable. For example, Xenos notes that John Rawls follows the "modern scarcity" postulate in his original position where Rawls holds that "the circumstances of justice obtain wherever mutually disinterested persons put forward conflicting claims to the division of social advantages under conditions of moderate scarcity."[240] Although a full analysis of theories of justice in the context of scarcity and assumptions thereof will follow in Part III, this illustrates how central this assumption of scarcity is. For if there were no such assumption made, the enquiry(s) into inequality would be very different. Currently, I purport, they are rooted in the assumption of scarcity.

While works such as that of Mullainathan and Shafir[241] indicate that neither a just distribution of resources nor an unjust distribution of resources can provide proof of absolute

[237] Mullainathan., & Shafir. 2013, *Scarcity*, p.151.

[238] Mullainathan., & Shafir. 2013, *Scarcity*, p.153.

[239] Xenos, Nicholas. 1989, *Scarcity & Modernity*, p.3.

[240] Rawls, John. 1971, *A Theory of Justice,* p.128.

[241] Mullainathan., & Shafir. 2013, *Scarcity*, 2013; Nagel, Thomas. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, 33, 113–47; Nozick, Robert. 1973, "Distributive Justice" *Philosophy & Public Affairs*, 3(1): 45-126; and Sen, Amartya. 1982, "Equality of What?" in Sen, Amartya, *Choice, Welfare and Measurement.*

scarcity where needs outweigh resources, particularly in a global context, there is little substance in the discourse of what scarcity means conceptually. Literature on global justice generally assumes that there is a tension between the availability or insufficiency of resources and the quest for distributive justice. Conceptualising scarcity arguably needs to go further than just an economic understanding of demand outweighing supply or the understanding of scarcity as insufficiency. Insufficiency of resources, where there is an absolute lack of resources, needs to be distinguished from relative scarcity, which speaks to the allocation and distribution of resources.

Further, there are implications that result from the lack of distinction between absolute and relative scarcity. For example, policies are written and executed on the assumption that there is an absolute scarcity of, say, food or water, when in fact, there is actually just relative scarcity as a result of unequal distribution. Such implications signify the need for conceptual clarity on scarcity. A conceptual analysis of scarcity as proposed by my work can thus provide a coherent, more nuanced understanding of scarcity.

Conclusion

This chapter considers scarcity as understood generally. Scarcity as a concept is examined. Importantly, this chapter draws a distinction between absolute scarcity and relative scarcity. This distinction is crucial for arguments made in following chapters. This chapter has also illustrated, through examples, how scarcity is malleable and also how scarcity can be created.

Building on the foundation laid in chapter one regarding global justice, and the examination of scarcity as a concept in Chapter Two, Chapter Three elaborates on how data misrepresents absolute scarcity versus relative scarcity and abundance. In this regard, I rely on examples of famine and access to medicines to illustrate how scarcity is assumed, and I argue that it is erroneously used to justify deprivation, poverty, and inequality. There needs to be a clear understanding of what scarcity means in the discourse on global justice. Without having conceptual clarity of scarcity, the reliance thereon is arguably erroneous. As proposed by my research, a conceptual analysis would negate arguments against distributive justice on grounds of resource availability and supress the use of scarcity as a scapegoat for inequality of resources.

CHAPTER 3: ILLUSTRATING THE ILLUSION OF SCARCITY

Introduction

'Scarcity' has been blamed for human suffering in instances of material deprivation such as famines. Yet, such 'scarcity' sometimes occurs in the presence of abundance. Despite this quintessential paradox, people still suffer as a result of the perceived scarcity. Thus we should be concerned with the illusion of scarcity, especially in the presence of abundance.

This chapter aims to show the consequences of assuming scarcity. The illusion of scarcity can have significant consequences when resources appear to be scarce but are in fact sufficient to meet the needs of people. In considering material deprivation in the presence of abundance, I rely on examples of food scarcity and medicine scarcity, both of which can exist in the presence of plenty and excess to illustrate the consequences of treating resources as scarce when they are not necessarily insufficient.

Questions regarding suffering as a result of material deprivation while others had an abundance date back to the writings of Plato, who recognised that high consumption by the rich created shortages for the poor.[242] However, Plato did not see wealth and poverty as two different evils but as two sides of the same evil, the reason being that the rich, or the wealthy, were the cause of the suffering of the poor. The object of scarcity has, however, over the course of time changed, as Charles Clark notes:

> "The development of the scarcity view of wealth takes place just when real scarcity ceases to be the main economic problem facing capitalist economies. When Plato and Adam Smith referred to wealth as the production of goods and services that provided for the material needs of the community, meeting these needs was the central concern, that is, the central economic problem was how to produce sufficient output to supply all the necessary goods and services to the existing population. The industrial revolution tackled this problem, such that by the second half of the nineteenth century the central economic problem became how to consume, given the existing distribution of income, all the potential output of businessmen at rates of return that are acceptable to these businessmen."[243]

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[242] Plato, 381 BC, *The Republic IV*, p.422a.

[243] Clark, Charles, M A. 2002 "Wealth and Poverty: On the Social Creation of Scarcity" *Journal of Economic Issues*, 36:415-421, p.417.

The object of scarcity has evidently shifted from one of necessity for survival to one of market influence yielding the best economic outcomes for the profit-makers. The rise of neoclassical economics has again brought scarcity to the forefront of economic inquiries. The globalised world tries to marry its lust for free markets and increase concern over poverty, hunger, and human suffrage.[244]

To illustrate the differences between absolute scarcity and relative scarcity and to build the foundation for the enquiry into the category mistake made in this regard in theories of global justice, I rely on hunger and food and access to medicines as examples. However, ultimately the concern is human suffering in the presence of abundance and insufficiency. This chapter considers this phenomenon by examining examples of famines and instances of medicine scarcity. These examples illustrate the nature of scarcity in instances of abundance and showcase different causes of scarcity.

Poverty

Poverty is generally understood as deprivation of well-being.[245] One approach to assessing people's well-being is considering their command over commodities in that people are considered better off "if they have greater command over resources".[246] However, this begs the question of whether people have enough resources to meet their basic needs. Another approach to assessing well-being and, therefore poverty, is asking if people are able to obtain specific types of good.[247] For example, do people have access to enough food and the right kind of food not to be malnourished, or do people have access to a standard of education that ensures literacy? The World Bank considers the broadest approach to well-being and poverty to be Amartya Sen's.[248] Sen holds that "well-being comes from a capability to function in society".[249] According to Sen's approach, poverty then exists where there is a lack of capability such as

[244] Clark. 2002 "Wealth and Poverty: On the Social Creation of Scarcity" *Journal of Economic Issues*, p.416.

[245] Haughton, Jonathan., & Khandker, Shahidur R. 2009, *Handbook on Poverty and Inequality*, p.2.

[246] Haughton., & Khandker. 2009, *Handbook on Poverty and Inequality*, p..2

[247] Haughton., & Khandker. 2009, *Handbook on Poverty and Inequality*, p.2.

[248] Sen, Amartya. 1987, *Commodities and Capabilities*.

[249] Haughton., & Khandker. 2009, *Handbook on Poverty and Inequality*, p.2-3.

inadequate health, lack of income, lack of education, and so forth. As the World Bank recognises, when poverty is conceptualised in this way, then "poverty is a multidimensional phenomenon and less amenable to simple solutions."[250]

There is no ideal means by which to measure poverty.[251] The World Bank measures world poverty in order to compare, analyse and study, by establishing a dollar-based poverty line. This value is then converted into local currencies, which is then used to determine the local-currency poverty line by using local consumer price indexes. Household survey data then supplements this information so that local poverty rates can be inferred and aggregates for the region can be determined.[252]

While poverty is generally assessed according to income, though considering United Nations Sustainable Development Goals of 2015[253] the Multidimensional Poverty Index (MPI) is used as a tool to measure Goal one – to eliminate poverty. The MPI looks at deprivations, including health, education, and standard of living to assess poverty. As set by the World Bank, the poverty line was revised in 2015 to $1.90 a day. This means that persons living on less than $1.90 a day are considered to be in extreme poverty, and essentially, it speaks to a person's purchasing power. The graph below shows the number of people living in poverty, the geographical areas which are most burdened by people living in poverty, and projections for poverty rates.[254] The World Poverty Clock, a tool that continually estimates the global poverty rate, foresees that 8 percent of the world is currently living in poverty.[255]

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[250] Haughton., & Khandker. 2009, *Handbook on Poverty and Inequality*, p.3.

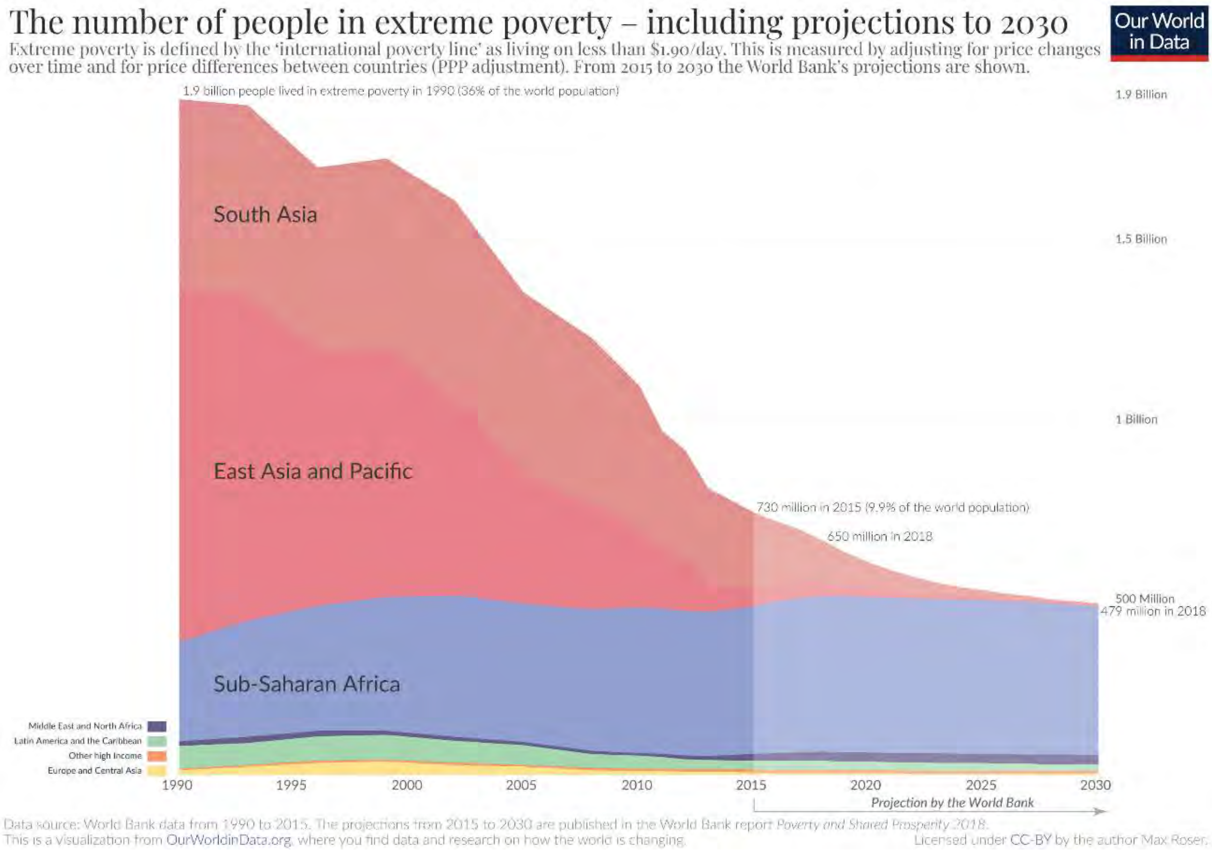
[251] Haughton., & Khandker. 2009, *Handbook on Poverty and Inequality*, p.34.

[252] Haughton., & Khandker. 2009, *Handbook on Poverty and Inequality*, p.181.

[253] United Nations Sustainable Development Goals para 45 of United Nations Resolution A/RES/70/1 of 25 September 2015.

[254] Roser, Max., & Ortiz-Ospina, Esteban. 2013, "Global Extreme Poverty" <https://ourworldindata.org/extreme-poverty> (accessed 12 October 2019).

[255] The World Poverty Clock < https://worldpoverty.io/> (access 11 October 2019).



It needs to be borne in mind that the poverty line does not account for persons who do not earn more than \$1.90 but who receive grants, aid, relief, or assistance of some sort which brings them above this line.

Hunger and health are fundamental to standards of living and can therefore be considered as determinants of poverty. Regarding hunger as a determinant of poverty, the Food and Agricultural Organisation of the United Nations holds:

> "Hunger is an important cause as well as an effect of poverty. The effects of hunger go beyond its terrible toll on those who suffer from it. Hunger has substantial economic costs for individuals, families & whole societies. Labour, often the only asset of the poor is devalued for the hungry. Mental and physical health is compromised by lack of food, cutting productivity, output and the wages that people earn. Chronically hungry people cannot accumulate the financial or human capital which would allow them to escape poverty. And hunger has an inter-generational dimension, with undernourished mothers giving birth to underweight children. In

> societies where hunger is widespread, economic growth, an essential element in sustainable poverty reduction, is severely compromised."[256]

Hunger can be as of a result of poverty, and hunger can also result in poverty. If you are hungry, you are weak, more susceptible to illnesses and injuries, and may be unable to put food on the table. Both hunger and health have the ability to perpetuate poverty, for if you are sick, you cannot work to earn money to pay for the necessary medication to get better. Thus poverty can be said to be a cause of ill health, while ill-health can also be a cause of poverty. Just as hunger can prevent people from being productive, so can ill-health. Ill health can "limit their participation in the labour market, and will force them to pay more for health care and curb investments in their children's health, thus creating a vicious circle."[257] There is obvious causality between poverty and health. One cannot be addressed without addressing the other. Determinants of poverty such as hunger and health that also have reverse causality illustrate the need to look at poverty as a multidimensional phenomenon and not as a single faceted issue. As efforts are made to tackle global poverty, efforts need to be made to tackle the issues that cause and perpetuate poverty, such as hunger and health.

Given the intricate relationship between health and hunger and poverty and the global justice issues which arise from within this conglomerate of problems, both food and medicine serve as appropriate and relevant examples of how the conceptualisation of scarcity can potentially provide recourse to such issues of global justice. Moreover, the supply, demand, and distribution of both food and medicine are well documented with statistics, reports by international bodies, and historical, as well as the present. This evidence may inform our understanding of scarcity of resources for as Thomas Pogge points out:

> "For this first time in human history it is quite feasible, economically, to wipe out hunger and preventable diseases worldwide without real inconvenience to anyone – all the more so because the high income countries no longer face any serious military threat."[258]

[256] Food and Agricultural Organisation of the United Nations, *et al.* 2002, *Reducing Poverty and Hunger: The Critical Role of Financing for Food, Agriculture and Rural Development*, p.4.

[257] Habibov, Nazim., *et al.* 2019, "Poverty Does Make Us Sick" *Annals of Global Health*, 85(1): 33, 1-12.

[258] Pogge, Thomas. 2001, "Priorities of Global Justice" *Metaphilosophy* 32:6-24, p.14.

Food, Famine, & Hunger

In 2019 the Food and Agriculture Organisation of the United Nations reported that there has been a rise in world hunger and that the number of hungry people in the world is estimated to be 821 million, or one in nine people.[259] However, while the prominence of hunger has risen, so has obesity rates – it is estimated that one out of every eight adults in the world are obese. This is a contradiction, for how can there be such a prevalence of hunger when there is a greater prevalence of obesity? These conflicting statistics are counter-intuitive and illustrate the need to carefully consider how we understand scarcity. As per these statistics, the cause cannot be the amount of food available. Chris Otter articulates this paradox in addressing the global food crisis:

> "Escalating global hunger and obesity levels might seem like a gigantic paradox. It is not. It is part of a single global food crisis, with economic, geopolitical, and environmental dimensions. It is perhaps the starkest, most basic way in which global inequality is manifest."[260]

Hunger is to be understood as not receiving the minimum number of necessary calories and being subject to food insecurity.[261] Hunger is measured by the incidence of undernourishment and lack of ability to acquire the necessary food.[262] Additionally, famines are still a concern in many parts of the world, despite the industrial, technological, and scientific advances made over the last century. The Cambridge Dictionary defines a famine as "an extreme lack of food in a region, causing suffering and death".[263] A famine is declared when food shortages are affecting at least 20 percent of the population, when there is acute malnutrition, and when there

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[259] Food and Agricultural Organisation of the United Nations, 2019, *The State of Food Security and Nutrition in the World*, p.3.

[260] Otter, Chris. 2010, "Feast and Famine: The Global Food Crisis" *Origins* 3:6 <http://origins.osu.edu/article/feast-and-famine-global-food-crisis> (accessed 10 October 2019).

[261] Koba, Mark. 2013, "Millions Hungry Despite World Food Surplus" *GlobalPost* <https://www.pri.org/stories/2013-07-22/millions-hungry-despite-world-food-surplus> (accessed 10 October 2019).

[262] Food and Agriculture Organisation of the United Nations. 2018, *World Food and Agriculture: Statistical Pocketbook*, 14.

[263] Cambridge International Dictionary of English. 1995.

is increased mortality.[264] The Food and Agricultural Organisation of the United Nations traditionally considered famines as an issue of food availability decline. Sen challenged this view by arguing that famines resulted from an entitlement failure, which explained why famines could occur when food was physically present. Furthermore, Sen held that there is a proximate causation between food and famines in that “famines imply starvation, but not vice versa.”[265] Sen’s work on famines illuminated the interrelationships between food, poverty, health, climate, economics, and politics. His work led to a shift from viewing famine as a decline in food availability to a multi-dimensional phenomenon that can have many interlinking causes.

According to the World Food Organisation (WFO), the reason for famines, hunger, and food insecurity are poverty, war and conflict, climate change, and economic and political shifts. The World Food Organisation suggests that the problem is not a shortage of food, but what is done with the food there is. Abhijit Banerjee and Esther Duflo echo these sentiments in holding that “[s]tarvation exists in today’s world, but only as a result of the way food gets shared among us.”[266]

Sustainable Development Goal number two of the United Nations Sustainable Development Goals of 2015[267] seeks to eliminate hunger. In tracking progress towards these goals, certain indicators have been developed, and one such indicator specifies that two billion people in the world experience some level of food insecurity. Food insecurity refers to a person’s inability to access food. Moderate food insecurity refers to people who are uncertain about their food sources and are forced to compromise on the quality and quantity of food they consume. Severe food insecurity refers to people lacking access to food, and in the extreme, go days without eating.[268]

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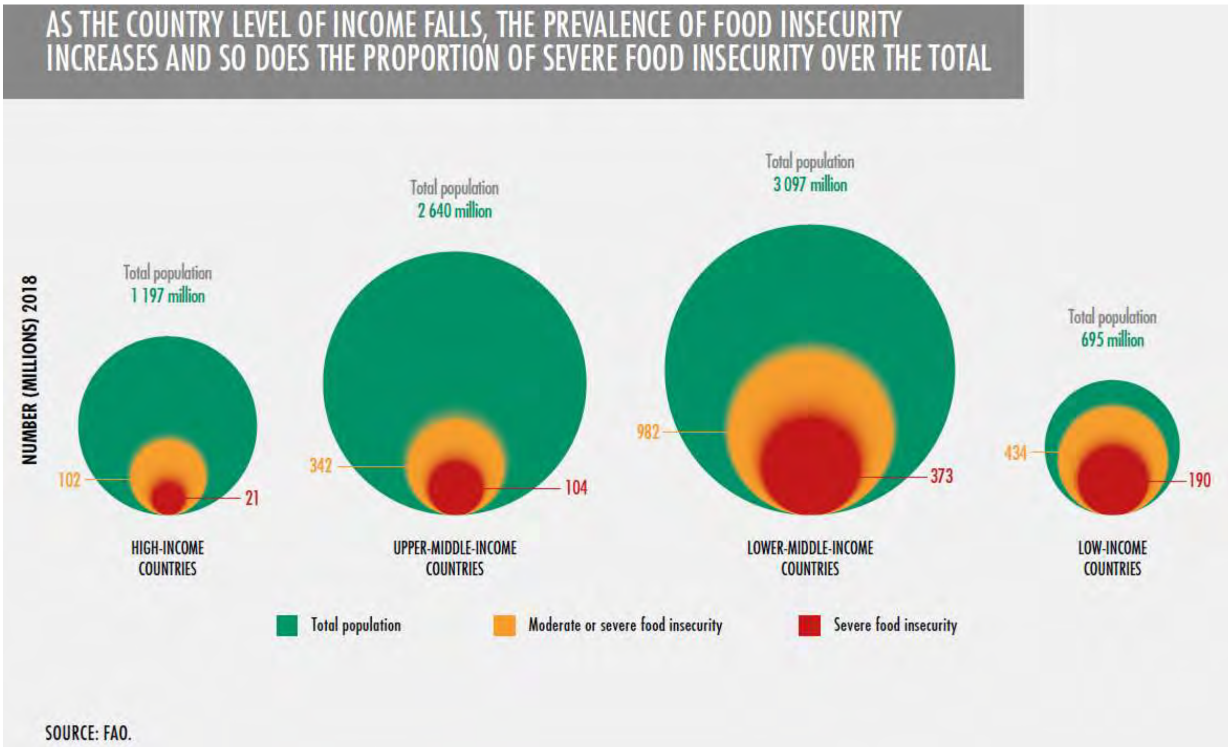
[264] Food Security Information Network, 2018, *Global Report on Food Crises 2018*, p.17.

[265] Sen, Amartya. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.39.

[266] Banerjee, Abhijit., V. & Duflo, Esther. 2011, *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*, p.56.

[267] United Nations Sustainable Development Goals, para 45 of United Nations Resolution A/RES/70/1 of 25 September 2015.

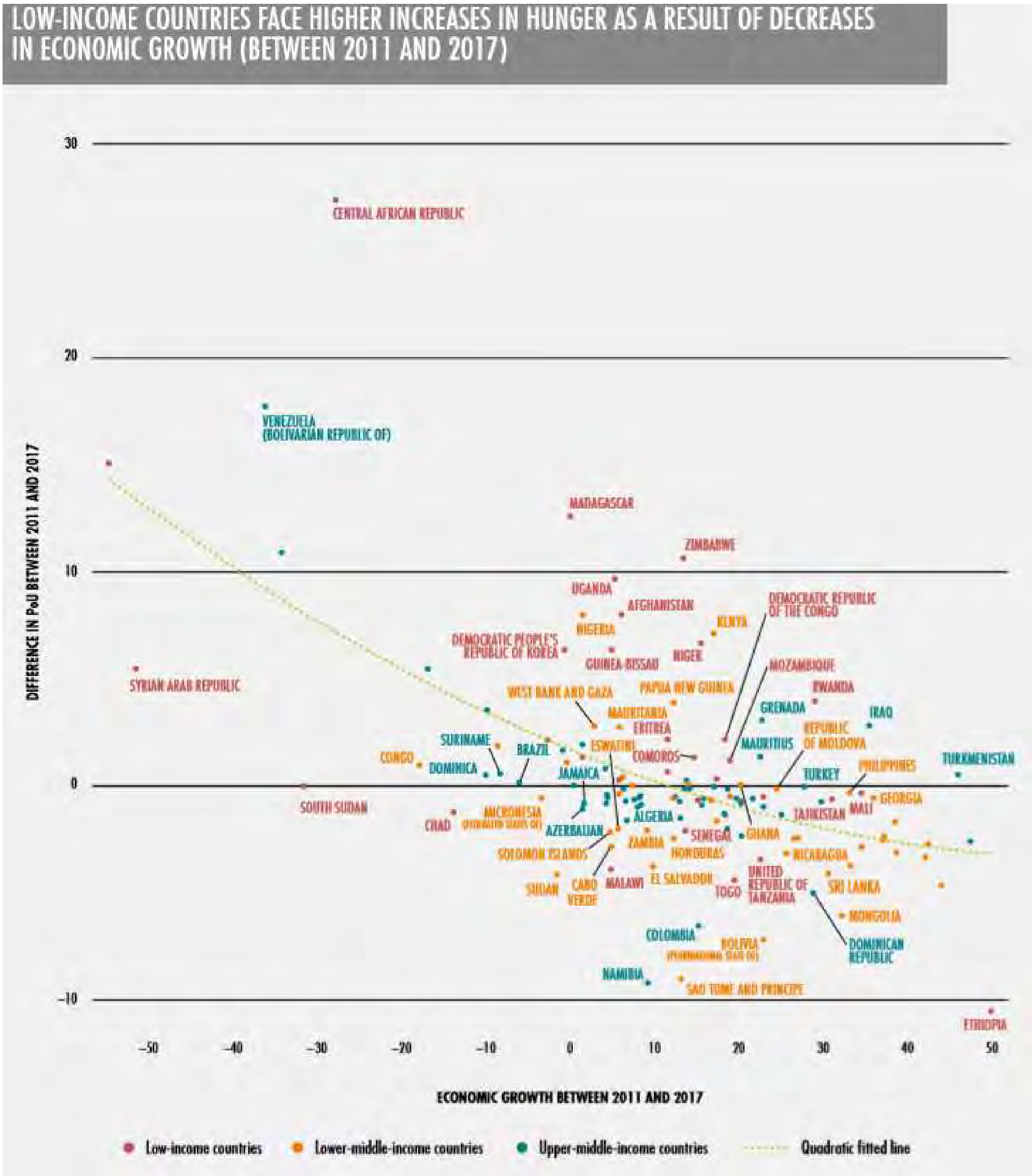
[268] Food and Agricultural Organisation of the United Nations. 2019, *The State of Food Security and Nutrition in the World*, p.5.



The graph above[269] indicates where in the world food insecurity is most prominent and to what severity it is prominent in the population. Evidently, the burden of food insecurity is carried by low and middle-income countries. There is further evidence showing relationships between economic power or purchasing power and the prevalence of hunger and malnutrition. Economic downturns or slowdowns seem to result in a prevalence of undernourishment.[270] Countries suffering economic downturns or slowdowns resulting from conflict, civil unrest, global political economy, or environmental reasons are additionally burdened with being vulnerable to food insecurity.

[269] Food and Agricultural Organisation of the United Nations. 2019, *The State of Food Security and Nutrition in the World*, p.21.

[270] Food and Agricultural Organisation of the United Nations. 2019, *The State of Food Security and Nutrition in the World*, p.51.

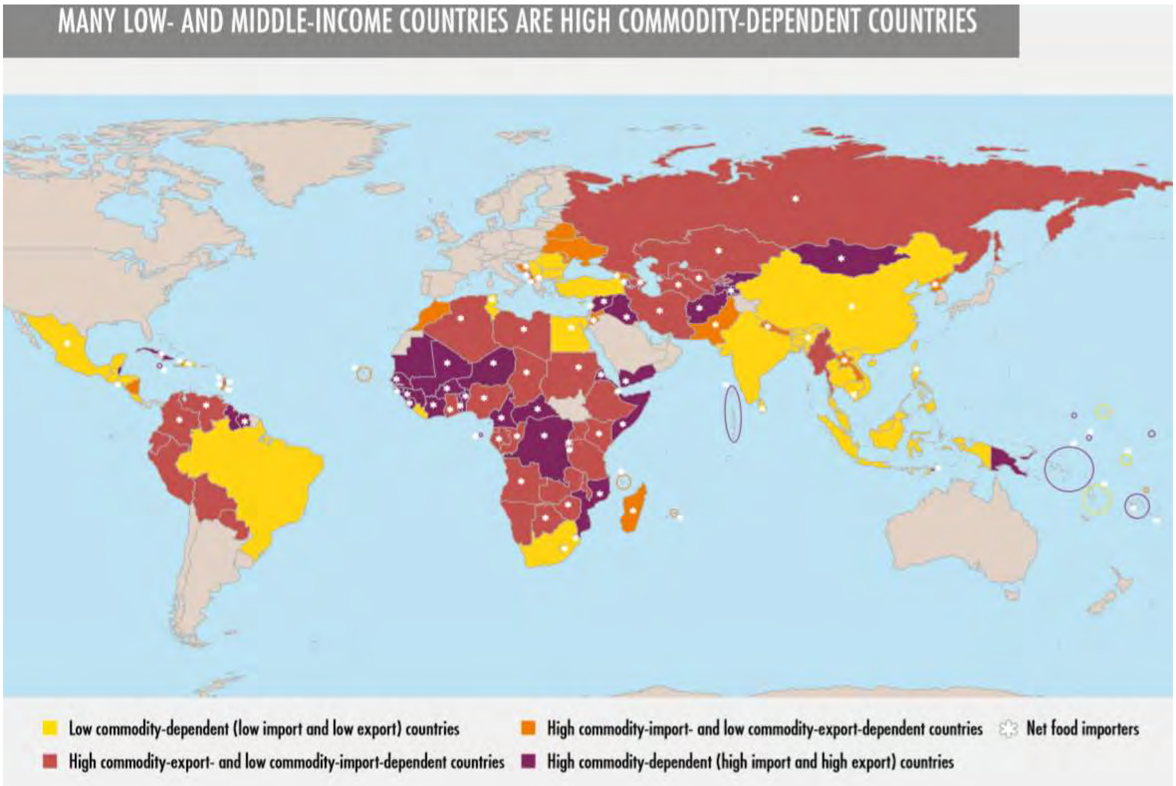


The graph above from the Food and Agricultural Organisation of the United Nations shows the relationship between lack of economic growth and an increase in hunger in low-income countries specifically.[271] However, the graph is only concerned with low-income countries and middle-income countries, suggesting that the discrepancies between these and high-income

[271] Food and Agricultural Organisation of the United Nations. 2019, *The State of Food Security and Nutrition in the World*, p.58.

countries in terms of the abovementioned relationship would not fit the same graph scale. Although the graph shows outliers such as Ethiopia, which saw an increase in economic growth and yet no decrease in hunger, this leads us to ask the question of what economic growth actually means. In such an instance, it does not necessarily translate to purchasing power or economic access to food; else, the graph would look different.

Furthermore, there is an intersection between countries that experience hunger in stringent economic times and countries whose economies are dependent on primary commodities for exports and imports.[272] This illustrates the relationship between food capabilities and economic well-being. When a country is dependent on imports and exports for its economic well-being and perhaps even access to food commodities, a decline in imports and exports will affect food availability or the ability of people to participate in the market to acquire commodities that have become more expensive due to fewer imports.



[272] Food and Agricultural Organisation of the United Nations. 2019, *The State of Food Security and Nutrition in the World*, p.61.

The above map from the Food and Agricultural Organisation of the United Nations[273] illustrates which countries are commodity dependent. Developing countries evidently carry a large burden of supplying commodities as many are flagged as high commodity export and low commodity import dependent. This means that a country does not import a large amount of goods but exports much of its own resources or manufactures commodities. It is also interesting to note that densely populated countries such as India, South Africa, Bangladesh, Vietnam, Cambodia, the Republic of the Philippines, Mexico, and Brazil, amongst others, are all low dependent countries – they do not export much, nor do they import much.

Food Waste and Food Production

Some may argue that to eradicate hunger, food production needs to be increased.[274] Population growth is cited as a growing concern for food scarcity.[275] Arguably the necessary tools exist to increase food production to meet the needs of the growing population. However, it is also recognised that merely ensuring an increased supply of food is produced does not guarantee the eradication of famine, hunger, and food insecurity.[276] Food loss and food waste contribute to the inefficiency of the supply of food to meet the global demand.

Food loss refers to food lost throughout the supply chain, such as harvesting, processing, and production.[277] Thus, food loss is the decrease in edible food mass throughout the supply chain that specifically leads to edible food for human consumption.[278] Food waste refers to food lost at the end of the supply chain – as in retail and consumption.[279] The United Nations

[273] Food and Agricultural Organisation of the United Nations. 2019, *The State of Food Security and Nutrition in the World*, p.65.

[274] Dexia Asset Management. 2010, *Food Scarcity – Trends, Challenges, Solutions*, p.2.

[275] Food and Agriculture Organisation of the United Nations. 2009, *How to Feed the World in 2050*, p.2.

[276] Food and Agriculture Organisation of the United Nations. 2009, *How to Feed the World in 2050*, p.2.

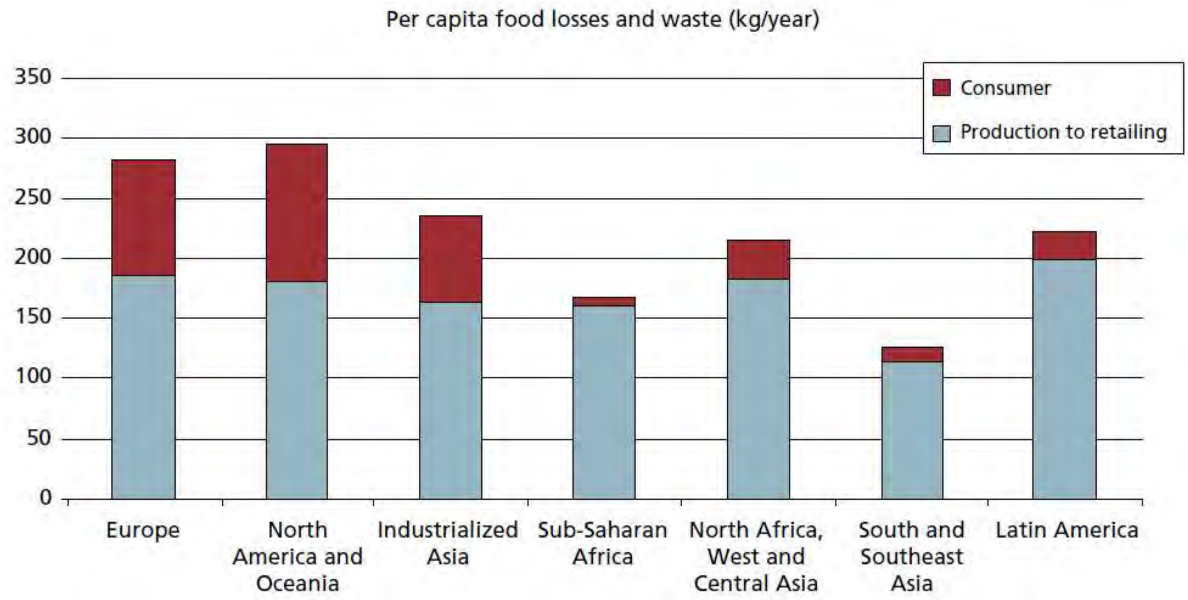
[277] Food and Agriculture Organisation of the United Nations. 2011, *Global Food Losses and Food Waste*, p.2.

[278] Parfit, Julian., Barthel, Mark., & Macnaughton, Sarah. 2010, "Food waste within food supply chains: quantification and potential for change to 2050" *Philosophical Transactions of the Royal Society*, 365: 3065-3081, p. 2066.

[279] Food and Agriculture Organisation of the United Nations. 2011, *Global Food Losses and Food Waste*, p.2.

Food and Agricultural Organisation estimate that one-quarter of the food lost or wasted each day would be sufficient to meet the needs of the population that are hungry.[280]

Per Capita food losses and waste, at consumption and pre-consumption stages, in different regions[281]



The graph above illustrates that consumers in high-income areas lost a higher percentage of food than consumers in low- or middle-income countries. The latter also carries more of a food insecurity burden than high-income countries. This perhaps illustrates the value of food in areas vulnerable to food insecurity versus those that are not. Most food is lost and wasted in the processes from production to retail.

So again, there are contradicting statistics. There is enough food produced to meet the needs and eradicate hunger, without even considering the over-consumption related to the obesity statistics or food waste and food loss statistics. Arguably hunger has less and less to do with lack of food and more to do with the management thereof and the affordable accessibility.[282]

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[280] Food and Agriculture Organisation of the United Nations. 2018, *Working for Zero Hunger: Activity Book*, p.15.

[281] Food and Agriculture Organisation of the United Nations. 2011, *Global Food Losses and Food Waste*, p.5.

[282] Scanlan, Stephen., Jenkins, Craig., & Peterson, Lindsey. 2010, "The Scarcity Fallacy" *Contexts*, 9:34-39, p.35.

As the World Food Organisation holds, the problems of famine and hunger are not due to the amount of food available, but rather the management of the food available in relation to the needs of the population. Some parts of the world appear to have an over-supply of food, while in other regions, the demand far outweighs the supply, as evidenced by malnourishment, hunger, and in the worst instance, famine.

The real issue is a mismatch between resources and needs – not resource scarcity.[283] In explaining how starvation may occur as a result of the lack of purchasing power and not necessarily food shortage, Sen holds that:

> "[M]arket demands are not reflections of biological needs or psychological desires, but choices based on exchange entitlement relations. If one doesn't have much to exchange, one can't demand very much, and may thus lose out in competition with others whose needs may be a good deal less acute, but whose entitlements are stronger."[284]

Banerjee and Duflo hold that there is no absolute scarcity, at least in terms of food, but that starvation occurs as a result of poor resource distribution.[285] In questioning 'whose hunger', Jenny Edkins argues:

> "The risk (of famine) has been set aside as something accidental, something that teaches us nothing about the economic, social, or political system being studied even though the competitive market economic system relied on the concept of a certain scarcity. To see famine as a natural disaster,… or as an economic disaster,… ignores the way some people benefit from famine."[286]

The data shows that food production does not mean there is food security; that even economic growth does not ensure food security. The data shows that where most food is lost or wasted, it is not in the areas suffering, alleviating any blame from the victims of hunger. The question then arises of what can be done to address food insecurity – more food and more money do not seem to be the answer. Money or economic growth only assists if it translates into purchasing

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[283] Cohen, Joshua. 2010, "Philosophy, Social Science, Global Poverty" *Thomas Pogge and His Critics*, Jaggar, Alison M (ed.), 18-45, p.18.

[284] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation*, p.161.

[285] Banerjee, Abhijit., V. & Duflo, Esther. 2011, *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*, p.56.

[286] Edkins, Jenny. 2000, *Whose Hunger?* p.65.

power, which can and will (requiring political will) be used by the state to ensure access to food. These issues are complex – it is not just a matter of the physical amount of food. The food has to be economically accessible and available to the people vulnerable to food insecurity. The data shows that there is enough food. It appears it just isn't where it is most needed, not because of the natural state of affairs but rather because of economic and institutional structures.

Famines in the presence of food

The Irish Famine

To illustrate the issues raised above, I make brief reference to one of history's greatest known famines – the Irish famine of 1845-1849. The famine arose as a result of the potato crops becoming infested with an organism called *Phytophthora Infestans.* Half the potato crop failed in the first year, 1945, followed by several years of bigger crop failures because of the infestation.[287]

The infestation of the crops was only realised when general digging began.[288] Initially, it appeared to be localised, but by 1946 had affected crops across Ireland.[289] As a result, the Government had to expand the initial relief measures to a larger nationwide scale. In doing so, the Government placed the responsibility of financing relief on landlords, which resulted in 'relief for employment' replacing gratuitous relief.[290] In effect, people had to work to survive, but work was limited because of the crop failures, driving people into poverty.

The impact of the famine was arguably more severe given the already high poverty rates in the area. Before the famine, more than a quarter of the Irish population lived in poverty to the point of needing assistance.[291] When the famine hit, the poor suffered the greatest, and the rest

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[287] The Irish Potato Famine <https://www.dochara.com/the-irish/food-history/the-irish-potato-famine-1846-1850/> (accessed 03 November 2019).

[288] Kinealy, Christine. 1990, "The Irish Famine" *North Irish Roots,* 2: 158-161, p.158.

[289] Kinealy. 1990, "The Irish Famine" *North Irish Roots,* p.158.

[290] Kinealy. 1990, "The Irish Famine" *North Irish Roots,* p.159.

[291] The Irish Potato Famine <https://www.dochara.com/the-irish/food-history/the-irish-potato-famine-1846-1850/> (accessed 03 November 2019).

of the population was driven into dire circumstances. In addition, many people did not own the land they cultivated, and thus even the crop that did survive was not theirs to keep.

The Potato Famine resulted in the death of over one million Irish people, dying of starvation and illnesses resulting from malnutrition. At the time, this amounted to about 15 percent of the Irish population.[292] At least another million people had to leave Ireland to seek a better quality of life and a better chance of survival.[293]

The potato – a staple food in Ireland – was also of vital importance to the Irish economy, driven by exports of the potato to neighbouring England.[294] The British administration took a laissez-faire market approach – even during the famine.[295] England's potato crops were also affected, but England was not entirely dependent on them as Ireland was. England also had the ability to import food due to its purchasing power. As a result, despite people dying of hunger in Ireland, exports of potatoes to England increased during the Famine. Warwick Funnel, in examining the cause of the famine itself, states:

> "As with any unfettered market in which products migrate to where the highest price is promised, during the Irish famine no impediments existed to the search for equilibrium between demand and supply. Abject need, which, in the absence of financial means, could not be translated into an economically enforceable entitlement, had no relevance to the most efficient disposition of food supplies, as opposed to distribution based upon humane considerations."[296]

Funnel argues that while the potato crop failure may have initiated starvation and malnutrition, famine was actually induced by the absence of purchasing power in the market. This

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[292] The Great Irish Famine <www.theirishstory.com/2016/10/18/the-great-irish-famine-1845-1851-a-brief-overview/#.Xb_0X_ZuI2w> (accessed 3 November 2019).

[293] Funnel, Warwick. 2001, "Accounting for Justice: Entitlement, Want and the Irish Famine of 1845-7" *The Accounting Historians Journal*, 28:187-206. See also The Irish Potato Famine <https://www.history.com/topics/immigration/irish-potato-famine> (accessed 3 November 2019).

[294] Funnel, Warwick. 2001, "Accounting for Justice: Entitlement, Want and the Irish Famine of 1845-7" *The Accounting Historians Journal*, 28:187-206, p.198.

[295] The Great Irish Famine <http://www.theirishstory.com/2016/10/18/the-great-irish-famine-1845-1851-a-brief-overview/#.Xb_0X_ZuI2w> (accessed 3 November 2019); Irish History: Great Famine <https://www.britannica.com/event/Great-Famine-Irish-history> (accessed 3 November 2019).

[296] Funnel. 2001, "Accounting for Justice: Entitlement, Want and the Irish Famine of 1845-7" *The Accounting Historians Journal*, p.198.

subsequently resulted in the resources moving away from human needs and towards market demands as influenced by purchasing power.[297]

There was not a complete absence of food. The food being exported to England could have been used to feed the starving, malnourished people in Ireland. Yet no legal regulations or policies placed such needs above-market demands, and thus, purchasing power entirely dictated the flow of resources, resulting in famine. Evidently, while I agree with Funnel that while the crop failure may have induced hunger and made the population vulnerable to famine, had there not been any export of potatoes to England, and there may not have been a famine.[298] It does not follow that the Irish famine arose naturally and was an unavoidable force of nature if exports were still able to continue and even increase. That just serves as evidence that the famine was not due to a lack of food, but due to a lack of food distribution, in this particular case, due to purchasing power.

There was also a political agenda behind the lack of famine relief. Historian Denis Clark holds:

> "England had presided over an epochal disaster too monstrous and too impersonal to be a mere product of individual ill-will or the fiendish outcome of a well-planned conspiracy. It was something worse; the cumulative antagonism and corruption of the English ruling class was visited with crushing intensity on a long-enfeebled foe, It was as close to a genocide as colonialism would come in the 19th century."

Cabinet ministers saw the famine as a means by which to rid Ireland of "uneconomic overpopulation".[299] Religion was used to sway public opinion, holding that the famine was divine intervention.[300] The Cabinet, through the media, created the perception that the famine and suffering was God punishing laziness.[301] Viscount Palmerston bluntly held that the

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297 Funnel. 2001, "Accounting for Justice: Entitlement, Want and the Irish Famine of 1845-7" *The Accounting Historians Journal*, p.198.

298 Funnel. 2001, "Accounting for Justice: Entitlement, Want and the Irish Famine of 1845-7" *The Accounting Historians Journal*, p.198.

299 Coogan, Tim. 2013, "Ireland's Path to Desolation" *History Today*, 63 <https://www.historytoday.com/archive/ireland%E2%80%99s-path-desolation> (accessed 20 July 2020).

300 Coogan, Tim. 2013, "Ireland's Path to Desolation" *History Today*, 63 <https://www.historytoday.com/archive/ireland%E2%80%99s-path-desolation> (accessed 20 July 2020).

301 Coogan, Tim. 2013, "Ireland's Path to Desolation" *History Today*, 63 <https://www.historytoday.com/archive/ireland%E2%80%99s-path-desolation> (accessed 20 July 2020).

situation in Ireland could not be resolved until “the surplus population was got rid of”.[302] English prosperity was seen to be under threat from Irish poverty.[303]

In addition to the fact that there was, in fact, enough food to relieve the effects of the famine, there was also political power – but with a different agenda. The political intervention in the famine – from insufficient relief measures to the image of Irish peasantry created through the media-played in the fatality of the famine. The famine that occurred was a consequence of more than the potato blight but a consequence of politics and economics intertwined with the potato blight. If dealt with differently, the effects of the potato blight could have had a less severe impact on Ireland. This serves as an example that not only can famine occur in the presence of food, but that famine is a political and economic issue and not just a food availability one. The causation of the suffering that occurred is not linear but a web influenced by politics, economics, and even religion.

The Bengal Famine

Another infamous famine that illustrates the same issues regarding food availability in the presence of famine is the Bengal famine of 1943.[304] Bengal was a British Indian province that included present-day Bangladesh and India’s western state of Bengal.[305] On the face of it, the famine was caused by the dramatic increase in the price of rice – the staple food of the region.[306] Approximately between two and three million people died as a result of the 1943 Bengal famine.[307] The region had previously suffered a famine between 1769 and 1773 in which

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302 Coogan, Tim. 2013, “Ireland’s Path to Desolation” *History Today*, 63 <https://www.historytoday.com/archive/ireland%E2%80%99s-path-desolation> (accessed 20 July 2020).

303 Coogan, Tim. 2013, “Ireland’s Path to Desolation” *History Today*, 63 <https://www.historytoday.com/archive/ireland%E2%80%99s-path-desolation> (accessed 20 July 2020).

304 Roy, Tirthankar. 2019, “The Bengal Famine of 1943” *History Today*, 69 <https://www.historytoday.com/archive/feature/bengal-famine-1943> (accessed 20 July 2020).

305 Roy, Tirthankar. 2019, “The Bengal Famine of 1943” *History Today*, 69 <https://www.historytoday.com/archive/feature/bengal-famine-1943> (accessed 20 July 2020).

306 Roy, Tirthankar. 2019, “The Bengal Famine of 1943” *History Today*, 69 <https://www.historytoday.com/archive/feature/bengal-famine-1943> (accessed 20 July 2020).

307 Maharatna, Arup. 1996, *The Demography of Famine: an Indian Historical Perspective*, PhD thesis, London School of Economics and Political Science, p215; Devereuz, Stephen. 2000, *The New Famines*, p6; Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.201; O Grada, Cormac. 2007, “Making Famine History” *Journal of Economic History*, 45: 5-38, p.19; See also Greenough, Paul R. 1982, *Prosperity and misery*

approximately 10 million deaths occurred - approximately a third of the population at the time.[308] At the time, Bengal was under the rule of the British East India Company. The cause of the famine, though influenced by crop failures and drought, is argued to be primarily due to the economic policies of the British East India Company.[309]

The famine of 1943 began in the summer and endured until relief operations in 1944.[310] At the time, there was military occupation of Japanese soldiers in Burma, and rice was sent to feed soldiers. In addition, a cyclone had affected the area in October 1942.[311] These factors were considered by the Famine Inquiry Commission of India set up to determine the cause of the Bengal famine.[312] The Famine Inquiry Commission held:

> "Since the famine hit Bengal in 1943, it is quite natural, in view of the cyclone, flooding, fungus diseases, the disruption of the war, the loss of Burma rice, that its primary cause should be seen in 'the serious shortage in the total supply of rice available for consumption in Bengal as compared with the total supply normally available."[313]

Though later acknowledged that "it lay in the power of the Government of Bengal, by bold, resolute and well-conceived measures at the right time to have largely prevented the tragedy of the famine as it actually took place."[314]

As noted by Sen, the common approach to famines is to explain a decline in food availability, and the approach of the Famine Inquiry Commission illustrates this.[315] However,

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in modern Bengal: the famine of 1943-1944, p.299-305, estimates of the death toll caused by the famine differ but are within the range of two to three million.

[308] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation*, p.39.

[309] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.195.

[310] Roy, Tirthankar. 2019, "The Bengal Famine of 1943" *History Today*, 69 <https://www.historytoday.com/archive/feature/bengal-famine-1943> (accessed 20 July 2020).

[311] Roy, Tirthankar. 2019, "The Bengal Famine of 1943" *History Today*, 69 <https://www.historytoday.com/archive/feature/bengal-famine-1943> (accessed 20 July 2020).

[312] Famine Inquiry Commission (1945a) p.77.

[313] Famine Inquiry Commission (1945a) p.77.

[314] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.105.

[315] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation*, p.57.

the Bengal famine actually occurred as a result of policy failure, not as a result of a shortage of food.[316] Studies have found that in 1943, Bengal, in fact, yielded higher crop production than in previous years.[317] Even the rice yield per acre was recorded as higher than the years before.[318] In addition, wheat imports were higher than in previous years.[319] Food availability per capita was higher by 9 percent (considering population growth) than in previous years.[320] Thus overall, food availability had in fact increased in 1943. Yet, a devastating famine occurred in the region. As Sen concludes, the Bengal famine of 1943 was not a reflection of food availability in the province.[321]

Regardless of food being available, millions suffered. Rural areas were most harshly affected.[322] Workers received wages as opposed to payment in relation to harvest, and when inflation as a result of the war hit, many were left destitute, being unable to live off their wages.[323] Debarshi Das analysed the role of land ownership amidst the crisis.[324] People were forced to sell their land. Between April 1943 and April 1944, approximately 9 25 000 families sold their land or had it appropriated by the government.[325] This accounted for 14 percent of landowners and 3 percent of the land. Millions of people moved to cities seeking relief resulting

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[316] Kuchay, Bilal. 2019, "Churchill's policies to blame for 1943 Bengal famine: Study" *Aljazeera*, <https://www.aljazeera.com/news/2019/04/churchill-policies-blamed-1943-bengal-famine-study-190401155922122.html> (accessed 20 July 2020); Sen, Amartya. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation*; O Grada, Cormac. 2015, *Eating People is Wrong*, p.90.

[317] Kuchay, Bilal. 2019, "Churchill's policies to blame for 1943 Bengal famine: Study" *Aljazeera*, <https://www.aljazeera.com/news/2019/04/churchill-policies-blamed-1943-bengal-famine-study-190401155922122.html> (accessed 20 July 2020); Sen, Amartya. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.58.

[318] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.58.

[319] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.59.

[320] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.60.

[321] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.63.

[322] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.63.

[323] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.75; Brennan, Lance. 1988, "Government Famine Relief in Bengal, 1943" *Journal of Asian Studies* 47(3): 541-566, p.542.

[324] Das, Debarshi. 2008, "A Relook at the Bengal Famine" *Economic and Political Weekly*, 43: 59-64, p.59.

[325] Das. 2008, "A Relook at the Bengal Famine" *Economic and Political Weekly*, p.61; Greenough, Paul R. 1982, *Prosperity and Misery in Rural Bengal: The Famine of 1943-44*, p.212.

in a population shift. This resulted in a higher demand for food in cities than previously, and systems were not in place to necessarily provide more food to cities. Sen holds that the famine was caused by a failure of exchange entitlements rather than food availability decline.[326] Overall, enough food was available in Bengal. Access to food was the issue, and the movement of the population played a role in this.

Other researchers have confirmed that drought was not a cause of the famine in Bengal.[327] Some blame the British Government's import restrictions for lack of relief.[328] Sen notes that regardless of the cause of famine, famine relief calls for an increased supply in the distribution of food.[329] This, in conjunction with Sen's claim that famines imply starvation but not vice versa,[330] frames famines as a political and economic issue.[331] The Bengal famine of 1943 is evidence of this as economics and politics played a crucial role in denying access to food entitlements to the population in need. Policy failures resulted in the maldistribution of food, creating resource scarcity, especially in the cities. People were driven into poverty from moving to the cities, losing their land, and unable to access food. Yet, there was enough food to prevent the suffering that occurred. The resources were just poorly managed and not directed to where it was needed. As a result, the Government of Bengal failed to provide people in need with access to food. Das holds that the Bengal famine was "arguably the worst economic disaster of the 20th century in South Asia".[332]

To briefly compare the Irish famine to the Bengal famine, there are clear differences and subtle commonalities. The Irish famine was caused by crop failure due to the potato blight, while there was never an outright crop failure in Bengal at the time directly to blame for the

[326] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.76.

[327] Kuchay, Bilal. 2019, "Churchill's policies to blame for 1943 Bengal famine: Study" *Aljazeera*, <https://www.aljazeera.com/news/2019/04/churchill-policies-blamed-1943-bengal-famine-study-190401155922122.html> (accessed 20 July 2020).

[328] Roy, Tirthankar. 2019, "The Bengal Famine of 1943" *History Today*, 69 <https://www.historytoday.com/archive/feature/bengal-famine-1943> (accessed 20 July 2020).

[329] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.79.

[330] Sen. 1981, *Poverty and Famines: An Essay on Entitlements and Deprivation,* p.39.

[331] See also Das. 2008, "A Relook at the Bengal Famine" *Economic and Political Weekly*, p59; Devereuz. 2000, *The New Famines*, p 21-23.

[332] Das. 2008, "A Relook at the Bengal Famine" *Economic and Political Weekly*, p.59.

famine, but a few instances of nature – though none severe enough to cause devastation and suffering. In Ireland, potatoes were still being exported, decreased availability of potatoes in Ireland itself, but indicating that the entitlement was initially there. Very little food was exported out of Bengal. Some rice was provided to soldiers on the eastern war front – but not enough to affect the resources needed to feed the province. Bengal did not suffer from any crop failure but had a more successful crop than in previous years. In Ireland, blame was placed on the potato blight and then on the people – portraying the circumstances as a natural consequence of their actions. However, in Bengal, people were blamed for hoarding.[333] The war was blamed despite it not actually having an impact on food availability. The famine in Bengal was ultimately seen not as a natural occurrence but as a failure of governance.

In both instances, there was not a lack of food. People did not need to starve. If an ideal distribution system existed, then in both Ireland and Bengal, people could have received the necessary food to survive. In Ireland, the fact that there were still enough potatoes to export to England indicated that food was available, but who the food went to was politicised. As a result, the Irish folk in need were not prioritised. In Bengal, there was no shortage of food, but access to the food was also governed in a way that barred people from necessary access. Both cases saw a failure of distribution management favouring those in need, which led to mass starvation. These similarities show that famines are more intricate than just whether enough food exists per capita to survive. Arguably, the same goes for other resources.

Philosophy and famine

Peter Singer references famine in Bengal in *Famine, Affluence, and Morality*, written in 1971.[334] He is referring to the beginnings of the Bangladesh (then Bengal) famine of 1974.[335] The area endured a period of mass starvation after its independence in 1971. The country had been left dismantled by the Pakistani's last rampage with over six million homes destroyed;

[333] See also O Grada. 2015, *Eating People is Wrong*.

[334] Singer, Peter. 1972, "Famine, Affluence, and Morality" *Philosophy and Public Affairs*, 1: 229–243.

[335] Bangladesh was previously the Indian province of Bengal.

over one million farms left without tools or animals, and transportation and communication systems ruined.[336]

The Brahmaputra River flooded, causing additional damage to the area. The famine was not solely caused by lack of food availability but also by lack of food entitlement or distributional ability. The flooding, management of food distribution, and population growth contributed to suffrage. Studies have found that crops at the time were, in fact, sufficient to feed the population and avoid hunger and starvation.[337]

Still today, despite knowing that famine is avoidable, the world faces man-made famines. As Singer raised concern over the then-recent human suffering, I wish to do the same to affirm that these are problems the world still presently faces. As such, I wish to highlight the current famine in Yemen. The Yemen famine began in 2016 during the civil war. In 2017 the United Nations estimated that 17 million people in Yemen are vulnerable to the famine.[338]

The Saudi-led coalition air strikes destroyed infrastructure vital for health, water, and sanitation systems, leading to an outbreak and spread of cholera.[339] The Saudis tightened their blockades via sea, land, and air, preventing food and medical supplies from entering into the country.[340] The Saudi actions and blockades caused the famine. Saudi Arabia attacked means of food production such as farms, fishing boats, and factories.[341] Yemen imports approximately

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[336] Time, "BANGLADESH: Mujib's Road from Prison to Power", *Time*, January 17, 1972. <http://content.time.com/time/subscriber/article/0,33009,877626,00.html > (accessed 12 December 2020).

[337] Singer. 1972, "Famine, Affluence, and Morality" *Philosophy and Public Affairs*.

[338] United Nations News Centre "Yemen on brink of famine, warns UN food relief agency chief, appealing for resources and access" 13 March 2017 < https://news.un.org/en/story/2017/03/553212-yemen-brink-famine-warns-un-food-relief-agency-chief-appealing-resources-and> (accessed 10 December 2020).

[339] Snyder, Stephen. "Thousands in Yemen get sick in an entirely preventable cholera outbreak" *The World* 15 May 2017 <https://www.pri.org/stories/2017-05-15/thousands-yemen-get-sick-entirely-preventable-cholera-outbreak> (accessed 10 December 2020).

[340] Dewan, Angela. "Saudi blockade pushing Yemen to 'worst famine in decades" *CNN* <https://edition.cnn.com/2017/11/09/middleeast/yemen-famine-saudi-arabia/index.html > (accessed 10 December 2020).

[341] MENAFN Gulf Times. "Saudi air campaign targets Yemen's food supplies" 12/13/2018 <https://menafn.com/qn_news_story_s.aspx?storyid=1096231032&title=Saudi-air-campaign-targets-Yemens-food-supplies> (accessed 10 December 2020).

90 percent of its staple food supplies.[342] These blockades have thus severely restricted access to food, and Yemen is unable to import necessary staples, and its own means of production have been destroyed.

In 2017 the Chief of the United Nations Office for the Coordination of Humanitarian Affairs estimated that in Yemen every 10 minutes, a child under the age of five dies from preventable causes.[343] At the time, 85 000 children in Yemen were estimated to had starved. However, estimating the death toll as a direct result of famine is difficult with the ongoing violence.

It is much more comprehendible that a famine such as that in Yemen is due to access to food entitlement and not food availability. It is perhaps more obvious in the context of war that famine can be man-made. Sources of food have been actively destroyed and blocked. There is food, or at least would be food, if it were not for the actions of the Saudi-led coalition. War is a more obvious cause than economic policy or systemic inequality. However, the point which Sen articulates repeatedly remains the same (whether we speak of war-caused famine or otherwise). The issue is not food availability but food entitlements. People could have access to food but for some causal interference. This is an issue beyond access to food but an issue that raises issues of global justice. Singer addresses the need for philosophers to be concerned about issues such as famine highlighted above. He holds:

> "On questions of fact, it is said, philosophers as such have no special expertise, and so it has been possible to engage in philosophy without committing oneself to any position on major public issues. No doubt there are some issues of social policy and foreign policy about which it can truly be said that a really expert assessment of the facts is requires before taking sides or acting, but the issue of famine is surely not one of these. The facts about the existence of suffering are beyond dispute. Nor, I think, is it disputed that we can do something about it, either through orthodox methods of famine relief or through population control or both. This is therefore an issue on which philosophers are competent to take a position."[344]

The current literature on global justice and distributive justice indicate this shift that Singer advocated for. Theorists hold stronger positions on global issues of fact that would have, at

342 Food and Agricultural Organization of the United Nations. 2017, *The State of Food Security and Nutrition in the World*, p.45.

343 O'Brien, Stephen. 2016, Statement to the Security Council on Yemen <https://www.unocha.org/es/story/yemen-child-under-age-five-dies-every-10-minutes-preventable-causes-un-humanitarian-chief> (accessed 10 December 2020).

344 Singer. 1972, "Famine, Affluence, and Morality" *Philosophy and Public Affairs*, p.242.

some point, not been considered as appropriate for philosophy. Philosophers can take on actual problems, not just theoretical ones. It is this power which I would argue that obliges us to engage with issues of injustice beyond theory.

When considering hunger, malnutrition, famine, and the like, it is necessary to look at the socio-economic and political causes that may have resulted in such states. Are people hungry because there is no food or because they cannot afford the food? Why can they not afford the food? These are the pertinent questions that need to be asked. As Thomas Pogge says, we can factually rid the world of hunger, and the factual contradictions above support that.[345] The resources exist. So why are people, especially those in developing countries, left suffering under the illusion that food is scarce?

The next section examines medicines in the context of the relationship of health and global justice as medicines and access to medicines, similarly to food, can serve as an example of how we conceptualise resource scarcity. Medicines, similarly to how food has been discussed, will be examined in the context of access, need, and perceived scarcity. Given the intricate relationship medicine and health has with poverty, access to medicines raises issues of global justice.

Access to Medicines

Health and health care raise many issues of global justice. Health is also intricately intertwined with poverty and perpetual poverty cycles, as discussed above. Unlike the phenomenon of hunger, where intuitively the problem seems to be lack of food, where there is ill-health, it is easier to accept that it is not just a matter of health care services. Health has so many determinants, and access to health care itself has so many determinants. A person must physically be able to access health care and must financially be able to access health care. The health care services must be of an acceptable standard and appropriate. Social and economic determinants of health include education, income, employment, job security, working conditions, food security, housing and access to basic amenities, early childhood development, information, conflict, non-discrimination, and access to affordable health care.[346] These

[345] Pogge, Thomas. 2001, "Priorities of Global Justice" *Metaphilosophy* 32 (1/2):6–24, p.14.

[346] World Health Organisation. *Determinants of health*, <https://www.who.int/news-room/q-a-detail/determinants-of-health> (accessed 10 February 2021).

determinants of health influence a person's health status and their ability to seek care. The World Health Organisation (WHO) further recognises that economic policies and development agendas can influence the health outcomes of a population, as can social policies and social norms.[347]

When looking at issues of ill-health, it is somewhat easier to, at least on the face of it, accept that the issue is about more than just the availability of health care services. If a sick person is treated by health care services but returns to living conditions or working conditions that caused the ill-health in the first place, then the health care is not addressing the root cause of the issue. The person may just fall ill again, and a perpetual cycle may occur. Ill-health can certainly imply inferior or substandard health care services or even a total lack thereof, but a lack of health care services or poor-quality health care services is not the cause of ill-health.

Therefore, health serves as a useful example to supplement the examples of famine above to indicate that human suffering can be a result of a myriad of complex issues ranging from politics and economics to religion and social norms. The resource or resources concerned in this section is medicine, broadly speaking, with some specific examples highlighted. Medicine resources are an interesting example to challenge our conceptualisation of scarcity because it is made or synthesised. Thus, unless raw materials necessary for the specific medicine is absolutely scarce, then it is hard to classify any medicine as absolutely scarce by nature. Any scarcity of a medicine would then be as a result of market demands, economic policies, politics, international relations, and need. A 'natural' scarcity of a medicine could only occur if a raw material necessary for the production of the medicine was absolutely scarce.

Despite this, a shortage of medicines is a common global problem.[348] Factors that contribute to the worldwide issue of shortage of medicines include problems in manufacturing, quality control issues, production delays, and profitability issues.[349] The Sustainable Development Goals seek to ensure universal health care, including ensuring access to safe, effective, quality

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[347] World Health Organisation. *Determinants of health*, <https://www.who.int/news-room/q-a-detail/determinants-of-health> (accessed 10 February 2021).

[348] Gray, Andy., & Manasse, Henri R. 2012, "Shortages of Medicines: A Complex Global Challenge" *Bulletin of the World Health Organization*, 90:158-158A.

[349] Modisakeng, Cynthia., *et al*. 2020, "Medicine shortages and challenges with the procurement process among public sector hospitals in South Africa; findings and implications" *BMC Health Services Research*, 20:234.

medication.[350] Access includes medicines being affordable.[351] There have been public calls for lifting price controls to promote growth and investment. Still, as governments are responsible for sustainable and responsible manufacturing of medicines, not only access, Andy Gray and Henri Manasse argue that such a *laissez-faire* approach will not suffice.[352]

The role of the WHO in terms of the supply and distribution of medicines is to, among other things, ensure countries maintain a constant supply of medicines of good quality and transport and distribute medicines efficiently. The Director-General of WHO captured this role in an address:

> "Access to safe, effective and quality medicines and vaccines for all is one of the targets of the SDGs. Achieving UHC requires access to safe, effective, quality an affordable essential medicines and vaccines. Access is a global concern in view of the rising prices of new medicines that place increasing pressure on the ability of all health systems to provide full and affordable access to healthcare; persisting problems of shortages and stockouts of essential medicines, especially for noncommunicable diseases, and vaccines; and increasing numbers of substandard and falsified medical products that pose an unacceptable risk to public health. In addition, problems such as antimicrobial resistance and opioid misuse highlight the need to improve appropriate use of medicines."[353]

In 1995 World Trade Organisation (WTO) drafted an agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS Agreement) which creates binding international obligations among member states regarding intellectual property rights and copyright protection. This included intellectual property protection for medicines in the form of patents. The TRIPS agreement also introduced standards delaying the marketing of generic medicines, which inevitably results in less competition and thereby higher prices of a new drug. However, it contains flexibility terms and safeguards to mitigate any negative impact on access to drugs, especially those which are essential to public health.[354]

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[350] United Nations Sustainable Development Goals, para 45 of United Nations Resolution A/RES/70/1 of 25 September 2015.

[351] World Health Organisation. 2005, "Access to Medicines" *WHO Drug Information*, 19:3.

[352] Gray., & Manasse. 2012, "Shortages of medicines: a complex global challenge" *Bulletin of the World Health Organisation*, p.158.

[353] World Health Organisation. 2018, *Report by Director-General: Addressing the Global Shortage of, and Access to, Medicines and Vaccines*, 142nd Session, EB142/13 (12 January 2018).

[354] World Trade Organisation. 1995, *Agreement on Trade-Related Aspects of Intellectual Property Rights*.

Due to concern over access to drugs vital for public health, in 2001, the World Trade Organisation drafted the Doha Declaration[355] addressing concerns over patents that may restrict access to affordable medicines essential to public health. Medicines necessary for the treatment of HIV, tuberculosis, and malaria serve as examples of public health issues that needed to be addressed. It is essential that there is affordable access to medicines for such high-burden diseases.[356]

Medicines that are potentially a breakthrough for the treatment of high-burden diseases are too costly for the majority of the global population.[357] Although three-quarters of the global population live in developing countries, developing countries account for less than 10 percent of the global pharmaceutical market.[358] The TRIPS Agreement arguably does not encourage research and development of drugs to address developing population plaguing diseases such as tuberculosis or malaria, as such countries do not hold the promise of profit to motivate investment by the pharmaceutical industry.[359]

The Doha Declaration may test the TRIPS Agreement in terms of exercising discretion in favour of public health. What I mean by this is that with the Doha Declaration, countries may use the discretion granted to them to counter the constraining limits of the TRIPS Agreement by supporting the research and development of pharmaceuticals that are in the interest of public health, arguing that this outweighs the intellectual property protection afforded to such

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355 World Trade Organisation. 2001, *Declaration on the TRIPS Agreement and Public Health*, Fourth Session, WT/MIN(01)/DEC/W/2 (14 November 2001).

356 'Burden of disease' refers to an assessment made of health outcomes involving both mortality and morbidity (disease prevalence). The sum of these is what is referred to as the burden of disease and is measured by 'disability adjusted life years' which measure 'lost' health. See Roser, Max., & Ritchie, Hannah. 2018, "Burden of Disease" *Our World in Data*, <https://ourworldindata.org/burden-of-disease> (accessed 3 November 2019). High-burden diseases are those which result in high losses of health across populations, for example, tuberculosis, malaria, and HIV.

357 'T Hoen, Ellen F M. "TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond" *Economics of AIDS and Access to HIV/AIDS Care*, 2003: 39-68, p.39.

358 'T Hoen. "TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond" *Economics of AIDS and Access to HIV/AIDS Care*, p.40.

359 'T Hoen. "TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond" *Economics of AIDS and Access to HIV/AIDS Care*, p.40.

pharmaceuticals by the TRIPS Agreement.[360] The Doha Declaration may ensure that the enforcement of and compliance with the TRIPS Agreement serves the public interest, not just the commercial pharmaceutical sector.[361]

Paragraph four of the Doha Declaration provides:

> "We agree that the TRIPS Agreement does not and should not prevent members from taking measures to protect public health. Accordingly, while reiterating out commitment to the TRIPS Agreement, we affirm that the Agreement can and should be interpreted in a manner supportive of WTO members' right to protect public health, and, in particular, to promote access to medicines for all."[362]

While pharmaceuticals have the potential to relieve pain and suffering and be to the benefit of the global population, in reality, they remain unavailable, inaccessible, and unaffordable to many as a result of commercial interests being prioritised over the needs of people.[363]

There is also a disparity between high-income countries and middle and low-income countries when it comes to access to medicine. When looking at causes of death, the graph below illustrates that communicable diseases, such as HIV, tuberculosis, malaria, tropical diseases, and viral hepatitis. Communicable diseases such as these cause over four million deaths each year,[364] which is less than noncommunicable diseases, but communicable diseases pose a greater public health risk as they are contagious or communicable and therefore a high burden. Noncommunicable diseases, such as cardiovascular diseases, cancers, respiratory diseases, and diabetes, cause 71 percent of all deaths each year.[365]

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[360] 'T Hoen. "TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond" *Economics of AIDS and Access to HIV/AIDS Care*, p. 61.

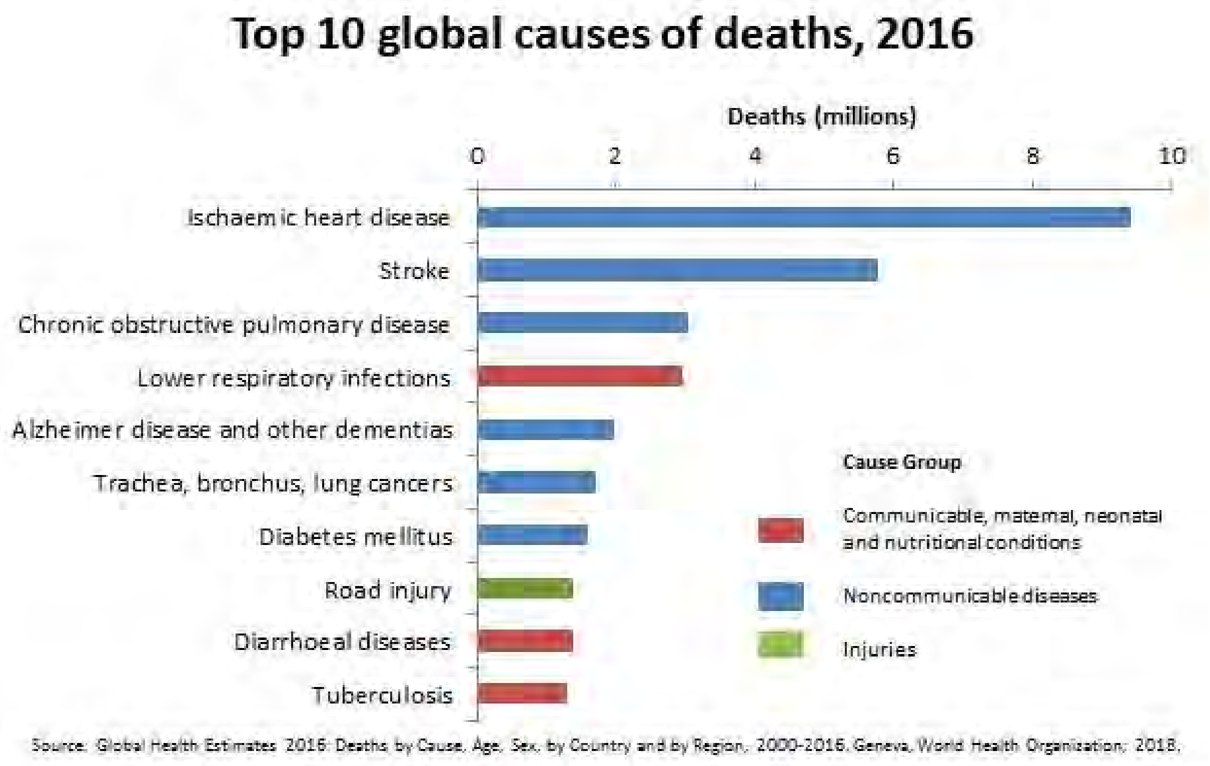
[361] 'T Hoen. "TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond" *Economics of AIDS and Access to HIV/AIDS Care*, p.61.

[362] World Trade Organisation. 2001, *Declaration on the TRIPS Agreement and Public Health*, Para 4.

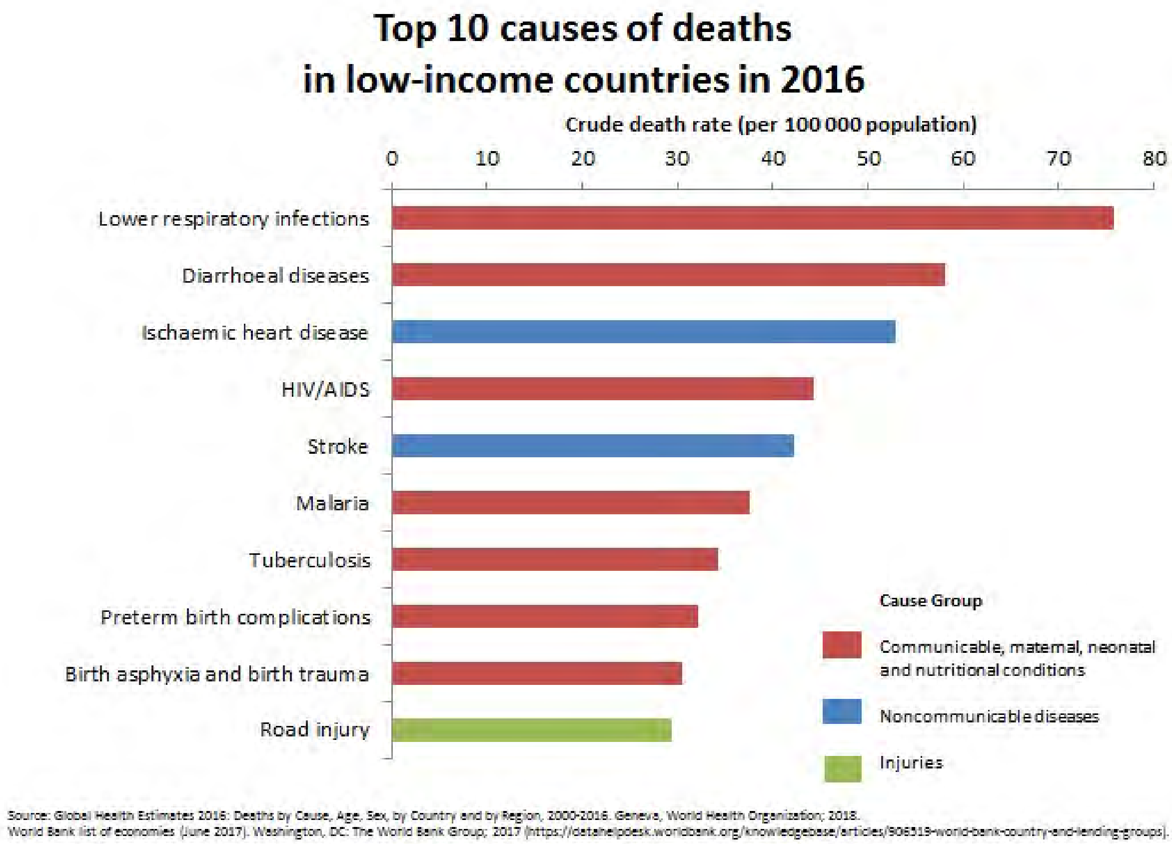
[363] Govindaraj, Ramesh., Reich, Micheal R., & Cohen, Jillian C. 2000, *World Bank Pharmaceuticals*, p.28.

[364] World Health Organisation. *Communicable diseases* <https://www.who.int/about/structure/organigram/htm/en/> (accessed 31 October 2019).

[365] World Health Organisation. *Noncommunicable diseases*, <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases> (accessed 31 October 2019).

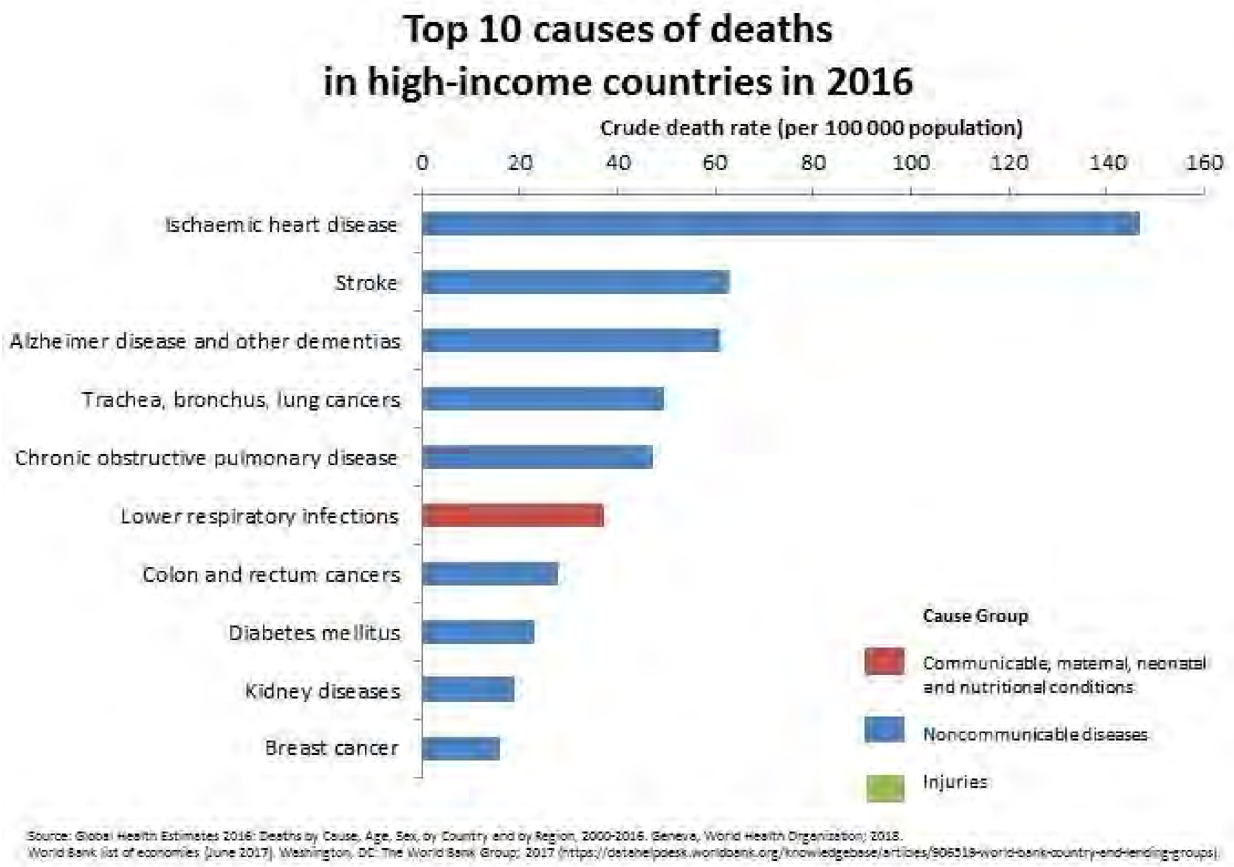


However, when looking at low-income countries, the causes of death are primarily as a result of communicable diseases, as illustrated below.



In stark contrast to this, the causes of death in high-income countries are predominantly as a result of noncommunicable diseases. In fact, diarrhoeal diseases, HIV/AIDS, Malaria, Tuberculosis, preterm birth complications, birth asphyxia, and birth trauma do not even feature in the crude death rate of high-income countries. These causes of death are all related to access to health care, including access to medicine.[366]

[366] One should not be misled into thinking that this may be a geographical disparity because low-income countries do not see Alzheimer disease and other dementias, or cancers as causes of death. This disparity is as a result of the difference in life expectancy. People in low-income countries have an average life expectancy of 63 years at birth whilst people in high-income countries have a life expectancy of 81 at birth. People in low-income countries thus simply do not live long enough to see the onset of Alzheimer disease and other dementias or cancers and additionally, access to medical care is such that such conditions may in fact go undetected. See World Bank, Life Expectancy at Birth <https://data.worldbank.org/indicator/SP.DYN.LE00.IN> (accessed 4 November 2019).



Shortage of Medicines

Medicine shortages are a risk for public health. In instances of communicable diseases, medicines are essential in controlling exposure and risk. However, shortages and stockouts are a common phenomenon, especially in low-income countries. Now it follows that a medicine is made because there is a need for it. What needs to be examined is how this need is determined. The WHO has an Essential Medicines List which is updated every two years.[367] This list contains medicines considered to be essential that all persons should have access to if needed. States should seek to ensure that everyone always has affordable access to all of these medicines.[368]

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[367] World health Organisation. *Essential Medicines List*, <https://list.essentialmeds.org/about> (accessed 5 February 2021).

[368] World health Organisation. *Essential Medicines List*, <https://list.essentialmeds.org/about> (accessed 5 February 2021).

Antibiotics serve as a good example regarding communicable diseases. There are antibiotics on the WHO's Essential Medicine's List as antibiotics are used to treat a wide variety of communicable diseases. In 2018 there was allegedly an antibiotics scarcity.[369] The cause of this shortage was fourfold; there was a limited supply chain with only four manufacturers, antibiotics are less profitable than other medicines, the high demand was primarily from low-income countries, and there were consequently low production levels of necessary antibiotics.[370] The impact of such a shortage is severe as treatable diseases go untreated, and a lack of antibiotics also impacts preventative care.[371]

There is not much profit to be made from antibiotics due to the demand coming from poorer countries and antibiotics being a medicine that is taken over a short period of time versus, in comparison, to cancer medication.[372] As a result, companies are exiting the market, resulting in fewer competitors and even higher prices.[373] A situation arises where if the drug is placed on the market, it will still be inaccessible as it will be too expensive. But if the pharmaceutical company were to lower the price, the profit margin would not justify keeping it on the market, and then there would also be no access. This example illustrates how the market influences the availability of a medicine, sometimes even more so than the need of the medicine. The demand driven by profit and the demand driven by human need appear to have different effects on the supply of a drug. The supply of medicines is subject to market forces, just like any other commodity.

Insulin for profit

Insulin treatment for diabetes is another example regarding medicine and the influence of economics on accessibility. Diabetes is a noncommunicable disease. Diabetes is a chronic

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[369] Cogan, Deirdre., Karrar, Karrar., & Iyer, Jayasree K. 2018, *Shortages, Stockouts and Scarcity*. Global shortages and national shortages mean different result from different reasons in this case. The global shortage of antibiotics is as a result of market failure due to low profit margins resulting in companies exiting the market and placing reliance of a few manufacturers whilst a national shortage speaks to a countries access to antibiotics which mainly concerns the purchasing power.

[370] Cogan. 2018, *Shortages, Stockouts and Scarcity*, p.6.

[371] Cogan. 2018, *Shortages, Stockouts and Scarcity*, p.8.

[372] Cogan. 2018, *Shortages, Stockouts and Scarcity*, p.18.

[373] Cogan. 2018, *Shortages, Stockouts and Scarcity*, p.7.

metabolic condition where a person suffers from high blood sugar levels. Type 1 diabetes is where the pancreas produces no insulin by itself, whereas type 2 diabetes is where a person becomes resistant to insulin or unable to make enough insulin. Diabetes can make a person vulnerable to kidney failure, heart attacks, and strokes – hence its contribution to the cause of death. Over 422 million people in the world have diabetes.[374] Therefore, there are many people in the world in need of insulin treatment. Insulin is on the WHO's Essential Medicine's List.[375] However, a 2019 study found that one in two people in need of insulin do not have access to it as a result of high prices and poor availability.[376]

Only three companies control 90 percent of the global insulin market, a market of approximately 28 billion US dollars,[377] resulting in exorbitant prices.[378] These three companies are Eli Lilly, Novo Nordisk, and Sanofi.[379] In some lower- and middle-income countries, not all three of them supply insulin, so the market is even smaller and dominated by just one or two of them.[380] One researcher found that the production cost of an insulin vial came to $1, though these vials are sold for up to $240. As insulin is a biological product, generics are not definite possibilities – unlike most other medicines. However, it being a biological product also means that there is no scarcity of it. This then begs the question of why it is so expensive and why insulin prices continue to rise.

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374 World Health Organisation. *Diabetes*, <https://www.who.int/health-topics/diabetes> (accessed 4 November 2019).

375 World health Organisation. *Essential Medicines List*, <https://list.essentialmeds.org/about> (accessed 5 February 2021).

376 Ewen, Margaret., Joosse, Huibert-Jan., Beran, David. & Laing, Richard. 2019, "Insulin Prices, Availability and Affordability in 13 Low-Income Countries" *BMJ Global Health* 4: 1-10.

377 Hill, Andrew. 2018, *Prices versus costs of medicines in the WHO Essential Medicines List*, Presentation delivered in Geneva, 26 February 2018.

378 Hill, Andrew. 2018, *Prices versus costs of medicines in the WHO Essential Medicines List*, Presentation delivered in Geneva, 26 February 2018.

379 Fact Sheet, Insulin Market Profile, 2016 <https://haiweb.org/wp-content/uploads/2015/05/HAI_ACCISS_factsheet_insulinmarket.pdf> (accessed 2 February 2021).

380 Fact Sheet, Insulin Market Profile, 2016 <https://haiweb.org/wp-content/uploads/2015/05/HAI_ACCISS_factsheet_insulinmarket.pdf> (accessed 2 February 2021).

Insulin was discovered as a treatment for diabetes in 1922 by Frederick Banting, John Macleod, and Charles Best.[381] Banting did not patent his discovery because he considered it unethical to profit from something that was necessary to save lives.[382] In addition, Banting believed it would be an ethical violation to be a party to any patenting as he had taken the Hippocratic oath. Similarly, John Macleod, a physician who was part of the discovery and testing of insulin, declined to be named as a party on the patent.[383] Instead, medical student Charles Best and biochemist James Collip, neither of whom faced the ethical dilemma seemingly posed by the Hippocratic oath, were named as the patent owners. They transferred this ownership and all rights to the University of Toronto for one dollar. All four felt insulin should be made available to all who need it.[384] Ironically, insulin now yields one of the largest profit margins for an essential medicine.

A study done in 2018 focused on the production costs of insulin vials and pens of various assortments.[385] The study found that, on average, one vial of human insulin costs at most $3.42 to produce.[386] Administration costs of manufacturers and pharmaceutical companies are then added to this, in addition to profits. However, insulin is sold for an unexplainable mark-up, despite no scarcity of materials or means of manufacturing. The lack of a competitive market may explain the high prices. The latest verifiable data from 2016 shows that the average cost of insulin per month for the out-of-pocket patient amounted to $450.

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381 Belluz, Julia. 2019, "The absurdly high cost of insulin, explained" *Vox*, <https://www.vox.com/2019/4/3/18293950/why-is-insulin-so-expensive> (accessed 2 February 2021).

382 Belluz, Julia. 2019, "The absurdly high cost of insulin, explained" *Vox*, <https://www.vox.com/2019/4/3/18293950/why-is-insulin-so-expensive> (accessed 2 February 2021).

383 Hegele, Robert A. 2017, "Insulin Affordability" *The Lancet*, 5:5 p.324 <https://www.thelancet.com/journals/landia/article/PIIS2213-8587(17)30115-8/fulltext> (accessed 2 February 2021).

384 Hegele, Robert A. 2017, "Insulin Affordability" *The Lancet*, 5:5 p.324 <https://www.thelancet.com/journals/landia/article/PIIS2213-8587(17)30115-8/fulltext> (accessed 2 February 2021).

385 Gotham, Dzintars., Barber, Melissa J., & Hill, Andrew. 2018, "Production costs and potential prices for biosimilars of human insulin" *BMJ Global Health*, 3:1-7.

386 Gotham., Barber., & Hill. 20182018, "Production costs and potential prices for biosimilars of human insulin" *BMJ Global Health*.

Although this exponential increase is in reference to the United States (US) insulin market,[387] it is also reflective of the global market.[388] Over the last decade, the price of insulin has more than tripled. Manufacturers say that the increases are as a result of the costs of new innovations seeking to create a more effective treatment. Yet, insulin has not changed much in the century of its use for people. Given the health burden of diabetes on the population and the number of deaths and related deaths it results in, this economic inaccessibility is concerning.

Medicine is produced according to need. However, when looking at pricing and availability, it appears that the *need* on which it is produced is not human need but market demand. Pharmaceuticals are produced according to market demands, which is not based on human need, but rather on the country's purchasing power. Production does not necessarily follow the human needs that arise. Say, for example, there is an outbreak of a communicable disease called *k*. The drug to treat and prevent the spread of *k* is *w*. Now say 100 people are infected with *k* and require *w*. The market will not demand the increased production of *w*. In fact, everything will continue as is until some purchasing power is exercised, showing an economic demand for *w*. For the need of *w* means nothing to the market if there is no means by which to purchase it. This is the sad reality of medicine for profit and not for people.

Access to HIV medication in South Africa

To further illustrate the issues highlighted above, I rely on the case of access to generic anti-retrovirals in South Africa, which Singer highlighted in his work *One World.*[389] In South Africa, the Constitutional Court case of *Minister of Health v Treatment Action Campaign*[390] is known for its success in compelling the South African Government to provide pregnant women with access to a necessary anti-retroviral drug, Nevirapine. The drug reduces mother-to-child transmission of HIV. The Government policy that restricted access to the anti-retroviral, Nevirapine was unreasonable in law. The Constitutional Court of South Africa held that the

[387] Gillet, Rachel., & Gal, Shayanne. 2019, "One chart reveals how the cost of insulin has skyrocketed in the US, even though nothing about it has changed" *Business Insider*, <https://www.businessinsider.com/insulin-price-increased-last-decade-chart-2019-9?IR=T> (accessed 20 October 2019).

[388] Gotham., Barber., & Hill. 2018, "Estimated costs of production and potential prices for the WHO Essential Medicines List" *BMJ Global Health*.

[389] Singer, Peter. 2016, *One World Now*.

[390] *Minister of Health v Treatment Action Campaign* 2002 5 SA 721 (CC).

Government had the ability and the resources to facilitate access to this medicine. In addition, the Government made arguments regarding the costs and the administrative capacity of facilitating this medicine. Still, the Constitutional Court rejected this argument because of the potential life-saving impact that the medicine would have on a vulnerable group of people.

The Treatment Action Campaign case is celebrated as a victory in law and social mobilisation. HIV and AIDS activism peaked at the time of this case, and this further emphasised the obligation of the South African Government to help people where they could. As a result, the Government was ordered to remove restrictions to access to necessary medicines such as Nevirapine. The Government also made additional funds available for the treatment of HIV and the facilitation of access to anti-retrovirals.[391]

However, what is not well-known regarding this case is the *international* political and economic background, which Singer discusses. The South African Government's international efforts are neglected in the national narrative of the fight for access to HIV medicine. At the time of the Treatment Action Campaign case, HIV medicines had become too expensive for low-income countries, particularly African countries afflicted by the AIDS pandemic. It cost countries such as South Africa about $10 000 per year per patient.[392] The South African minister of health held that the high prices were due to the strategies of multinational pharmaceutical companies who owned the patents on anti-retroviral drugs.[393] An amendment was made to the Medicines and Related Substances Control Act to enable South Africa to pursue means to access the medicine at lower costs.[394] The amendment relied on two of the World Trade Organisation's guidelines: 1) compulsory licensing, which would allow South Africa to manufacture the drug to address a 'health emergency'; and 2) parallel importing, which would allow South Africa to seek cheaper import possibilities. Obtaining a license to manufacture the medicines locally would cut costs down to about $350 per year.[395] The Doha

[391] *Minister of Health v Treatment Action Campaign* 2002 5 SA 721 (CC).

[392] Singer, Peter. 2016, *One World Now*.; Vulliamy, Ed. 1999, "How Drug Giants let Millions Die of AIDS" *The Guardian*, <https://www.theguardian.com/uk/1999/dec/19/theobserver.uknews6> (Accessed 10 July 2020).

[393] Fisher, William., & Rigamonti, Cyril. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* 1-56, p. 4.

[394] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* p.5.

[395] Singer. 2016, *One World Now*.

Declaration makes provision for such licensing so that each member state has the right to grant a license for the use of a patented invention without the consent of the patent-holder if it is in the interest of public health.[396] The South African Government sought to rely on this flexibility afforded by TRIPS in the interest of public health, but their actions were met with strong objections.

The US, the leading manufacturer and profiter of HIV medicines such as Nevirapine, responded negatively to this appeal from the South African Government to rely on the licensing provision with the threat of trade sanctions. South Africa was placed on the 301 'watch list' by the United States due to South Africa allegedly not having adequate intellectual property protection.[397] Being on this watch list meant that the US could impose unilateral trade sanctions on South Africa. The United States sought to "defend the intellectual property rights of drug manufacturers".[398] Activism and public outrage resulted in the Clinton administration eventually dropping the threat. Then-president Clinton removed South Africa from the watch list and declared that trade policies would be adjusted to accommodate lower-income countries in gaining access to essential medicines.[399]

At the same time, the big international pharmaceutical corporations took the South African Government to court to prevent a generic license from being granted under TRIPS flexibilities. US pharmaceutical companies argued that the South African Government's legislative amendment sought to make violated the TRIPS agreement. Again, activism and public outrage led to the case being dropped, and an agreement was reached for more reasonable prices.[400]

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[396] Article 31 of the Doha Declaration, World Trade Organisation, 2001, *Declaration on the TRIPS Agreement and Public Health*, Fourth Session, WT/MIN(01)/DEC/W/2 (14 November 2001).

[397] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* p.7.

[398] Singer. 2016, *One World Now*.

[399] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* p.9.

[400] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* p.9.

Later in October 2001, letters containing anthrax spores were sent to US senators and media platforms.[401] Five people died from this incident of bioterrorism. Canada then sought the same kind of license that the South African Government had sought – but one to produce the antibiotics to treat anthrax infections locally. The US Government was opposed to this and therefore convinced Bayer, the patent holder of the anthrax antibiotic based in the US, to lower their prices so that there was no need for Canada to obtain such a license and the US could retain control of the drug supply. In addition, Bayer was persuaded by the threat of the US Government allowing a generic of the drug.[402]

This reaction to the application for a license from Canada and the outcome thereof illustrates a different standard compared to the South African case, even though Canada did not manage to obtain a license. Only a small number of people were affected by the anthrax scare, while millions of Africans were suffering from the HIV/AIDS pandemic.[403] However, the US Government was much quicker to come to an agreement in favour of Canada (and themselves) than they were to respond to the South African Government.

A month after the anthrax bioterrorism incident, there was a World Trade Organisation ministerial meeting that addressed these double standards.[404] The South African Government felt that the action of the US and the big pharmaceutical companies was holding them to a higher standard of patent protection than what TRIPS required.[405]

Although the Treatment Action Campaign case in South Africa and the issue of access to anti-retrovirals had a positive outcome eventually, the background, especially the international background, illustrates how trade agreements such as TRIPS can be used, as Singer argues,

[401] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* p.10.

[402] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents*, p.10.

[403] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* p.20.

[404] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* p.9.

[405] Fisher., & Rigamonti. 2005, "The South Africa AIDS Controversy: A Case Study in Patent Law and Policy" *The Law and Business of Patents,* p.6.

"against principles of sovereignty".[406] Countries can suffer economic consequences if they do not participate in such agreements, consequences such as the threat of trade sanctions against South Africa by the US. This highlights an issue of power imbalances, despite agreements such as TRIPS seeking to "ensure that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade".[407]

The bigger picture of what the South African Government was fighting internationally alters the perception of political apathy that the Treatment Action Campaign case paints. It also shows how the lack of access to anti-retrovirals was not an issue of insufficiency or shortage of anti-retrovirals. It was a lack of access due to a lack of purchasing power created by power imbalances in global politics. The medicine was there. There was even the ability to make the medicine locally, but the institutional barriers barred the South African Government from access. This case example illustrates an inequality in terms of power, institutional power, and economic power.

Medicine serves as a complimentary example to food for the purposes of illustrating how scarcity can be misconstrued. While it is more plausible to contemplate the scarcity of food and a finite lack of potatoes growing in the ground, medicines differ. Medicines are produced. They are products that are created. They do not exist until ingredients are combined until chemical reactions occur or chemical balances are achieved. Medicines cannot cease to exist unless they stop being produced. Thus, they cannot be scarce unless they cease to be produced or the scale upon which they are produced decreases. Arguments of scarcity around medicines need to be considered with this in mind.

Conclusion

My purpose in this chapter has not been to critique the data on food and medicine. I am aware that significantly more data exists. My purpose is not to analyse the data, disprove it, or otherwise. Rather, I seek to show that in the theories of justice we rely on, the very evidence that motivates the need for theories of justice does prove the existence of scarcity of resources. Scarcity is arguably a conditional (not necessary) predeterminant of inequality. For if there

406 Singer. 2016, *One World Now*.

407 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). 1995, Preamble.

were an abundance of resources, then the questions regarding inequality would potentially be different.

This chapter considers how scarcity can be blamed for human suffering caused by material deprivation. However, this chapter also illustrates that scarcity can exist in the presence of abundance. This phenomenon is illustrated by examples of food, famines, and medicines. Given this, scarcity cannot be the cause of material deprivation and suffering in all cases. If there is in fact not a scarcity of resources, but there is still material deprivation and suffering, then the causes thereof need to be scrutinised. Understanding that scarcity can exist without there being a shortage of resources is critical if we truly wish to properly address issues of global justice. Without such an understanding, scarcity remains an easy scapegoat and the true causes behind instances of human suffering and unnecessary material deprivation may never be exposed or addressed.

Given this, it is unhelpful to focus squarely on inequality when looking at theories of global justice. The data does not indicate that there are not enough resources that inequality necessarily has to exist. Supported by the examples of food, famine, and medicine above, it shows that scarcity of resources is not always as a result of a lack of resources. Therefore, it follows that scarcity, if better understood, may, in fact, be a better starting point for inquiries into global justice. If the resources do exist, addressing instances of material deprivation and human suffering could be alleviated or avoided. The next chapter looks at how scarcity has been assumed in the discourse and how absolute scarcity and relative scarcity have been conflated. To do so, it is necessary to consider what such a conflation amounts to. I argue that the conflation of absolute scarcity and relative scarcity may amount to a category mistake. The following chapter thus examines category mistakes and scrutinises the discourse to determine whether scarcity is subject to such a logical fallacy.

CHAPTER 4: A CATEGORY MISTAKE

Introduction

This chapter delves into the category mistake I have indicated is implied in assumptions about scarcity in the literature on global justice. Having considered scarcity in the context of global justice and the various understandings of scarcity, I argue that there is a conflation between relative scarcity and absolute scarcity and that this conflation amounts to a category mistake. Chapter Three illustrated the difference between absolute scarcity and relative scarcity. The preceding chapters addressed scarcity in the discourse of global justice and provided examples of fictitious scarcity. Scarcity of food and medicine is used as examples to show that scarcity is assumed to be absolute in instances where it is, or may be, relative. Such assumptions influence the response to situations – if a medicine is believed to be absolutely scarce, then it will be rationed and go to those most in need or perhaps the highest bidder. At the same time, if people are aware that its 'scarcity' is only as a result of market manipulation, for example, then action can be taken to increase the availability of the medicine, for example, make more thereof.

I thus argue that a category mistake is made regarding relative scarcity and absolute scarcity. In some instances, the terms are both used under the umbrella of scarcity despite there being fundamental value in understanding the nature of scarcity. I argue that the fundamental value lies in the socio-economic and political consequences of how scarcity is presented. When presented as a fact of nature (that all scarcity is understood as absolute scarcity), the accountability and redistributive possibilities significantly decrease instead of when scarcity is understood to be relative. The difference between absolute scarcity and relative scarcity ultimately amounts to insufficiency and inequality, respectively. Absolute scarcity refers to a determinate lack of something, while inequality in the distribution of resources can often explain the existence of relative scarcity.

Without fully understanding what is meant by scarcity conceptually and clearly articulating the kind of scarcity being referred to, arguments based on a loosely framed understanding of scarcity will result in limited measures to address the actual cause of the lack of resources. Having considered that resources can be scarce in various ways and due to various reasons, such as market scarcity or created scarcity, without specifically understanding in what sense a resource is scarce, the specific cause of the scarcity may not be addressed. For example, consider a necessary resource such as potable water. It may be assumed that scarcity of potable water in region *k* is scarce due to weather patterns and climate conditions. However, the lack of water in household taps and the subsequently assumed water scarcity could be attributed to poor maintenance of infrastructure. The water may exist without there being sufficient means to allow for access to water through infrastructure. If, in response to this water shortage, people are told to use less water and save every drop, such measures will do nothing to addressing the cause of the water scarcity in this case. It is therefore crucial that scarcity is better understood conceptually and the cause of the particular case of scarcity properly attributed. This is why, I argue, there is a need to distinguish conceptually between absolute and relative scarcity, for without such a distinction, we limit means of recourse to the problems of global justice.

In this chapter, I seek to provide clarity on the concept of scarcity and pinpoint assumptions and fallacies made regarding the scarcity of resources. In doing so, I will distinguish between the necessary and sufficient conditions of both relative scarcity and absolute scarcity. This understanding will be used to examine the assumptions and fallacies made in the discourse of global justice. A clearer conceptual understanding of scarcity has consequences for interpreting and engaging with theories of global justice and distributive justice. The potential category mistake has consequences for the understanding and application of these theories. Thus, an evaluation of how this conceptual understanding implicates some key theories is necessary to illustrate the importance of the need to distinguish between absolute and relative scarcity.

Logical fallacies

A logical fallacy occurs when there is an error in reasoning, rendering an argument invalid in that the conclusion does not logically follow from its premises.[408] A correlation or causation fallacy is made when two things appear to be correlated. The cause is attributed to those that did not necessarily cause the other, and the correlation cannot prove causation.[409] For example, say a company's cheese sales went down in November, and they also changed their labels in November. Attributing the decline in sales to the change in labels would amount to a correlation/causation fallacy. There may be a correlation between the two events, but the premises do not prove that the one caused the other.

[408] Gensler, Harry. 2021, *The A to Z of Logic*, p. 74.

[409] Copi, Irving M. 1961, *Introduction to Logic*, 2nd ed, p.53.

A logical fallacy is arguably commonly committed in conflating absolute and relative scarcity. It is because of such conflations, assumptions, and fallacies that conceptual clarity is necessary. Take, for example, the reasoning behind some assumptions that resources are scarce:

1. *if resources are limited, then there will be inequality of resources*
2. *there is inequality of resources*
3. *therefore, resources are limited*

There may be a correlation between the number of resources and the inequality in resources, but the inequality in resources does not prove that there are limited resources. This fallacy fails to recognise that it might not be the number of resources that is the problem and thus indicates conflation of absolute and relative scarcity.

Attributing inequality of resources to scarcity fails to recognise that not all resources are scarce in the absolute sense. As was illustrated in Chapter Two, more medicines can be created, and more food can be produced, and waste can be managed. The inequality in resources is not necessarily as a result of scarcity of resources. A valid form of this argument would read:

1. *if resources are limited, then there will be inequality of resources*
2. *resources are limited*
3. *therefore, there is inequality of resources*

If put like this, then causation of inequality of resources follows from resources being limited. But then we need to question the truth value of the second premise. Are resources limited? Fixing the argument structurally does nothing to answer the questions regarding the content and the issue of assuming scarcity in the reasoning. It seems to me that this assumption of resource scarcity is common in the discourse and thus an argument for conceptual clarity is justified.

Wrongfully attributed causation of inequality of resources to scarcity can lead to those responsible for resources evading accountability and obligations. It is thus necessary to delineate what we mean by scarcity when we speak of resources in the context of global justice.

Conceptual analysis of scarcity

Necessary and sufficient conditions

Definitions are not always helpful because they do not necessarily provide clarity or understanding of the thing they refer to.[410] As Michael Bishop explains:

> "The attempt to analyze and clarify concepts is a trademark of western philosophy. And this is how it should be. Given the relatively non-empirical nature of the philosophical endeavour, philosophers must be concerned with the state of their primary instruments – language and the concepts expressed by language."[411]

Conceptual analysis classically seeks to describe concepts structurally in terms of necessary and sufficient conditions.[412] The aim of refining definitions to necessary and sufficient conditions is to be able to apply them then correctly or determine under what conditions the concepts can exist.[413] Necessary and sufficient conditions provide a means to give conceptual clarity and thereby a better understanding of a thing. Necessary and sufficient conditions are not concerned with maintaining the original meaning or 'narrowing down' the meaning but rather to add to the understanding of the term. This is sometimes done in a divergent way, whereas a definition is convergent and can therefore be limited. I am not seeking to provide a definition of scarcity. I am seeking to provide a better conceptual understanding of the term, and thus I will rely on necessary and sufficient conditions. Before determining the necessary and sufficient conditions of scarcity, it is advantageous to clarify the nature of necessary and sufficient conditions themselves.

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[410] For example, "special" is defined by the Cambridge dictionary as "not ordinary or usual; especially great or importance, or having a quality that most similar things or people do not have; having a particular purpose".[410] From this definition alone one cannot say with conviction that you would be able to identify something with the characteristic of 'special' with certainty. Cambridge Dictionary <https://dictionary.cambridge.org/dictionary/english/special> (accessed 10 November 2020).

[411] Bishop, Michael A. 1992, "The possibility of conceptual clarity in philosophy" 29:3, p.267.

[412] Bishop. 1992, "The possibility of conceptual clarity in philosophy" p.268; Stanford Encyclopedia of Philosophy. 2017, "Necessary and Sufficient Conditions" <plato.stanford.edu/entries/necessary-suffcient/> (accessed 12 November 2020).

[413] Stanford Encyclopedia of Philosophy. 2017, "Necessary and Sufficient Conditions" <plato.stanford.edu/entries/necessary-suffcient/> (accessed 12 November 2020).

If a condition must be satisfied for something to be true, it can be considered a necessary condition. If a condition implies that something must occur, then it can be considered as a sufficient condition.

Take the premise:

If P, then Q

In this instance, P is sufficient for Q if and only if P occurs and then Q occurs.

For example, take the premise:

If I water my flowers, then they will grow

In this instance, P = watering my flowers; and Q = the flowers growing. P can be considered a sufficient condition for Q, if and only if P occurs, and then Q occurs. Such, me watering my flowers is a sufficient condition for them growing, if and only if I water them, they grow. This is merely a sufficient condition, as the structure of the argument illustrates, but what is vital is that Q must be in relation to P. P must have a consequence of Q in some way. If I watered my flowers and they did not grow, then watering my flowers would not be a sufficient condition for them to grow. If, however, my flowers grow without me having watered them, P can still be a sufficient condition; it just means that there may be other conditions also resulting in or contributing to the consequent Q. For example, it may rain, and I may therefore not need to water my flowers.

With sufficient conditions, we are concerned with the Q's relation to P: Q must follow from P. With necessary conditions, we are concerned with P's relation to Q: Q, therefore P.

To examine necessary conditions, again take the premise:

If P, then Q

In this instance, let us say P is necessary for Q, so if and only if Q occurs and then P occurs (the inverse of above). For if P is a necessary condition of Q, it will have to have occurred if Q occurs. Q cannot occur without P. Such, Q occurring suffices P's occurrence as it is a necessary condition. If Q could occur without P, as seen above, then the condition would merely be sufficient and not necessary.

For example, take the premise:

If Picasso painted this work of art, then it is a Picasso

In this instance, P = Picasso painting the work of art, and Q = the piece of art being a Picasso. Therefore, if P is necessary for Q, if and only if Q occurs and then P occurs, a work of art (Q) being a Picasso will only be such if Picasso painted the work of art (P). In this example, Picasso having painted the work of art is a necessary condition for a work of art to be a Picasso. The necessary condition in this instance is defining of the concept of a Picasso work. Essentially with necessary conditions, Q cannot be without P. Such as a Picasso cannot be a Picasso without it having been painted by Picasso.

Determining the necessary and sufficient conditions of a concept can help gain understanding and reveal conflation.

Necessary and sufficient conditions of scarcity

Absolute scarcity and relative scarcity are not the same thing yet are often just broadly referred to as scarcity. Absolute scarcity and relative scarcity are often conflated conceptually – yet they are very different; one cannot say that a polar bear is scarce in the same way that a pumpkin is scarce. Absolute scarcity and relative scarcity arguably have different necessary and sufficient conditions – that is, different conditions must be present for something to be considered as absolutely scarce than the conditions that must be present for something to be considered as relatively scarce. Delineating these conditions reveal the problem with conflating the two concepts and the causal fallacy committed in doing so. Identifying the necessary and sufficient conditions can provide a better conceptual understanding to distinguish between absolute scarcity and relative scarcity.

Take the premise:

If there is inequality of resources, then there is a relative scarcity

In this instance, P = inequality of resources; and Q = scarcity. Inequality of resources will be a *sufficient* condition of scarcity, if and only if there is an inequality of resources (P), and then scarcity (Q) occurs. As with the example of my flowers being watered and growing, there could be other reasons for scarcity occurring. Relative scarcity can be explained by reasons other than an inequality in resource distribution. However, resource inequality can be considered a sufficient condition of scarcity.

Now take the premise:

If there is unequal access to resources, then there is a relative scarcity

In this instance, P = unequal access to resources, and Q = scarcity. Similarly to above, unequal access to resources will be a *sufficient* condition of scarcity, if and only if there is unequal access to resources (P), and therefore scarcity (Q). While unequal access to resources can explain relative scarcity, it is not the sole cause thereof and therefore just a sufficient condition of relative scarcity.

Lastly, take the premise:

When demand exceeds supply, then there is scarcity

In this instance, P = demand exceeding supply, and Q = scarcity. Demand exceeding supply may be a *necessary* condition of scarcity if and only if Q occurs and then P occurs. Scarcity (Q) can only occur when demand exceeds supply (P). Referring to the Picasso example, Picasso, having painted a work of art, defines 'a Picasso'. Similarly, demand exceeding supply defines scarcity.[414] Demand exceeding supply is a necessary condition for relative scarcity. However, it must be questioned what has caused the demand and supply imbalance, as market manipulation, barriers, and intricacies could create a false demand or restrict supply as seen in examples above, such as the diamonds and medicines. The same here applies for absolute scarcity. Demand exceeding supply is a necessary condition of absolute scarcity too.

Now concerning absolute scarcity, take the premise:

When there is a finite number of resources, then there is an absolute scarcity

In this instance, P = there being a finite number of resources (insufficiency), and Q = absolute scarcity. There being a finite number of resources may be a *necessary* condition of absolute scarcity if and only if Q occurs and then P occurs. Absolute scarcity (Q) can only occur where there is a finite number of resources (P).

Recognising that absolute scarcity and relative scarcity have differing necessary and sufficient conditions aid in understanding that they are not one in the same thing. For if they

[414] See Chapter 2 on understanding scarcity.

require different conditions to be present, they cannot be the same. Yet rarely is an explicit distinction made between absolute scarcity and relative scarcity. This lack of distinction can have unintended consequences in the treatment of resources. The next section examines the conflation of absolute scarcity and relative scarcity more closely and considers the conflation as a possible category mistake.

Category Mistakes

The conflation between absolute scarcity and relative scarcity amounts to a category mistake. A category mistake is defined as: "a semantic or ontological error in which things belonging to a particular category are presented as though they belong to a different category."[415] The term was coined by Gilbert Ryle in his book *Concept of the Mind* in 1949 in the context of cartesian metaphysics.[416] Ryle's arguments pertaining to category mistakes were in response to Descartes's *Meditations*. Ryle argued that the belief of an immaterial mind is fallacious. He uses various examples to illustrate category mistakes, most famously that of a visitor to Oxford University.[417] In this example of Ryle, a visitor to Oxford University, is in the library. The visitor then asks where the university is. This Ryle defines as a category mistake where the visitor mistakenly presumes that the university falls under the category of 'infrastructure', like the library would, rather than the category of 'institutions'.[418]

Ryle uses the example of a child watching a military division march as another example.[419] In this example, the child observes battalions, batteries, squadrons, and various division sectors. Yet, the child then asks when the division is going to march past. Here the child is supporting that the division is a unit such as those which have passed while the units that have marched past are part *of* the division.

Ryle's third example involves another example whereby a spectator is ignorant of what he is observing:

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[415] Blackburn, Simon. 1994, *The Oxford Dictionary of Philosophy*, p.58.

[416] Ryle, Gilbert. 1949, *The Concept of the Mind*, p.6.

[417] Ryle. 1949, *The Concept of the Mind*, p.6.

[418] Ryle. 1949, *The Concept of the Mind*, p.6.

[419] Ryle. 1949, *The Concept of the Mind*, p.6.

> "A foreigner watching his first game of cricket learns what are the functions of the bowlers the batsmen, the fielders, the umpires and the scorers. He then says 'But there is no one left on the field to contribute to the famous element of team spirit. I see who does the bowling, the batting and the wicket-keeping; but I do not see whose role it is to exercise *esprit de corps*.' Once more, it would have to be explained that he was looking for the wrong type of thing. Team spirit is not another cricketing operation supplementary to all of the other special tasks. It is, roughly, the keenness with which each of the special tasks is performed, and performing a task keenly is not performing two tasks. Certainly exhibiting team-spirit is not the same thing as bowling or catching, but nor is it a third thing that we can say that the bowler first bowls *and* then exhibits team spirit or that a fielder is at a given moment *either* catching *or* displaying *esprit de corps*."[420]

These three examples provided by Ryle all involve people who are not familiar with the subject matter they are observing or are trying to categorise. He points out that the theoretically interesting category mistakes are the ones made by people who do, in fact, know the context and content of the situation.[421] Category mistakes can be made even when people do comprehend the concepts but fail to categorise them logically.[422]

I want to add my own example of a category mistake: that of mistaking moonshine as a type of alcohol. In planning a big birthday celebration, the party planner asks the host what alcohol he would like to serve his guests. He responds by saying red wine, white wine, champagne, rum, whisky, and moonshine. Now intuitively, this list may not seem categorically problematic, but it is because moonshine is, in fact, not a type of alcohol. The term moonshine refers to high-proofed distilled spirits made illegally without government authorization and without any regulation. In fact, the term moonshine existed long before it had any connotation to alcohol.[423] Moonshine was synonymous with moonlighting, which referred to having a second job.[424] It was only in the 1780s that the term took on an alcoholic connotation as illicit distilling became popular in the United Kingdom. Kevin Kosar explains:

[420] Ryle. 1949, *The Concept of the Mind*, p.6-7.

[421] Ryle. 1949, *The Concept of the Mind*, p.7.

[422] Ryle. 1949, *The Concept of the Mind*, p.7.

[423] Mclafferty, Claire. 2015, "A Brief History of Moonshine" <www.mentalfloss.com/article/71993/brief-history-moonshine> (accessed 3 January 2021).

[424] Mclafferty, Claire. 2015, "A Brief History of Moonshine" <www.mentalfloss.com/article/71993/brief-history-moonshine> (accessed 3 January 2021).

> "In our modern world, governments have defined the types of legal spirits in regulations and laws. These definitions frequently stipulate the fermentables whence the spirit must be derived and instruct upon aspects of its production. The U.S. government, for example, defines bourbon as 'whiskey produced at not exceeding 160 proof [80º ABV] from a fermented mash of not less than 50 percent corn… and stored at not more than 125º proof in charred new oak containers.' No such definition exists for moonshine. Any hard alcohol produced that fails to fall within the legal definitions for distilled beverages, or any hooch produced by an unlicensed distiller, can rightly be called moonshine."[425]

Moonshine thus does not refer to a type of alcohol but rather to any alcohol illicitly distilled without government authorization or regulation. Tequila, for example, is required to be at least 51 percent blue agave to be considered tequila.[426] Rum, under US law, is defined as fermented juice of sugar cane and its syrup, its molasses, and other sugar-cane by-products at less than 95 percent alcohol and bottle at not less than 40 percent alcohol. If this definition is not met, then the liquor will not qualify as rum.[427] As Kosar explained above, Moonshine does not have such a definition of what exactly constitutes it. In fact, liquor could be tequila, but if produced illegally, it could be considered as moonshine. Moonshine is not a *type* of alcohol. Thus the party host makes a category mistake in asking for moonshine as though it is another type of alcohol like the rest of his list, when in fact, he is asking for any illicitly produced liquor.

While examples such as these regarding cricket and moonshine are somewhat irrelevant in the discourse of global justice, they illustrate the nature of a category mistake. They specifically indicate how two things belonging to very different ontological categories can be mistaken to belong to the same one. If someone can mistake team spirit as a sports position or role or if someone can mistake an illegal activity for a type of drink, then certainly two things with a common term – scarcity – can be mistaken to be one in the same thing. This may seem like just an issue of semantics, and category mistakes are extensively addressed in linguistics literature. However, category mistakes can have real-life consequences, as I will explain when detailing the issue of relative and absolute scarcity. Elisabeth Camp holds that category mistakes, as a

[425] Kosar. Kevin R. 2017, *Moonshine: A Global History*, pg 19.

[426] Hindle, Georgina. 2018, "Learn about Tequila: Everything you need to know" <www.decanter.com/spirits/learn-about-tequila-403851/> (accessed 3 January 2021).

[427] Electronic Code of Federal Regulations, Title 27 – Alcohol, Tobacco Products and Firearms, Chapter I – Alcohol and Tobacco Tax and Trade Bureau, Department of the Treasury, Subchapter A – Alcohol, Part 5 – Labeling and Advertising of Distilled Spirits, Subpart C – Standards of Identity for Distilled Spirits, § 5.22 - The standards of identity.

philosophical fallacy, are: "theoretically interesting precisely because they are marginal: as by-products of our linguistic and conceptual systems lacking any obvious function, they reveal the limits of, and interactions among, those systems."[428] The real-life consequences of category mistakes can be illustrated by the example of mandatory minimum sentencing laws in the Unites States.

The complicated minefield that is federal sentencing in the US serves as a real-life example of the consequences of category mistakes. A preliminary clarification is necessary – the federal sentencing approach is referred to as the category approach. This is not why there is a category mistake though. The US Congress changed its punishment regime for federal crimes in the 1980s.[429] These changes included the Comprehensive Crime Control Act of 1984, which gave higher powers of discretion to prosecutors through mandatory minimum sentences and higher maximum sentences; the Sentencing Reform Act; and the Armed Career Criminal Act of 1984. The Armed Career Criminal Act imposed a 15-year mandatory minimum sentence on recidivist offenders convicted of federal offenses – but the details on how this blanket sentencing grouped 'career criminals' is problematic.

The US Congress thought the legislative changes would minimise disparities and make sentencing more transparent, but because of assumptions it was, per Rachel Barkow, "doomed to fail."[430] Barkow elaborates:

> "First, Congress incorrectly presumed that harsh penalties were merited for all repeat offenders, regardless of the underlying nature of their previous convictions or when they were committed. Yet by lumping together individuals with varying levels of culpability for the same mandatory punishments, Congress created disparities. Thousands of individuals received punishments disproportionate to their offenses because they were treated on par with the worst offenders Congress had in mind when passing its laws."[431]

[428] Camp, Elisabeth. 2016, "Category Mistakes" *Mind*, 125:498, 611-615, p.611-612.

[429] Barkow, Rachel E. 2019, "Categorical mistakes: The Flawed Framework of the Armed Career Criminal Act and Mandatory Minimum Sentencing" *Harvard Law Review* 133: 200-240, p.200.

[430] Barkow. 2019, "Categorical mistakes: The Flawed Framework of the Armed Career Criminal Act and Mandatory Minimum Sentencing" *Harvard Law Review*, p.201.

[431] Barkow. 2019, "Categorical mistakes: The Flawed Framework of the Armed Career Criminal Act and Mandatory Minimum Sentencing" *Harvard Law Review*, p.201.

The legislative changed also raised other issues such as harsh collateral consequences and conflicts with constitutional safeguards.

While the Armed Career Criminal Act aimed to impose sentences on individuals with multiple past convictions, Congress struggled to find a commonality to target "repeat offenders."[432] The unlawful possession of a firearm then became the focus, and Congress drastically increased the sentencing for the unlawful possession of a firearm based on a defendant's criminal record.[433] The offense was just unlawful possession of a firearm – the firearm didn't have to have been used in the commission of a crime – past or present. Mere possession triggered Congress's new mandatory minimum sentence. Thus if you had prior convictions, and you were then found to be in unlawful possession of a firearm, you would receive the minimum mandatory sentence of 15-years.[434]

As Barkow notes:

> "[I]nstead of creating a precision regime that pinpointed and targeted the small number of people who repeatedly exhibited a propensity for violence, Congress enacted a sweeping law that ended up including individuals without any violence in their past and lumping them together with individuals who had committed numerous acts of violence. All of them were treated as the most dangerous type of repeat offender meriting the harsh minimum sentence."[435]

This categorical approach to sentencing amounts to a category mistake by grouping together all persons with prior convictions who are found to be in the unlawful possession of a firearm under the mistaken assumption that if you

a) *have prior convictions; and*

b) *are in the unlawful possession of a firearm*

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[432] Barkow. 2019, "Categorical mistakes: The Flawed Framework of the Armed Career Criminal Act and Mandatory Minimum Sentencing" *Harvard Law Review*, p.227.

[433] Barkow. 2019, "Categorical mistakes: The Flawed Framework of the Armed Career Criminal Act and Mandatory Minimum Sentencing" *Harvard Law Review*, p.227.

[434] Barkow. 2019, "Categorical mistakes: The Flawed Framework of the Armed Career Criminal Act and Mandatory Minimum Sentencing" *Harvard Law Review*, p.227; Sady, Stephen R. 1994, "The Armed Career Criminal Act – What's Wrong with 'Three Strikes, You're Out?" *Fed. Sent'g Rep* 69-70.

[435] Barkow. 2019, "Categorical mistakes: The Flawed Framework of the Armed Career Criminal Act and Mandatory Minimum Sentencing" *Harvard Law Review*, p.201-202.

then you must be a violent criminal with the propensity to re-offend and therefore should be subject to a mandatory minimum sentence. Thus, someone with (without getting into the details of US federal and state law) prior convictions of burglary – for example, stock theft of chickens in a rural area – which are then found to be in the unlawful possession of a firearm will receive 15-years just as a serial rapist who is then found to be in the unlawful possession of a firearm would. For a bit of perspective, the average amount of time spent in prison in the United States for murder is 13.4 years.[436] In California, the maximum penalty for the rape of an adult is eight years.[437]

Is it logical to place the stock theft criminal and the serial rapist in the same category? This category is a created one, created by the Armed Career Criminal Act. Though arguably the chicken thief and the serial rapist are not the same kinds of criminals, do not pose the same kind of threat to society, and probably do not deserve the same sentence for recidivism. Treating one like the other on the basis of the unlawful possession of a firearm has resulted in non-violent criminals serving more time than people who commit heinous acts of rape, abuse, and murder. Incarceration in the United Stated, the institutional framework thereof, and the inconsistencies and discrepancies that have led to personal injustice are a contested issue. However, this does serve as an example of how a category mistake can have real-life consequences of great severity. The human cost of category mistakes can be overlooked given that it is mostly addressed in the field of linguistic philosophy and that Ryle grappled with it in response to mind-body dualism. Yet category mistakes in differing contexts can have consequences that affect human life.

According to Ryle, two things differ in category if there are contexts in which substituting one for the other results in absurdity.[438] Understanding what a category mistake is and why it is problematic, not just semantically but as a philosophical fallacy supports my argument for the need to distinguish between absolute and relative scarcity in the context of global justice. For if a category mistake is being made, then reliance on some theories could be compromised by 'absurdity'. Using Ryle's test, if substituting absolute scarcity for relative scarcity and vice

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[436] Kaeble, Danielle. 2018, *Bureau of Justice Statistics, Time Served in State Prison*, <https://www.bjs.gov/content/pub/pdf/tssp16.pdf [https://perma.cc/7ZJ5-N2SJ]> (accessed 20 January 2021).

[437] CAL. PENAL CODE § 264(a) (West 2019).

[438] Ryle. 1949, *The Concept of the Mind*, p.180.

versa results in absurdity, then a category mistake exists.[439] This will be considered when looking at the conflation of absolute scarcity and relative scarcity in the literature. It is important to bear in mind that absolute scarcity and relative scarcity in the context of global justice have different consequences. There are differing consequences in tackling issues of global injustice, different consequences regarding accountability, and different consequences regarding distributive justice. The very possibility of such a category mistake arguably indicates the need for conceptual clarity.

Ryle holds that delineating ontological categories can reveal category mistakes. He believed that distinguishing between ontological categories is a central task for philosophers.[440] This prompts the question: does absolute scarcity and relative scarcity fall into two different ontological categories?

Scarcity as a Category Mistake

Before considering how the concept of scarcity may be subject to a category mistake in the discourse on global justice, I will apply Ryle's substitution rule to two examples of scarcity. If substituting one for the other leads to absurdity, then according to Ryle's rule, they belong in different categories. My first example relates back to the analogy previously used of polar bears and pumpkins.[441] My original analogy illustrated that polar bears can be considered absolutely scarce as there are a finite number of them. My second example holds that pumpkins can only be relatively scarce as more pumpkins can be produced, farmed, and ultimately kept in existence.

To apply Ryle's substitution test to polar bears and pumpkins, I must substitute the one for the other and see if my treatment thereof results in absurdity. First, let us consider treating polar bears how pumpkins are currently treated. Pumpkins are generally farmed and produced for food. They are sold in different ways, supermarkets, farm stalls, restaurants, and along the food supply chain. As identified in Chapter Two, a large amount of food is lost in the food supply chain, and pumpkins are also subject to being wasted if they are not sold, if they are damaged

[439] Ryle. 1949, *The Concept of the Mind*, p.180.

[440] Ryle. 1949, *The Concept of the Mind*, p.180, 186.

[441] See Chapter 2 on conceptual clarity through analogy regarding the polar bears and pumpkins example.

in transportation if insects infest them, or other reasons that might lead to them not being consumed. Pumpkins are ultimately treated as replaceable commodities. Now imagine treating polar bears like this. The idea of 'farming' polar bears would undoubtedly raise many ethical questions and practical issues. Throwing polar bears away or eating polar bears is intuitively wrong, given their endangered status. Treating polar bears as replaceable commodities does not seem logical as there simply are not enough to render them replaceable, so treating them as such would not make sense. One would have to make quite the case for treating polar bears how pumpkins are treated not to be considered absurd. Thus, according to Ryle's substitution test, so far, it seems pumpkins are polar bears that do not belong in the same category of scarcity.

Second, let us consider treating pumpkins like polar bears. Polar bears are protected as they are endangered animals. There is a finite amount left, and great effort and care are taken to safeguard them. The endangered status of polar bears is often reported on, their numbers kept track of, and studies are done to see what is causing their dwindling numbers. Regulations and laws are in place to prevent hunting them, protect their habitat, and fight climate change. Now imagine counting all the pumpkins in the Arctic as often as possible, trying to keep track of all the pumpkins, enacting protection laws, establishing foundations to raise money for pumpkin conservation, handing out flyers on the street corner to raise awareness about the scarcity of pumpkins or protesting for action for the survival of pumpkins in the Arctic.

In contrast, pumpkins can be grown almost anywhere. This certainly seems absurd. Even if pumpkins were to be scarce in the Arctic, pumpkins could be brought to the Arctic from elsewhere. Polar bears cannot be imported from elsewhere. Treating the scarcity of pumpkins in the Arctic in the same manner as treating the scarcity of polar bears is absurd. Thus, according to Ryle's substitution test, this would be a category mistake. Scarcity is clearly being used in the category of relative where it should be absolute and vice versa.

To use a second example, let's take a specific, collectable book and the dictionary. A first edition signed copy of *The Jungle Book* by Rudyard Kipling, and then a dictionary. There are a finite number of this first edition of *The Jungle Book* that is signed.[442] Kipling is deceased, and the first edition was published in 1894, and so it is not possible for another first edition

[442] BBC News. 2010, "Kipling first edition with author's poignant note" <http://news.bbc.co.uk/2/hi/entertainment/arts_and_culture/8609766.stm> (accessed 10 November 2020); The book was not actually signed by Kipling but included a letter to his daughter handwritten in the book.

copy to be produced, nor for it to be signed. It can therefore be considered as absolutely scarce. Now the dictionary, on the other hand, can hardly be considered scarce. There are hundreds of versions of dictionaries published by hundreds of publishers in hundreds of languages. I could even handwrite out my own dictionary if I wanted to.

Now, per Ryle's substitution rule, imagine someone treated an ordinary dictionary like they would a rare book such as this first edition, signed copy of *The Jungle Book*. They put their dictionary up on eBay for thousands of dollars. That would certainly seem absurd. People would wonder what is special about the dictionary, is it rare? Contrarily, imagine someone treated a first edition, signed copy of *The Jungle Book* like you would an ordinary dictionary. If someone put such a rare copy of *the Jungle Book* up on eBay for five dollars, that would seem absurd. The lucky buyer would never stop telling people how he came to own such a rare book. Therefore, per Ryle's substitution rule, the dictionary and this first edition, signed copy of *The Jungle Book* are scarce in different ways. They belong in different categories. One could potentially be relatively scarce, the dictionary, while the other one is, as a matter of fact, absolutely scarce.

From these examples, it is evident that absolute scarcity and relative scarcity belong in different categories. Ryle's substitution rule shows that the treatment of one as the other results in absurdity. Yet scarcity is referred to as a blanket term, and rarely is it clarified where resources being referred to are absolute or relative. Often, resources are spoken about as though they are absolutely scarce when they are, in fact, only relatively scarce.

As mentioned, one could argue that this is merely an issue of semantics. However, the real-life implications of a category mistake regarding scarcity may have dire consequences pertaining to issues of global justice. Where relative scarcity is treated as absolute scarcity, resources that exist may be denied to those in need. In Chapter Two, examples from the media are juxtaposed of there being hunger in the vicinity of food waste, for example, and where there are empty buildings but people without shelter.[443] In instances of deprivation, scarcity of resources is often used to justify the inability to fulfil social rights such as food, housing, or health care. Such a justification would be acceptable if the resources were indeed scarce. However, as I have postulated, most of the resources we are concerned with regarding issues

[443] See Chapter 2 for such examples.

of social justice are not resources that can be considered to be absolutely scarce but are only relatively scarce.

The facts of the famines discussed in Chapter Three illustrate precisely this issue: it is much more than just semantics.[444] Food was considered to be absolutely scarce, resulting in dire consequences of human suffering and loss of life. Yet as explained, there was enough food to prevent the starvation that occurred. Food was not absolutely scarce. Accepting food as absolutely scarce justified the lack of further action by the state and institutions to provide access to food for those in need.

In some cases of famine, food was treated as per my example of polar bears. Food was treated as though no other food could be sourced by any means, and the lack of food and resultant suffering was simply a fact of life. However, food, especially in the instances of famine discussed where the issue was not an absolute scarcity of food, should have been treated as relatively scarce.

The conflation of absolute scarcity and relative scarcity in this regard restricts avenues of redress. If it is recognised that food is not absolutely scarce, but it is an issue of access to food, then means should be taken to provide access or gain access to food for those in need. Food can be imported, more food can be produced, and food can be transported to where it is needed – food is transported all the time. When absolute scarcity is dismissed, then greater responsibility falls on the powers that be to address the relative scarcity. Suppose it becomes apparent that the issue is not insufficiency. In that case, there is a greater onus on states or institutions to deliver the resources needed to alleviate human suffering, such as in a circumstance of famine. There is then an obvious duty on states or institutions to take action to address the lack of resources because it is not an absolute lack but a lack due to distribution and can therefore be remedied.

A category mistake regarding scarcity can have a severe impact on issues of global justice such as poverty. Sen and others such as Miller note that current human suffering can be eliminated with the resources that presently exist - recognising that the resources needed to end human suffering are *not* absolutely scarce but only relatively scarce, placing a more onerous burden on states to meet basic human needs. Recognising when a category mistake has been made regarding scarcity results in legal, political, economic, and other institutions needing to

[444] See food, famine & hunger in Chapter 3.

account as to why needs cannot be met. Mostly commonly, the legal or political reason for not being able to meet social needs is phrased that there is a lack of resources. Distinguishing relative scarcity from absolute scarcity places greater scrutiny on this justification.

Such rationalisation is especially evident in law and policy where justifications or exemplifiers such as "within limited resources" and "lack of resources" are used when providing for the recognition of social rights such as food, housing, health care, and education. International law makes provision for social rights such as health care, education, water, food, and housing, under the International Covenant on Economic, Social and Cultural Rights.[445] The obligation on states to realise these rights and see them come into fruition is qualified; however, in article 2, which provides that states party to the Covenant must undertake to fulfil their obligation in terms of the rights provided for in the Covenant "to the maximum of its available resources".[446] States are therefore only obliged to fulfil rights insofar as they are able to given their resources.

Many states which make provision for social rights in their laws or constitutions, such as South Africa, echo this qualifier under international law obligations. The South African Constitution of 1996, for example, provides that the state is obliged to fulfil, promote and protect[447] socio-economic rights "within its available resources".[448] Due to this qualifier, lack of realisation of social rights is often justified by 'lack of resources'. Thus, when questioning the actual scarcity of resources, the validity of reasons such as 'there is a lack of resources' to meet minimum basic needs is then also brought into question. What resources are lacking? Physical resources or monetary resources? Are resources lacking, or is it *access* to resources that is the issue? And if so, why? Are there market barriers, what is preventing market participation, are there political issues at play – the bigger picture suddenly becomes relevant.

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[445] United Nations International Covenant on Economic, Social and Cultural Rights, Adopted by United Nations General Assembly Resolution 2200A (XXI) of 16 December 1966.

[446] Article 2.1 of the Covenant on Economic, Social & Cultural Rights, "Each State Party to the present Covenant undertakes to take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures."

[447] Section 7(2) of the Constitution of South Africa of 1996.

[448] Section 27(2) of the Constitution of South Africa of 1996.

States are given a kind of exemption because of an apparent scarcity of resources, yet it is states who have the authority to designate resources. For example, take a restaurant. The restaurant has an operational budget. The financial manager of that restaurant allocates money to different facets of the restaurant such as staff, produce, water and electricity, and so on. Now, this restaurant may decide to embark on a big media campaign. This campaign has television adverts, radio adverts, and billboards all over big cities to draw in more patrons. However, there aren't enough staff working at the restaurant to keep up with the increased patronage and as such the service becomes poor. The financial manager tells the restauranteur that there simply aren't resources to employ more staff. Yet the media campaign continues – more television adverts at prime time and more radio time. The reason that there aren't enough resources to employ more staff is simply because the financial manager has not allocated more resources to staff but has allocated significant resources to advertising. There is enough money to employ more staff, but it is allocated elsewhere. It is a matter of how the financial manager and restauranteur have *prioritised* budgetary allocations regarding where resources should go.

Now the same issue is at play with states and resources regarding social rights. If there is not enough budgetary allowance for health care, it is because the state did not allocate enough to health care to meet the needs. It becomes an issue of prioritisation. Obviously, the budgetary process of how states allocate their annual budgets is far more complicated than my small example of a restaurant, and my goal is not to redesign the budgetary process for states. However, the basic point remains – that the resources available to meet certain needs are made available by the state. Yet, the state is then given a justification for if it cannot fulfil certain obligations due to a lack of resources – which it decided upon. The issue is, therefore, prioritisation. How do states prioritise basic human needs? Identifying that scarcity of resources is relative and not absolute may place greater focus on how states prioritise the allocation of their resources.

Octavio Ferraz distinguishes between absolute scarcity and relative scarcity in regard to resources needed to fulfil social rights.[449] He considers absolute scarcity of resources to mean insufficiency[450] and relative scarcity of resources to refer to inequality of distribution of

[449] Ferraz, Octavio Luiz Matta. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *Equal Rights Review, 12*: 77-94, p.84.

[450] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *Equal Rights Review,* p.84.

resources.[451] In looking at the content of social rights such as food, housing, and health care, Ferraz argues that while social rights do require resources to be fulfilled, they do not deserve a different level of scrutiny than civil and political rights.[452] Civil and political rights are often regarded as easier to fulfil than social rights because social rights demand resources. However, as argued by Ferraz, civil and political rights also require resources. He references the United Nations Office of the High Commissioner of Human Rights in arguing that both kinds of rights require resources. The United Nations Office of the High Commissioner of Human Rights holds:

> "[E]conomic social and cultural rights have been seen as requiring high levels of investment, while civil and political rights are said simply to require the State to refrain from interfering with individual freedoms. It is true that many economic, social and cultural rights sometimes require high levels of investment – both financial and human – to ensure their full enjoyment. (…) Similarly, civil and political rights, although comprising individual freedoms, also require investment for their full realisation. For example, civil and political rights require infrastructures such as a functioning court system, prisons respecting minimum living conditions for prisoners, legal aid, free and fair elections, and so on."[453]

This relates to my question of what resources are lacking when there is said to be a scarcity of resources. Surely if there are financial resources available to ensure civil and political rights, financial resources can be used in the market to secure resources for social rights such as food, housing, health care, etc.

Ferraz seeks to clarify resource scarcity in law, but relevant to the broader discourse notes that the world is rich enough to ensure that all people's basic needs are met.[454] The issue, he argues, is not the insufficiency of resources but the inequality of distribution of these

[451] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *Equal Rights Review,* p.84.

[452] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *Equal Rights Review*, p.77.

[453] United Nations Office of the High Commissioner for Human Rights, *Fact Sheet No. 33, Frequently Asked Questions on Economic, Social, and Cultural Rights*, December 2008, No. 33, p. 9, <http://www.ohchr.org/Documents/Publications/FactSheet33en.pdf> (accessed 5 March 2020).

[454] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *Equal Rights Review,* p.78.

resources.[455] However, he does recognise that it is not only a problem of pure economics but a complex problem concerning politics, political will, infrastructure, political relations, and logistics.[456] For Ferraz, it raises questions regarding the universal nature of social rights and the content of social rights. This is not my focus. Instead, his distinction between absolute and relative scarcity compliments my distinction between absolute scarcity and relative scarcity. Additionally, his argument that civil and political rights also demand resources for fulfilment supports my argument that there should not be concern over specific resources but rather over what access to resources there is through participation in the economic market.

The resources necessary to meet basic human needs are there. The world has enough resources to address the major concerns of global justice that concern deprivation and human suffering. This needs to be acknowledged in the global justice discourse. Food, for example, is plentiful. People do not have to go hungry. Poverty does not need to be as prevalent as it is. People should have access to the medicines they need. Why do we allow validations such as "lack of resources" from states and politicians? This is where the category mistake matters. When recognising that resources are relatively scarce in the context of global justice and not absolutely scarce, then accountability shifts. Accountability for who is responsible for providing resources is brought into question, as is accountability for who is responsible for the physical lack of access to resources, and responsibility for who is responsible for ensuring access to resources.

Assuming scarcity of resources amounts to a category mistake if and only if its treatment in the context it is being confused with leads to absurdity. On the face of it, some resources may seem scarce in the absolute sense – such as food. But when the concept of scarcity is unpacked, it becomes evident that the scarcity is not necessarily the issue or even the cause of people not having access to food. The scarcity may be relative, may be created, may be malleable. This is not the same as absolute scarcity when a resource is finite. Saying there are not enough resources to feed the hungry cannot mean that there is an absolute scarcity of food for this deduction, per Ryle's logic, would lead to absurdity.

[455] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *Equal Rights Review,* p.78.

[456] Ferraz. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *Equal Rights Review,* p.84.

Justifications of resource constraints can therefore be problematic. Yet, it is a common justification for not providing people with basic social rights. Such justifications are also difficult to challenge because intuitively if there are hungry people, one assumes there is a lack of food. However, when the issue is actually lack of *access* to food and the resource of food itself is not constrained, then the justification needs closer scrutiny and examination. Those in power then need to explain why food is not accessible: why people are going hungry when there is food to eat. This challenges political and economic power balances in a way that demands accountability. When uncovered as relative scarcity, the question then becomes why the existing resources are not being made available. As per my pumpkin example, supplying more pumpkins or enabling access to the pumpkins.

I argue that the conflation between absolute scarcity and relative scarcity amounts to a category mistake. The constraints on accessing more polar bears and accessing more medicine are entirely different. One quest may send you deeper into the Arctic while the other brings into question the power dynamics of economics and world politics. The former may be impossible beyond a certain point, while the latter is entirely contingent on the economic market, demand, market participation, and laws and regulations. The number of insulin injections to be made may be infinite and entirely determined by market factors. How or why then is a justification for the former type of scarcity sufficient as an explanation to the latter? Surely the two instances of scarcity in this regard cannot be justified in the same manner? Those in power cannot justify the lack of housing due to resource constraints in the same way that an animal is determined to be endangered. People going hungry surely cannot be justified by resource constraints in the same way that the dwindling existence of polar bears is explained as a statement of fact.

The claim that scarcity is subject to a category mistake has potential limitations. It may be argued that the conflation of absolute scarcity and relative scarcity does not amount to a category mistake but is merely an issue of semantics. It could also be argued that absolute scarcity and relative scarcity do not fall into two distinct categories but are merely different forms or measures of the same category. Whilst these issues of semantics and categories could be argued, the need to distinguish between absolute scarcity and relative scarcity for proper interpretation and application remains the same whether one considers the conflation to amount to a category mistake or not. Without properly distinguishing between absolute scarcity and relative scarcity, there lies a risk in erroneous understanding of available resources which can affect the treatment of such resources. Such misguided treatment could result in absurdity, and as discussed, Ryle holds that a category mistake has been committed if there are contexts in which substituting one thing for another results in absurdity. Even if one is unwilling to recognise that there is a potential category mistake, it cannot be denied that improper distinction between absolute scarcity and relative scarcity can result in absurdity. A view that the conflation is an issue of semantics, and not a category mistake does not change the fact that then a 'semantical error' can result in the erroneous treatment of resources in the same way that a category mistake can result in the erroneous treatment of resources.

Having considered the logical mistakes that the concept of scarcity is vulnerable to and having examined the conflation of absolute scarcity and relative scarcity as a possible category mistake, the next section examines how scarcity is assumed in the discourse on global justice. I will look at whether scarcity of resources is understood as relative scarcity or as absolute scarcity regarding some of the theories referred to in Chapter One. This will reveal how conceptual clarity on the distinction between absolute scarcity and relative scarcity influences the interpretation of and reliance on certain global justice theories.

Assumption of scarcity through a category mistake

Theories of global distributive justice are concerned with how *x* amount of resources are to be distributed – but without recognising that *x* resources are not necessarily finite. The amount of resources available, *x*, is subject to interference from government, market dynamics, political institutions, and politics. However, absolute scarcity can be assumed when referring to resources in the context of global justice. Resources referred to are often only subject to relative scarcity. Scarcity of resources implies either insufficiency (if absolute scarcity) or inequality in access to resources (if relative scarcity). Thus, if recognised that the resources are relatively scarce, then the distribution of resources needs to be addressed. Relative scarcity indicates that there is an issue with the distribution of resources, which can be addressed, unlike absolute scarcity, where the amount of resources concerned is finite.

The following section will examine how absolute scarcity is assumed in some of the discourse regarding global justice and distributive justice. My aim is not to fully analyse all the literature in which this assumption is made but rather to illustrate examples of where such an assumption can have consequences for the interpretation and application of theories. In doing so, I seek to point out that care must be taken not to accept that resources are limited, as this can affect, and indeed limit, potential remedies to issues of global justice.

Scarcity of resources is not explicitly covered in the discourse of global justice. Reference is made to scarcity of resources in the discourse, especially concerning distributive justice. As such, my scope is an amalgamation of my understanding of scarcity as discussed above and the way in which resources are viewed in the discourse of global justice.

In Chapter One, I argue that Rawls, in arguing for 'justice as fairness', assumes absolute scarcity of resources where in fact, the relative scarcity of resources is appropriate. In Rawls' original position, the second principle of justice he comes to, the difference principle, is concerned with the distribution of income and wealth and positions of power and decision-making. The difference principle holds that inequalities in resources and positions of power are only permissible if such inequalities benefit the least well-off in society.[457] As explained in Chapter One, if given

> option a) everybody gets one apple
>
> or
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> option b) some get five apples, but everyone gets at least two

Rawls would opt for option b) or rather argue that people in the original position would pick option b) because the worst off would be in a better position under unequal distribution than they would under equal distribution. According to Rawls, everyone is better off by the inequality, and it is, therefore, rational.[458]

In doing so, however, he assumes that there is a limited amount of resources to be distributed among the people. Otherwise, if he was not making this assumption, he would surely provide a third option of what people in the original position would choose – one where everyone gets five apples. Therefore Rawls fails to consider the possibility that resources are not finite. Therefore, the issue is not *necessarily* how do we distribute what we have fairly, but how do we ensure that everyone gains fair access to the resources we have. This could be done by increasing resources or increasing access to resources for all, not only through redistribution of resources.

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[457] Rawls, John. 1999, *A Theory of Justice*, p.68; 133; 138.

[458] Rawls. 1999, *A Theory of Justice*, p.68; 133; 138.

His assumption of absolute scarcity of resources arguably undermines the difference principle when looking at certain kinds of resources such as food that cannot simply be accepted as limited, finite, or absolutely scarce. Some resources may very well be subject to the difference principle with its assumption of scarcity of resources, where the resources concerned are resources that are subject to absolute scarcity. However, if the resources concerned can only be relatively scarce, then the difference principle fails to recognise possible recourse beyond redistribution. Recourse such as increasing access to resources, increasing supply of resources, and other means may be ways to address resource inequality.

Going back to pumpkins – where it is possible that more pumpkins can be grown, and the number of pumpkins cannot be said to be finite – the same surely applies to apples. It is then surely conceivable that there should be an option where everyone gets five apples. Unless it can be shown that the resource in question is absolutely scarce, there is no reason for recourse options to be limited to those suggested by Rawls. His assumption of scarcity limits the possibilities of remedies available to address resource inequalities as he limits it to redistribution.

This is not to say that Rawls' difference principle does not hold true for positions of political power and responsibility. This, however, lies outside of the scope of my work. My concern is the interaction between the difference principle and the conception of scarcity regarding resources. Accepting that inequality in resources is inevitable and leaves some better off than others assumes that there are limited resources and that there is no option other than the two offered by Rawls. However, when looking at resources for basic needs such as food, water, housing, and medicine, it has become evident that we are not dealing with resources of absolute scarcity. The distinction between absolute scarcity and relative scarcity and the erroneous assumption of the former has shown that there may be more avenues of redress than redistribution.

Looking at theories such as Rawls with a more nuanced understanding of scarcity also provokes further questions as to the reason behind the inequality in resources. Inequality of resources is not due to absolute scarcity, and there are other factors at play. Institutional, legal, and political factors influence access to resources, distribution of resources, and production of resources (such as with patents regarding medicines). Theories of justice then need to examine these factors too. Without acknowledging that scarcity of resources is not absolute, these factors may be overlooked as focus then becomes centred around issues of redistribution. Institutional, legal, political, and economic factors may then only be considered in so far as redistribution is argued to be necessary to address inequality. However, institutional, legal, political, and economic factors, among other things, need to be addressed regarding the provision of resources, the access to resources, the supply of resources. The influence these factors play goes far beyond just the distribution of resources; but the institutional, legal, political, and economic systems are largely responsible for the amount of resources available.

Rawls' work has had a vast influence on the discourse on justice, global justice, and distributive justice. While it is beyond my scope to engage with all the critics and literary engagement regarding the work of Rawls, it must be noted that his work has provided a theoretical foundation for many is necessary given my allegation of a category mistake regarding how we consider the scarcity of resources. For if, as I argue, Rawls' understanding of the scarcity of resources is wrong, and an erroneous assumption is made regarding the scarcity of resources, this then has implications for those theories and theorists who have relied on Rawls in this regard.

Pogge, for example, is influenced by Rawls' difference principle in his argument for collective responsibility to address global poverty.[459] Pogge is, however, also critical of the limitations of Rawls' theories in his opinion that they are not necessarily globally applicable. Pogge is primarily concerned with global poverty. Regarding resources, he points out that everyone relies on the same resource base and that everyone co-exists in the same economic system.[460] Additionally, everyone is subject to a common history that has shaped the current world order.[461] Pogge holds that taxation could offer a means whereby to address international inequality.

Pogge's call for a global resources tax amounts to a means of collecting money to increase resources and thereby accessing resources in places where there is a need.[462] This means of redress put forward by Pogge shows that he does not assume absolute scarcity. He recognises that, albeit a sad reality, more money would, in many instances, result in the ability to increase the amount of resources available in places where resources are lacking. He, although not

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[459] Midtgaard, Søren Flinch. 2012, "On Thomas Pogge's Theory of Global Justice: Why We Are Not Collectively Responsible for the Global Distribution of Benefits and Burdens between Individuals" *De Gruyter*, 12: 207-222, p.208.

[460] Brock, Gillian., & Pogge, Thomas. 2014, "Global Tax Justice and Global Justice" *De Gruyter*, 1: 1-15, p.14.

[461] Brock., & Pogge. 2014, "Global Tax Justice and Global Justice" *De Gruyter*, p.14.

[462] See Chapter 1 on global justice for discussion on Pogge.

explicitly, recognises that increased economic power would enable poorer states to participate in the economic market to gain necessary resources. This is an acknowledgement of the barriers to the global economic market. In acknowledging this, he indirectly recognises that access to resources could be gained via increased participation in the economic market. His global resources tax is a means to accumulate money so as to participate in the economic market and thereby gain access to necessary resources.[463]

Pogge does not seem to make the mistake of assuming that scarcity of resources means absolute scarcity. Pogge recognises the relationship between money and resources in his arguments for a global resources tax. In acknowledging that more money means more resources or increased access to resources in places where needed, Pogge demonstrates that he understands, albeit unintentionally, scarcity of resources as relative. He also emphasizes the role of institutions and the role of market forces and their impact on the distribution of resources, resulting in an inequality of resources.

Examining Pogge's arguments with a more nuanced understanding of scarcity arguable adds weight to his arguments for a global resources tax and a global resources dividend. The acknowledgement of the prominent role of the economic market and that participation in the economic market may result in access to resources does not hint at assuming absolute scarcity of resources. Pogge does not seem to think the issue is solely the distribution of resources, but in his identification of the role the money has to play in access to resources, his suggestions for recourse to resource inequality may be weighted more heavily in knowing that supply of such resources is malleable.

While Pogge is concerned with the equal distribution of resources and redistributing resources in a manner so as to address issues such as global poverty, others have a more individualistic consideration of resource distribution. Dworkin argues for the equal distribution of resources based on equal concern for all.[464] His shipwreck example elaborated on in Chapter One illustrates that people's natural affinities should be considered when dividing up resources.[465] Given a better understanding of scarcity and the difference between absolute scarcity and relative scarcity, it is evident that, given the example used by Dworkin of the

[463] See Chapter 1 on global justice for discussion on Pogge.

[464] See Chapter 1 on global justice for discussion on Pogge.

[465] See Chapter 1 on global justice for discussion on Pogge.

shipwreck, he somewhat assumes a limited number of resources – and thereby assumes absolute scarcity.

While Dworkin does presuppose an economic market of some form where people have the choice and opportunity to gain access to the resources they want or need, his whole notion of the envy test is problematic given a better understanding of scarcity. Dworkin's envy test seeks to ensure that no one envies what another has because everyone had a fair opportunity to get what they want.[466] Any distribution after this initial distribution satisfying the envy test is considered fair and just by Dworkin as it results from people's choices.[467]

The shipwreck auction obviously assumes a limited amount of resources. Still, I argue that the envy test outside of the thought experiment does, too, as it presupposes that not everyone can access all resources, thereby assuming absolute scarcity. If everyone has the means and opportunity to attain what they wanted from the theoretical auction in the shipwreck example and should therefore not envy what others have, then by implication, there was not enough of everything for everyone at the auction, and that is why people had to make choices based on their own preferences. But why should there not be enough apples, for example, for everyone? Why is such a resource limited? Why should such a resource be limited?

While it is true that demand will influence the supply – and the envy test does illustrate this point albeit unintentionally – in real life, not all have access to participate in the market, and therefore the demand and supply may not be an accurate reflection. The demand and supply coming out of the shipwreck auction, if one were to allow for infinite access to resources, would be a fair reflection as Dworkin allows everyone access with equal means to participate. This does not, however, translate into the real world.

The envy test makes some sense when one looks at specific examples where not everyone would want or need a resource. For example, Southern Africa may need access to malaria medication while Scandinavia does not; Scandinavia may need access to vitamin D supplements while Southern Africa does not. These two regions would not envy each other's resources in this regard as there is not a want or desire for what the other has. However, this does not mean that vitamin D supplements are absolutely scarce, or malaria medication is

[466] Dworkin, Ronald. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, 10: 283–345, p.286.

[467] Dworkin. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, p.344.

absolutely scarce. Should Scandinavia suddenly come to need malaria medication as a result of a strange, mutated mosquito that can live in Arctic conditions, then, at least theoretically, both Southern Africa and Scandinavia could have access to malaria medication. Dworkin's concept of the envy test, especially as illustrated by his shipwrecked example, fails to account for the possibility of increasing the supply of resources according to demand. He assumes absolute scarcity of resources erroneously, although he recognises the vital role of the market in providing access to resources.

Dworkin also dismisses the influence of social circumstances in the creation of inequalities.[468] Given that social circumstances may be one of the biggest factors influencing access to the economic market, this is a major shortfall in his theory. Social circumstances affect access to resources, and access to resources affects social circumstance. Resources and social circumstances are intuitively intrinsically linked when one considers that most theories of global justice seek to address poverty and circumstance where people lack basic resources.

Similarly to Dworkin in one aspect, Sen recognises a personal aspect to resource preference in his capability theory.[469] This capability is not necessarily just that of an individual but can be of an area, institution, or state, among other things. [470] A capability may be, for example, the purchasing power of a state. Sen recognises that a state's ability to participate in the economic market affects the access to resources the state may have.

Sen is also influenced by Rawls, particularly Rawls' primary goods. Rawls' primary goods include "rights, liberties, opportunities, income and wealth."[471] However, Sen focuses on what goods *do* for people and not their value outside of their relative use or importance in his capability theory.[472] Again, Rawls' influence serves as an example of why it is necessary to examine the theories commonly relied upon with a more nuanced understanding of scarcity. Suppose a logical fallacy such as a category mistake exists in a theory which is somewhat

[468] See Chapter 1 for further discussion on Dworkin.

[469] Sen, Amartya. 1982, "Equality of What?" in Sen, Amartya, *Choice, Welfare and Measurement*, p.4.

[470] Sen, Amartya. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.15.

[471] Rawls. 1999, *A Theory of Justice*, p.54.

[472] Sen. 1982, "Equality of What?" p.4.

foundational to many others. In that case, careful scrutiny is necessary when considering reliance on such a theory. Sen, however, substantiates his theoretical foundation.

Unlike Dworkin, Sen considers social and economic determinants – such as those leading to circumstances of famine. Sen has shown in his work that circumstances of famine can exist despite an abundance of food.[473] His work on famine explicitly recognises that the issue with deprivation is not a lack of resources but a lack of access to resources. This aligns with the distinction between absolute scarcity and relative scarcity. In considering Sen's work on famines then, for example, famine is not the result of absolute scarcity but of relative scarcity.

In recognising the social and economic determinants, Sen does not entirely dismiss the causal link of scarcity of resources. In considering the causes of inequalities in resources and access to resources, Sen highlights factors that affect relative scarcity, such as market power, politics, and institutional arrangements. This is fundamental regarding understanding the scarcity of resources. It shows that Sen recognises that it is not just a matter of availability of resources but that there are other factors that influence access to such resources. Sen does not assume absolute scarcity of resources, and as alluded to in Chapter One, his work provides a foundation from which to argue for the recognition of relative scarcity.

Sen's work, therefore, also allows for a different approach to addressing resource inequalities. I am not disagreeing that redistribution could address issues of inequality and poverty and other issues pertaining to global justice. However, distributive justice should not just, per my view, be concerned with existing resources, for then resources are assumed to be absolutely scarce when they are not. We have now seen that more resources can be accessed, produced, and availed. Distributive justice should be cognisant of the fact that some resources are not finite and that, with medicine, for example, more of a resource could be produced to meet the necessary needs.

As highlighted by Sen's work, famine indicates that the issue of deprivation and subsequent suffering is not an issue of the amount of resources but the distribution thereof. Redistribution is intuitively a path of redress resource inequality. However, in recognising that the resources are not absolutely scarce, I propose that in addition to redistribution of resources as a means of redress and recourse to the issues of global justice, the increase of resources (particularly in the geographical area where there is a lack of the resource) is also a possible means of addressing

[473] Sen. 1981, *Poverty and Famines: An Essay on Entitlement and Deprivation*, p.39.

insufficiency or relative scarcity. This suggestion does not come without its list of potential issues and practical constraints such as monetary resources, institutional capability, political will, patents, among other things. However, where a resource is not finite, the possibility does exist that that in addition to redistribution, increasing the necessary resource could also address the issue of deprivation in question.

Nozick grapples with the distribution of resources in his entitlement theory. In contrast to Sen, Nozick is fundamentally opposed to the redistribution of resources, as this would infringe on the liberty of individuals. Nozick's entitlement theory places emphasis on liberty and freedom rather than equality.[474] To Nozick, distribution of resources is just if it is based on a free exchange. Therefore, the justness of the distribution of resources is based on whether the distribution resulted from people freely transferring resources. His strong emphasis on liberty places him at odds with redistributive justice as he argues that distributions, even if unequal, are just if they came about freely.

Intuitively one might put Sen and Nozick at odds with one another given their differing views of resources and distribution of resources. Yet when considering Nozick's entitlement theory with a more nuanced understanding of scarcity and considering the possibility of perhaps introducing the possibility of increasing necessary resources as a means of addressing inequality, elements of Nozick's entitlement theory become compatible with Sen's capability theory. Nozick does not seem to assume a scarcity of resources. Both his examples referred to in Chapter One[475] of Wilt Chamberlain, the basketball player, and the medical researcher, do not imply any kind of finality to the resources referred to. Nozick recognises the relationship between market participation and resource distribution. The Wilt Chamberlain example illustrates this in that people purchase tickets to watch him play basketball, thereby transferring resources. The stadium size determines the number of tickets sold. Scarcity created by the market is still not absolute scarcity but created scarcity –there isn't a naturally finite number of tickets.

Moreover, Nozick's example of the medical researcher, in particular, perhaps best illustrates his understanding of scarcity. He relies on the Lockean proviso – "where someone appropriates

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[474] See Chapter 1 for further discussion of Nozick.

[475] See Chapter 1 for further discussion of Nozick.

the total supply of something necessary for life."[476] Whether one agrees with Nozick's stance or not, his reliance on the Lockean provisio is evidence that he does not assume absolute scarcity of resources – and thereby does not make a category mistake regarding resources. Nozick acknowledges that the medical researcher has not made the chemicals needed to synthesize the drug scarce and therefore has not violated the Lockean provisio. Other people are still able to possess the materials the medical researcher used. This not only implies an assumption of relative scarcity but, in regard to medicines in particular, recognises that certain resources can be composed in various ways, as illustrated by my own example of painkillers and chairs.

While Nozick opposes the redistribution of resources on the basis of an infringement on liberty, his understanding of resources serves as a basis to argue for access to resources through an increase of resources. Nozick would not find it problematic to move the basketball game to a bigger arena to sell more tickets. While this may seem trivial, when translated into necessary resources, it translates into the possibility of creating more of a necessary resource or increasing the supply of a resource in high demand to provide access to a greater number of people. This does not infringe on an individual's liberty, nor does it infringe on others who have access to that resource. Nozick does not say anything about the value of exclusivity of a resource. As such, if more people were willing to pay to watch Wilt Chamberlain play basketball, then it would be justified to increase the stadium size.

Perhaps it is because of the medicine example he uses that his understanding of resources is appealing, but it is doubtful that Nozick would say that no more pumpkins could be grown. He would, assumingly, argue that more pumpkins should be grown to meet the demand rather than redistribute those that exist. This understanding that resources are not absolutely scarce, ironically, makes Nozick's entitlement theory a source for arguing for a form of distributive justice by addressing resource scarcity in relative terms.

These theorists have been influential in the discourse on global justice, theories of justice, and distributive justice. Many others address issues of inequality of resources, resource deprivation, and resource distribution and redistribution – all pertinent to my enquiry. However, what is blatantly absent from the discourse in this regard is the issue of scarcity of resources. Scarcity of resources may be referred to, but it is hardly examined as a factor in

[476] Nozick, Robert. 1974, *Anarchy, State and Utopia*, p.178.

addressing issues of global justice. Questions posed by those such as Brock, Beitz, and Nagel as to why we should care about global inequality can also be reconsidered in light of conceptual clarity regarding scarcity. If we know that there are enough resources for everyone to live a decent life, and the inequality is not as a result of insufficiency, then perhaps there is more reason to question the injustice of deprivation.

Brock recognises that distributive justice should be based on meeting the basic needs of people.[477] Beitz holds that we should be concerned with material deprivation and subsequent suffering and not just inequality.[478] Nagel argues that it is a basic duty of humanity to care about the suffering of other human beings.[479] Given contemporary stances such as this, it is conceivable that an alternate means of recourse could develop to address material deprivation, such as increasing resources. This requires the recognition that some resources are not absolutely scarce but only relatively scarce. Such recognition, while it may bring into question our reliance on other theories, allows for the possibility to justify possible redress to inequality in a way that may be less contested than redistribution and may provide more immediate relief in instances of material deprivation and suffering such as famine and hunger. As mentioned, this suggestion does not come without potential objections and practical constraints – some of which will be addressed in the next chapter. However, given a more nuanced understanding of resources, their malleability, and their lack of scarcity, the possibility exists to create more of what we need and where we need it.

This then raises the question of why, if we can conceive of resources being available in this nature, do we still struggle with circumstances of severe material deprivation and human suffering? What stands between the creation of more resources or creation of access to resources and the circumstances which demand them? This is not an easy question to answer, for it involves power balances, world politics, economic market, and political relationships. Thus, although such a form of recourse may be conceptually feasible, practically, it faces barriers of a wide variety. Instead of justifying these barriers, however, resources are often just labelled as scarce or states given leniency in their efforts to meet basic needs "within available resources" – ultimately creating the impression that the world unable to meet our basic human

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[477] Brock, Gillian. 2009, *Global Justice: A Cosmopolitan Account*, *p.45*

[478] Beitz, Charles. 2001, "Does Global Inequality Matter?" *Metaphilosophy*, 32: 95-112.

[479] Nagel, Thomas. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, 33: 113–147, p.118.

needs when in fact it is the state and institutional powers beyond that inhibits access to the resources which do exist.

Conclusion

This chapter has argued that the conflation of absolute scarcity and relative scarcity amounts to a category mistake. Consequently, assumptions made regarding scarcity in the discourse on global justice and distributive justice amount to a category mistake where absolute scarcity and relative scarcity are conflated.

This chapter shows that even theories that have influenced many others and laid the foundations for elaborations on global justice and distributive justice are not infallible to logical fallacies such as category mistakes. I have also shown that some theories which are intuitively anti-redistribution, such as Nozick's, and often stand as the counter-argument to arguments for distributive justice, can coincide with the aims of addressing issues of global justice when it is recognised that redistribution of resources is not the only means by which to address inequality of resources.

The basis of this is the recognition that scarcity of resources is neglected in the discourse and a conceptual void exists in our conceptual understanding of scarcity. This has led to assumptions about resource availability, assumptions that may be erroneous or at least disputed. Greater scrutiny of how resources are considered in the discourse of global justice is necessary. Examining just a few theories with a better understanding of scarcity has shown that not only do other potential means of addressing resource inequality exist, but that conceptual clarity regarding scarcity can change how we interpret and rely on theories based on their assumptions about resource scarcity.

Furthermore, conceptual clarity on resource scarcity provides insight into the shortcomings of states in fulfilling their obligations to meet basic needs. Without an understanding of resource scarcity, the justification of resource scarcity may seem acceptable for a state's lack of provision of basic needs but given a more nuanced understanding, and this is brought under greater scrutiny. The potential consequences of questioning this justification for lack of meeting basic needs due to supposed "limited resources" will be elaborated on in Chapter Five. It raises questions of accountability, prioritisation, and how global justice looks in terms of absolute resource scarcity and relative resource scarcity.

This chapter has examined the potential category mistake, a logical fallacy, that resource scarcity has been subject to in the discourse on global justice. The value of conceptual clarity is evident from examining theories for the assumptions they make about resources and their consequences. Being mindful of a possible category mistake and its consequences in regard to resource scarcity may address a void that may have seemed insignificant. Yet when looking at the real-life consequences of category mistakes, the value of scrutinising assumptions of resource scarcity is revealed. The consequences of such assumptions will be examined in the next chapter, as well as potential objections to my conceptualisation of scarcity.

CHAPTER 5: A RESOURCE-CENTRIC APPROACH TO SCARCITY AND POTENTIAL OBJECTIONS

Introduction

Scarcity in the context of global justice is especially relevant regarding material deprivation and human suffering and while "[w]e cannot know why the world suffers…[] we can know how the world decides that suffering shall come to some persons and not to others."[480] Scarcity is not a sufficient ground to say that we cannot achieve global justice. Unless it can be shown that the resources necessary to address issues of global justice are absolutely scarce, then the resources arguably exist or could be brought into existence to address issues central to achieving global justice. This has been illustrated with my examples of food and medicines in Chapter Two.

Scarcity, and perhaps more specifically, resource scarcity, is an intricate topic that requires a nuanced approach. Yet, scarcity is often assumed to be an absolute despite its complexities, as examples in previous chapters have shown. An assumption of scarcity disregards the source of the scarcity and neglects to recognise whether the scarcity in question is absolute or relative. Scarcity can be created; the impression of scarcity can be manipulated by human behaviour, markets, politics, and a host of factors that can influence how scarce something may appear. Accepting scarcity at face value and making decisions on that basis or using that notion of scarcity as a justification for action or inaction is problematic.

I have sought to conceptualise scarcity in terms of global justice. I began with the premise that there is a fundamental difference between insufficient resources to meet socio-economic needs and a lack of resources necessary due to inequality of distribution or allocation of resources.[481] I have argued that there is a common conflation between absolute scarcity and relative scarcity and that this conflation amounts to a category mistake. Such a category mistake is not only an issue when grappling with scarcity in theory, but such a category mistake can have real-life consequences on people's lives.[482] Relative scarcity is influenced by

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480 Calabresi, Guido., & Bobbitt, Philip. 1978, *Tragic Choices*, p.17.

481 See Chapter 2.

482 See Chapter 4.

distributional patterns, access, market forces, and human behaviour. Arguably, scarcity in the absolute sense cannot deduce if a resource's availability is subject to patterns of distribution, access, market forces, and human behaviour. Absolute scarcity refers to resources of which there are finite amounts or numbers left on the planet.[483]

This chapter seeks to build on the arguments made so far and argue for a resource-centric approach to scarcity, based on the arguments made and support provided in the previous chapters. First, the idea of a resource-centric approach is elaborated upon. An example of malaria prevention is then used to illustrate the arguments made. The broader argument of my dissertation is clearly articulated regarding the presumption of scarcity in the discourse on global justice. The argument for a resource-centric approach is made.

Following an articulation of the arguments pertaining to the issue of understanding scarcity, potential objections against my conceptualisation of scarcity and the consequences thereof are raised and addressed. Three potential objections are considered: a free market objection, an objection pertaining to practical limitations of the argument, and an objection regarding the category mistake as potentially just a semantical issue. These objections are discussed in light of the arguments made, and examples are relied upon throughout the chapters. In addressing these objections, it is then also necessary to consider how a more nuanced understanding of scarcity may influence issues of global justice, such as those raised in Chapter One.[484] This chapter ends by considering the possibilities when taking a resource-centric approach to scarcity of resources.

A resource-centric approach to scarcity

A resource-centric approach to scarcity of resources is arguably favourable over an economic approach. The difference between the two approaches amounts to the starting point of enquiry into the state of scarcity of the resource. An economic approach considers the scarcity of a resource from an economic standpoint which is usually the market. With a resource-centric approach to scarcity, the starting point of enquiry into the state of scarcity of the resource is the resource itself and not what the market reflects about the resource. A resource-centric approach

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[483] See Chapter 1.

[484] See Chapter 1.

to resource scarcity is arguably more favourable as an economic approach is malleable to influence the market in various ways.

In arguing that scarcity has become a rationale for resource allocation, Lyla Metha contends that scarcity has two narratives:

> "In one of these, the 'limits-to-growth' narrative of a finite world in which a recklessly expanding human population is rapidly depleting the resources on which it depends, the idea of scarcity represents the explicit boundary conditions of discourse and policy. In the other narrative, scarcity serves a more technical role in defining neoclassical economics as the 'science of resource allocation', which places markets at the centre of ever-expanding economic growth. In both cases, the idea of scarcity is seldom interrogated."[485]

Herein lies the crux of the problem regarding scarcity in the discourse on global justice – the concept of scarcity is not interrogated. Scarcity is, as put by Lyla Mehta, "considered to be an inescapable and ubiquitous feature of human existence."[486] Scarcity is then, despite its lack of definition,[487] used as a rationale for resource allocation.[488] As Ted Schrecker points out, 'resources' in this context often refer to budgetary resources or financial resources.[489]

The lack of definition of scarcity is problematic given how important the concept is considered to be in economics.[490] Economics is regarded as the science of scarce resources and concerned with how to use such resources efficiently. As Jose Cuesta points out, economics is concerned with the scarcity of resources yet does not clearly define what scarcity means, unlike other disciplines.[491] For example, geology considers elements existing in Earth's crust at average abundances below 0.1 percent as scarce.[492] Economics does not have such a stringent

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485 Mehta, Lyla. (ed). 2010, *The Limits to Scarcity*, p.1.

486 Mehta. 2010, *The Limits to Scarcity*, p.1.

487 Cuesta, José. 2013, "Resource scarcity from an applied economic perspective" *Ga. J. Int'L & Comp. L*, 42:11, 11-34, p.13.

488 Cuesta. 2013, "Resource scarcity from an applied economic perspective" *Ga. J. Int'L & Comp. L*, p.13.

489 Schrecker, Ted. 2013, "Interrogating scarcity: how to think about 'resource-scarce settings'" *Health Policy and Planning*, 28, 400-409, p.409.

490 Cuesta. 2013, "Resource scarcity from an applied economic perspective" *Ga. J. Int'L & Comp. L*, p.13.

491 Cuesta. 2013, "Resource scarcity from an applied economic perspective" *Ga. J. Int'L & Comp. L*, p.32.

492 Cuesta. 2013, "Resource scarcity from an applied economic perspective" *Ga. J. Int'L & Comp. L*, p.31.

definition of scarcity, despite it being one of its primary concerns. While scarcity is understood as circumstances where demand exceeds supply, this gives no information on whether the supplying side is constrained.[493] There is a lack of conceptual and analytical content to scarcity in mainstream economics, yet reliance on scarcity for resource allocation remains prominent.

Amartya Sen, Paula Casal, and Harry Frankfurt all consider deprivation and resource sufficiency as key considerations regarding resources necessary to meet basic needs.[494] Octavio Ferraz holds that insufficiency of resources is synonymous to absolute scarcity and that issues of relative scarcity concern inequality of resources and inequality in resource distribution.[495] However, others such as Sendhil Mullainathan and Eldar Shafir think that there lacks proof of absolute scarcity, whether one considers a just distribution of resources or whether one considers an unjust distribution of resource.[496] They contend that scarcity lacks conceptual clarity.

David Harvey, in addressing social justice in the city, provides a definition of resources in context.[497] He holds that the "concept of a resource as a commodity which enters into production" is no longer appropriate and only suited to basic, conventional economic analysis.[498] According to Harvey, he recognises that there is a tendency to consider resources as being "natural" when they can, in fact, be financial, man-made, social, or even psychological.[499]

Lyla Mehta explains how scarcity can be used to allocate resources. Scarcity can either legitimise the allocation of resources through the free market or justify the allocation of

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493 Cuesta. 2013, "Resource scarcity from an applied economic perspective" *Ga. J. Int'L & Comp. L*, p.18.

494 See Sen, Amartya. 2009, *The Idea of Justice*, p.390; Casal, Paula. 2007, "Why Sufficiency is not Enough", *Ethics;* Frankfurt, Harry. 2015, *On Inequality*. See also Chapter 2 on scarcity of resources.

495 Ferraz, Octavio Luiz Matta. 2014, "Inequality, not Insufficiency: Making Social Rights Real in a World of Plenty" *The Equal Rights Review, 12:* 77-94, p.84.

496 Mullainathan, Sendhil., & Shafir, Eldar. 2013, *Scarcity*, 2013; Nagel, Thomas. 2005, "The Problem of Global Justice" *Philosophy and Public Affairs*, 33, 113–47.

497 Harvey. 2009, *Social Justice and the City*, p.68-69.

498 Harvey. 2009, *Social Justice and the City*, p.68-69.

499 Harvey. 2009, *Social Justice and the City*, p.68-69.

resources through formal rights regimes.[500] In arguing that scarcity is a constructed concept, she argues:

> "Scarcity is not necessarily natural or universal. Still, in many academic and policy debates scarcity has been universalized and naturalized. These generalized notions of scarcity tell us nothing about what exactly scarcity means, who it affects most, who creates it and who benefits from this permanent state of scarcity."[501]

Scarcity has become instrumentalised.[502] It can be used through the market, rights regimes and politics to justify resource allocation and deprivation. Calabresi and Bobbitt note that scarcities need to be understood with reference to "their origins in political choices" as well as economic circumstances. Scarcity should not be assumed as fact.[503] Zadeck maintains that the opposite of scarcity is not abundance but instead freedom from the limitations imposed on our understanding by social and political factors.[504]

A resource-centric approach to scarcity seeks to give more content to the conceptual understanding of scarcity. Rather than starting with an economic enquiry regarding a particular resource, a resource-centric approach starts with the resource itself in question. When dealing with budgetary resources or financial resources, those are considered the resource for a specific purpose. For example, the budget allocated to health care will be considered as the resource. Starting with the resource in question removes the presupposed idea of scarcity imposed by economics' supply and demand nature. This is important because supply and demand do not necessarily give an accurate reflection of the state of the resource's scarcity. The market could reflect that the resource is scarce in that demand far exceeds supply, but not explain that the resource has not been available for a period of time, leading to a backlog and a surplus in demand, not an absolute scarcity in the resource.

When starting the enquiry with the resource concerned, and in seeking to determine whether the resource is, in fact, scarce, it needs to be considered how much of the resource is available,

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[500] Mehta. 2010, *The Limits to Scarcity*, p.1.

[501] Mehta. 2010, *The Limits to Scarcity*, p.1.

[502] Metha, Lyla., Huff, Amber., & Allouche, Jeremy. 2018, "The new politics and geographies of scarcity" *Geoform*, <https://doi.org/10.1016/j.geoforum.2018.10.027> (accessed 10 May 2021).

[503] Calabresi., & Bobbitt. 1978, *Tragic Choices*, p.181.

[504] Zadek, Simon. 1993, *An Economics of Utopia: Democraftising Scarcity*, p.239.

where it is available, whether there are substitutes for it, whether it can be manufactured, where it can be manufactured, how it can be transported, among other things. Once these facets have been considered, then the market dynamics of the resource may be considered. I refer back to my example of pumpkins and polar bears. In determining whether polar bears and pumpkins are absolutely or relatively scarce, a resource-centric enquiry was used as opposed to an economic one. Polar bears were determined to be absolutely scarce due to there being a finite number left on the planet.[505] Pumpkins, on the other hand, were determined to be relatively scarce. In this regard, three aspects were considered: distribution, equal access, and supply and demand. It was determined that pumpkins could be scarce because:

a) they are only found in a certain area;

b) they are only available to some; and

c) people prefer pumpkins over any other vegetable.

Pumpkins could be scarce because of how they are distributed or where they grow. Similarly, pumpkins could be scarce because of unequal access to pumpkins. Such unequal access could be an issue of geography and is not necessarily just an issue of economic access. Pumpkins could also be scarce because they are popular, and thus their demand exceeds their supply.[506]

Relative scarcity can often be presented as absolute scarcity, and thus it is necessary to provide reasons for which a resource may be deemed scarce. Yet, for example, when compared to polar bears, these reasons showcasing reasons behind relative scarcity are not applicable, emphasising a difference in the nature of scarcity regarding the two resources. The scarcity of pumpkins can be influenced by distributional patterns, access, and market forces – while the scarcity of polar bears cannot. Thus, if a resource's scarcity status is subject to influence from these factors, it can be deduced that the resource is not scarce in the absolute sense.

Distributional patterns, access, and market forces all concern institutional arrangements and political and economic context. These can therefore be subjected to scrutiny of distributional justice and global justice. To elaborate, the state of scarcity of the resource is created in the context of institutional arrangements and political and economic climates. The scarcity status

[505] See Chapter 1.

[506] See Chapter 1.

of a relatively scarce resource does not exist naturally as it does with absolute scarcity, and therefore it can be evaluated against standards of global justice and distributional justice.

Thus, if there is not enough of a resource, it may be that the resource is relatively scarce. There may not be enough of a resource, physically or financially, because those in power do not prioritise that resource.[507] The availability, allocation, and distribution of the resource in question then becomes subject to how the resource is prioritised, as that influences its scarcity status. For example, there may be a scarcity of pumpkins, not because there cannot be any more pumpkins, but because pumpkins are not a priority. If pumpkins are not a priority, then resources will not be allocated into the farming and processing of pumpkins, which may result in a relative scarcity – that is, an imbalance between the demand and supply, but purely on the basis of how those in power prioritise the resource. The same goes for issues of global justice such as health – if aspects of health care are not prioritised, then sufficient resources are not allocated. It is not necessarily a matter of there not being enough resources. As Calabresi and Bobbitt hold:

> "Scarcity is not the result of any absolute lack of a resource but rather the decision by society that it is not prepared to forgo other goods and benefits in a number sufficient to remove the scarcity."[508]

How issues of global justice such as poverty, health, education, and such are prioritised in political and economic climates determine how resources are allocated to addressing these issues. Resource scarcities associated with these issues are often not because of absolute scarcity but of circumstances where insufficient resources have been allocated to address the needs in question. This may be because the issues are not prioritised or outweighed by other issues. Such determinations should arguably be made in the interests of global justice.

Potential objections

Considering this conceptualisation of scarcity and the argument made for a resource-centric approach to determining the scarcity status of resources, it is necessary to consider potential objections. These objections have a bearing on the relevance of this conceptualisation of scarcity as well as the potential significance of the consequences thereof. In considering the

[507] See Parfit, Derek. 1997, "Equality and Priority" *Ratio* 10(3), p.202 -221 regarding prioritarianism.

[508] Calabresi., & Bobbitt. 1978, *Tragic Choices*, p.22.

potential objections, I explore three key objections and discuss responses to them where appropriate.

Market freedom

A potential objection to my conceptualisation of scarcity may be that it is not compatible with a free market. Such an objection would argue that scarcity created as a result of the free market is just in consideration of principles of liberty and choice as echoed by those such as Robert Nozick and Ronald Dworkin.[509] Arguments exist that inequalities that exist as a result of liberty are just. These arguments may be extended to hold that inequity resulting from liberty could justify the creation of scarcity. In other words, if the free market creates scarcity (in the relative sense), then it is justified.

The free-market objection is based on individual liberty and the notion that consequences that arise from individuals' free choices are just. Dworkin's theory may support this objection as he contends that if inequality in resources arises from people's choices, inequality is not unjust as people are responsible for their choices.[510] Thus if scarcity is created in the free market by supply and demand based on people's free choices, the resultant scarcity is not unjust. People bear responsibility for the choices that led to those circumstances.

Similarly, Nozick's entitlement theory[511] supports this free-market objection. Nozick emphasizes freedom and liberty and maintains that the distribution of resources is just if those holding the resources are entitled to them.[512] Thus if everyone were to be entitled to the goods in their possession, then any distribution of resources that came about from free exchange would be just.[513]

Ultimately this objection questions how actions arising out of liberty can be unjust. This is not a new question in the field of global justice or distributive justice. However, it is important

[509] See Chapter 1 regarding resource distribution.

[510] Dworkin, Ronald. 1981, "What is Equality? Part 2: Equality of Welfare" *Philosophy and Public Affairs*, 10: 283–345, p.282.

[511] See Chapter 1.

[512] Nozick, Robert. 1974, *Anarchy, State and Utopia*, p.160.

[513] Nozick, Robert. 1973, "Distributive Justice" *Philosophy & Public Affairs*, 3(1): 45-126, p.48.

to unpack the question further in the context of scarcity – which is what is at issue here. Actions, albeit free actions, which create a farce scarcity resulting in the material deprivation of goods to some who may be in need, arguably can be unjust. However, that is not to be blamed on the actors but on the system in which the goods are distributed. Although exaggerated, this point serves to show that the enquiry into free-market versus global justice is more nuanced than merely considering if actions taken are free.

In fact, although Nozick is in favour of a free market, "from each as they choose to each as they are chosen",[514] and relies on the Lockean proviso – "where someone appropriates the total supply of something necessary for life."[515] In relying on the Lockean proviso and in the example of the medical researcher,[516] Nozick does not make an avert assumption as to the limited nature of resources. Nozick appears hesitant to accept that a resource can be entirely appropriated.[517] The reliance on the Lockean proviso allows Nozick to argue for his view on liberty and free trade without making an assumption on the number of available resources. The justness of scarcity is neglected, and it remains questionable whether, in relying on a theory such as Nozick's, scarcity created by free trade can be just.

Additionally, the free market depends on the already existing distribution of wealth, which is arguably plagued by injustices. An example of how the free market can create scarcities that are rather obviously contrary to global justice is an investment in research and development of medicines and the basic need and right to access to medicines.

The World Health Organisation (WHO) estimates that nearly 2 billion people lack access to basic medication.[518] There is an incongruency between the burden of disease faced by developing countries and the lack of investment into treating preventable and treatable diseases

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[514] Nozick. 1974, *Anarchy, State and Utopia*, p.160.

[515] Nozick. 1974, *Anarchy, State and Utopia*, p.178.

[516] See Chapter 1.

[517] See Chapter 1.

[518] World Health Organisation, *Access to medicines: making market forces serve the poor*, <www.who.int/publications/10-year-review/en/> (accessed 8 May 2021).

in developing countries.[519] Patent law is at the core of this contestation.[520] While patents are necessary to protect intellectual property and to provide an incentive for innovation, such an incentive only exists where investors have the potential to recuperate their investment and therefore require a profitable market.[521] Developing countries do not provide attractive investment opportunities in this regard. As such, research and development of new medicines are primarily targeted at developed countries where profits can be made.[522] In theory, patent protection can provoke innovation, but in eliminating competition, it can also result in exorbitantly high prices.[523] Jennifer Sellin depicts the circumstances of this incongruency:

> "A number of new medicines that are vital for the survival of millions are already too costly for the vast majority of people in poor countries. In addition, investment in Research and Development [] towards the health needs of people in developing countries has almost come to a standstill. Developing countries, where three-quarters of the world population lives, account for less than 10% of the global pharmaceutical market."[524]

Malaria treatment and prevention is a more specific example of how the free market, including incentives to invest in research and development in medicines, has failed developing countries that prove not profitable. Therefore, these countries suffer from a lack of access to resources, even a farce scarcity of certain resources, and human suffering endures as a result.

Malaria is a life-threatening disease caused by a parasite. The parasite is transmitted through the bites of infected mosquitoes. Malaria is a bigger public health issue than people may realise.

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[519] 'T Hoen, E F M. 2003, "TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond" *Economics of AIDS and Access to HIV/AIDS Care*, 11:8, 39-68, p.41.

[520] Sellin, Jennifer A. 2015, "Does One Size Fit All? Patents, the Right to Health and Access to Medicines" *Netherlands International Law Review*, 62, 445-473.

[521] Sellin. 2015, "Does One Size Fit All? Patents, the Right to Health and Access to Medicines" *Netherlands International Law Review*.

[522] Sellin. "Does One Size Fit All? Patents, the Right to Health and Access to Medicines" *Netherlands International Law Review*; World Health Organisation. 2017, *Advancing the right to health: the vital role of law*, <https://www.who.int/healthsystems/topics/health-law/health_law-report/en/> (accessed 12 May 2021).

[523] World Health Organisation. 2017, *Advancing the right to health: the vital role of law*, <https://www.who.int/healthsystems/topics/health-law/health_law-report/en/> (accessed 12 May 2021).

[524] 'T Hoen. 2003, "TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond" *Economics of AIDS and Access to HIV/AIDS Care*, p.41.

In 2019 half of the world population was at risk of malaria.[525] In 2019, the WHO attributed 409 000 deaths to malaria and 229 million new malaria infections.[526] Africa carried the largest burden of disease regarding malaria, accounting for 94 percent of the cases. Children under the age of five are most vulnerable, and in 2019, they reported for two-thirds of the deaths caused by malaria. Malaria is both treatable and preventable.[527] There are anti-malaria drugs and insecticides, and mosquito nets are used to prevent malaria transmission from mosquito bites. There is also a malaria vaccine, the first of its kind, to make children less susceptible to malaria. This new vaccine has been introduced to three areas of sub-Saharan Africa; in Ghana, Kenya, and Malawi, through the routine inoculation programmes already operating in the countries.[528]

Despite malaria being both treatable and preventable, it remains this great public health burden, placing millions of people at risk every year. This begs the question – are the resources necessary to treat and prevent malaria are scarce or are there other issues contributing to this farce of scarcity. Some countries have eradicated malaria through the use of medication and prevention mechanisms and have been declared as ‘malaria free’ by the WHO. The elimination of malaria in countries such as Sri Lanka, the United Arab Emirates, Argentina, Algeria, and El Salvador provides evidence that it is possible to do something about the burden of disease caused by malaria.

There is evidence that it is possible to address malaria's public health issue, yet so many countries are still vulnerable to its effects. Is this as a result of resource scarcity? Albeit that those resources are financial or budgetary, are there other factors hindering the progress that could be made to address this issue. As well as children, pregnant women and unborn children are also particularly vulnerable to malaria. Malaria during pregnancy can result in low birth weight as well as maternal anaemia. Infants born with a low birth weight are at risk of death for the first few months of life. Children who survive malaria may experience developmental

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525 World Health Organisation. *Malaria*, <https://www.who.int/health-topics/malaria#tab=tab_1> (accessed 3 May 2021).

526 World Health Organisation. *Malaria*, <https://www.who.int/health-topics/malaria#tab=tab_1> (accessed 3 May 2021).

527 World Health Organisation. *Malaria*, <https://www.who.int/health-topics/malaria#tab=tab_1> (accessed 3 May 2021).

528 World Health Organisation. *Malaria*, <https://www.who.int/health-topics/malaria#tab=tab_1> (accessed 3 May 2021).

difficulties both physically and mentally.[529] Schooling and social development are also affected.[530]

Malaria is also a costly burden.[531] According to UNICEF, malaria has cost Africa 12 billion dollars lost growth domestic product (GDP) annually.[532] Coupled with this is the fact that countries most affected by malaria are not rich countries.[533] 58 percent of deaths attributed to malaria affect the poorest 20 percent of the world population.[534] Reaching the poorest communities at risk of malaria with prevention and treatment proves difficult, not only financially but also geographically. Many poor communities reside in rural and remote areas and accessing such prevention and treatment services becomes even more difficult.[535]

Anti-malaria drugs are not expensive, but they have become less effective over time as mosquitoes, and the malaria parasite have become resistant to them.[536] The newer and more effective treatment is more expensive and thus less common, especially in poverty-stricken countries. Insecticide-treated bed-nets can reduce chances of transmission by 50 percent.

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[529] UNICEF. *Fact Sheet: Malaria, A Global Crisis* <https://www.unicef.org/media/media_20475.html#:~:text=Although%20the%20commonly%20used%20antimalarials,for%20an%20adult%20treatment%20dose> (Accessed 3 May 2021).

[530] UNICEF. *Fact Sheet: Malaria, A Global Crisis* <https://www.unicef.org/media/media_20475.html#:~:text=Although%20the%20commonly%20used%20antimalarials,for%20an%20adult%20treatment%20dose> (Accessed 3 May 2021).

[531] UNICEF. *Fact Sheet: Malaria, A Global Crisis* <https://www.unicef.org/media/media_20475.html#:~:text=Although%20the%20commonly%20used%20antimalarials,for%20an%20adult%20treatment%20dose> (Accessed 3 May 2021).

[532] UNICEF. *Fact Sheet: Malaria, A Global Crisis* <https://www.unicef.org/media/media_20475.html#:~:text=Although%20the%20commonly%20used%20antimalarials,for%20an%20adult%20treatment%20dose> (Accessed 3 May 2021).

[533] UNICEF. *Fact Sheet: Malaria, A Global Crisis* <https://www.unicef.org/media/media_20475.html#:~:text=Although%20the%20commonly%20used%20antimalarials,for%20an%20adult%20treatment%20dose> (Accessed 3 May 2021).

[534] Barat, Lawrence M., Mills, Anne., Basu, Suprotik., Palmer, Natasha., & Hanson, Kara. 2004, "Do malaria control interventions reach the poor? A view through the equity lens" *American Journal of Tropical Medicine and Hygiene*, 71:2, 174-178.

[535] Barat. 2004, "Do malaria control interventions reach the poor? A view through the equity lens" *American Journal of Tropical Medicine and Hygiene*.

[536] UNICEF. *Fact Sheet: Malaria, A Global Crisis* <https://www.unicef.org/media/media_20475.html#:~:text=Although%20the%20commonly%20used%20antimalarials,for%20an%20adult%20treatment%20dose> (Accessed 3 May 2021).

However, less than 2 percent of children – those most vulnerable to malaria – sleep under a mosquito net.[537] These insecticide-treated bed-nets are not expensive but require re-treatment with insecticide to remain effective. Long-lasting insecticidal nets have been introduced, which do not need to be retreated and last for a number of years.

Malaria remains a leading cause of death wherever it is present.[538] A 2015 study showed that public and philanthropic sectors largely drive malaria drug and vaccine discovery and development financing.[539] However, the output of this work is then largely restricted by fee walls of journals and patents.[540] Additionally, despite patents, research and development into 'type 3' diseases are not favoured by investors as 'type 3' diseases, which most commonly occur in developing countries. Therefore, patients cannot afford to pay high prices for the medicines that may be developed.[541] Drug research and development can be viewed as a profitable investment where generics may make profits.[542] Yet, with 'type 3' diseases in developing countries, this is often not the case. Research and development in malaria treatment and prevention is just one example of how the free market can forgo the interests of global justice in the interests of profits.

An objection based on market freedom does not dismiss the issues concerning the lack of conceptual clarity regarding scarcity. Nor does such an objection address the issues that arise as a consequence of the conceptual ambiguity surrounding scarcity of resources. Even in consideration of concerns raised regarding market freedom, there remains a need for approaching scarcity of resources with a greater degree of scrutiny. Arguably, there is also

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537 UNICEF. *Fact Sheet: Malaria, A Global Crisis* <https://www.unicef.org/media/media_20475.html#:~:text=Although%20the%20commonly%20used%20antimalarials,for%20an%20adult%20treatment%20dose> (Accessed 3 May 2021).

538 Årdal, Christine., & Røttingen, John-Arne. 2015, "An Open Source Business Model for Malaria" *Plos One*, 10:2, 1-15.

539 Årdal., & Røttingen. 2015, "An Open Source Business Model for Malaria" *Plos One*.

540 Årdal., & Røttingen. 2015, "An Open Source Business Model for Malaria" *Plos One*.

541 Fonteilles-Brabek, Sylvie., *et al*. 2016, "The role of intellectual property in the battle against malaria" *WIPO Magazine*, < https://www.wipo.int/wipo_magazine/en/2016/05/article_0006.html> (accessed 5 May 2021).

542 Fonteilles-Brabek, Sylvie. *et al*., 2016, "The role of intellectual property in the battle against malaria" *WIPO Magazine*, < https://www.wipo.int/wipo_magazine/en/2016/05/article_0006.html> (accessed 5 May 2021).

value to be gained in the interests of justice in a more nuanced approach to scarcity of resources that could outweigh free market concerns.

Practical limitations

The second objection I wish to address is that of practical limitations. My conceptualisation of scarcity undoubtedly gives rise to many complex, practical problems, some insurmountable. It may be all well and good to determine that there is, for example, enough food to feed all the people in the world, but the practical task of getting that food to the people who need it is an intricate process of politics, economics, social circumstances, and practical logistics.

Apart from apparent practical logistics such as transport of resources, storage of resources, and sharing information about resources, further practical limitations hinder the notion of there being enough for all. The very practical issues of how to move resources to where they are needed, how to store them, who to employ to do so, and so forth, poses a practical limitation to the idea that there are enough resources in the world to, as Pogge argues, eliminate hunger and disease. However, as international travel has advanced, so has the transportation of resources. It is possible (though questionably not feasible) to transport food around the world to where it needs to be before it expires. Similarly, the storage of goods has come a long way, and it is possible to store goods for longer than was previously possible. However, despite the potential innovation and development that has occurred regarding logistical issues such as transport and storage, it is not within my scope to consider *how* resources are to be distributed. In fact, it is not even within my scope to determine whether they *should* be distributed. I have sought to determine whether there are enough resources to address global justice issues and whether resources in this regard are limited. This is a theoretical enquiry into the conceptualisation of scarcity, not a practical ergonomic project of distribution. It would, however, be amiss of me not to acknowledge the practical challenges that real-world application of my theorisation could raise.

Government cooperation is also necessary for any inter-government movement of resources, and this involves socio-political relationships as well as economic relationships. Governments may prefer to be in a position of power where another state needs their resources and may even want to exploit this position of power. Additionally, some states may see it as advantageous to refrain from sharing resources with some states but beneficial to trade with others. The intricate political arena of trade and political alliances is a practical and logistical limitation to resource availability and distribution. This aspect of logical limitations, in particular, I concede to. However, it is beyond my scope to consider how states should share resources or cooperate to ensure adequate availability of resources. That is an issue for policy makers. I have aimed to shed light on the fact that there may be enough resources for all to be better off. At least theoretically, the practical limitation of complex politics does not influence the sufficiency of resources in the context of my conceptualisation.

Government corruption is another practical limitation. Corruption can be understood as the abuse of power for personal gain.[543] Corruption is a global burden on resource availability and impacts greatly on the distribution of resources. The World Bank emphasises the social cost of corruption:

> "Corruption erodes trust in government and undermines the social contract. This is a cause for concern across the globe, but particularly in contexts of fragility and violence, as corruption fuels and perpetuates the inequalities and discontent that lead to fragility, violent extremism, and conflict."[544]

The World Bank further holds that corruption poses an obstacle to ending poverty as corruption has a "disproportionate impact on the poor and most vulnerable."[545] Corruption is a global problem and affects all taxpayers and citizens.[546] While corruption is very difficult to measure, the Corruption Perceptions Index provides some insight into government corruption as perceived by experts in the business.[547] The Corruption Perceptions Index ranks scores countries on a scale of zero to 100, with 100 being free from corruption and zero being highly

543 Garcia, Patricia J. 2019, "Corruption in global health: the open secret" *The Lancet*, 394, 2119-2124, p.2120.

544 World Bank. *Anti-corruption*, <https://www.worldbank.org/en/topic/governance/brief/anti-corruption> (accessed 10 May 2021).

545 World Bank. *Anti-corruption*, <https://www.worldbank.org/en/topic/governance/brief/anti-corruption> (accessed 10 May 2021).

546 Rowden, Rick., & Wang, Jingran. 2020, "The Global Crisis of Corruption" *Global Financial Integrity* <https://gfintegrity.org/global-crisis-of-corruption/> (accessed 10 May 2021).

547 Transparency International. 2020, *Corruption Perceptions Index* <https://www.transparency.org/en/cpi/2020/index/nzl#> (accessed 10 May 2021).

corrupt.[548] According to the Corruption Perceptions Indexes' scores, more than two-thirds of the countries scored below 50, indicating that the global state of corruption is high.

Corruption has a major impact on resource availability, resource allocation, and resource distribution. Thus, corruption poses a unique practical limitation to any approach taken to address resource scarcity or material deprivation regarding issues of global justice. Corruption comes in many forms: market collusion, price-fixing, resource skimming, bribery, extortion, theft, embezzlement, nepotism, and undue influence, to name a few examples. Resources may be allocated according to bribes instead of according to need, for example, severely affecting fair availability. Corruption can occur at points of service provision, purchasing and distributing resources, regulation, and hiring personnel.[549] Corruption is more than a financial problem, as the World Bank notes, for example:

> "Corruption in the procurement of drugs and medical equipment drives up costs and can lead to sub-standard or harmful products. The human costs of counterfeit drugs and vaccinations on health outcomes and the life-long impacts on children far exceed the financial costs. Unofficial payments for services can have a particularly pernicious effect on poor people."[550]

Patricia Garcia, the previous Peruvian Minister of Health, holds that corruption is "embedded in health systems".[551] She speaks to corruption in the health sector, noting that an increase in resources has also led to increased corruption.[552] She refers to corruption as an "ignored pandemic", echoing Transparency International who holds that:

> "Corruption in the health sector kills an estimated 140 000 children a year, fuels the global rise in anti-microbial resistance, and hinders the fights against HIV/AIDS and

548 Transparency International. 2020, *Corruption Perceptions Index* <https://www.transparency.org/en/cpi/2020/index/nzl#> (accessed 10 May 2021).

549 Garcia. 2019, "Corruption in global health: the open secret" *The Lancet*, p.2120.

550 World Bank. *Anti-corruption*, <https://www.worldbank.org/en/topic/governance/brief/anti-corruption> (accessed 10 May 2021).

551 Garcia. 2019, "Corruption in global health: the open secret" *The Lancet*, p.2120.

552 Garcia. 2019, "Corruption in global health: the open secret" *The Lancet*, p.2119.

> other diseases. Unless the most harmful forms of corruption are curbed, universal health coverage is unlikely to be achieved."[553]

Corruption in the health sector is just one example of how resources are subject to this practical limitation. Corruption can affect resources in the provision of housing, water, electricity, and various other basic human needs. Corruption can implicate the resources in the procurement stage, in the distribution stage, and in other means too. Corruption poses a practical limitation on both allocating and distributing resources. Resources are subject to corruption, despite their scarcity status. This practical limitation cannot be solved in a dissertation, especially given the global nature of the problem. It must be recognised that this is a practical concern to be considered when allocating and distributing resources. When taking practical steps in allocating and distributing resources, steps should also be taken to combat potential corruption and to account for potential loss of resources because of corruption.

Additionally, corruption is also not limited to the public sector. Collusion and other forms of market interference in the private sector amounts to corruption. An example of this is discussed in Chapter Six.[554]

A further, ever-present, practical limitation is costs. Costs of increasing resources in instances where the potential of increasing a resource exists, for example, say, if more pumpkins needed to be produced. This carries costs such as the costs of logistics of transport and storage. Some people or states lack a resource because they cannot afford the resource or cannot afford to participate in the market. Costs are a barrier to access to resources. This does not change when the number of resources increases or is shown to be increased. Costs remain an issue as it seems unlikely that a state will give away its excess of a resource when it could potentially profit from it. This, too, I concede as an issue not only to the potential distribution of resources but also to the 'sourcing' of additional resources. While it may be so that, for example, more pumpkins could be produced, this comes at a cost, and this cost must be weighed against other expenditures.

However, despite these objections that pose practical difficulties to the application of my conceptualisation of scarcity, I refer to Pogge, who holds that: "[o]ur task as philosophers requires that we try to imagine new, better political structures and different, better moral

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[553] Transparency International. 2020, *Corruptions Perceptions Index*, p.1.

[554] See Chapter 6.

sentiments."[555] In the context of global justice, the role of philosophical enquiry is to challenge ideas that could provoke change for society's betterment. It is the role of economists and political scientists to grapple with economics and policy – the practical application of formulated, challenged, and conceptualised theories in philosophy.

The conceptualisation of scarcity posited in this work is not to be applied without difficulty. I fully concede that. However, that does not detract from the importance of the enquiry into the nature of scarcity as a concept. Understanding how we understand scarcity and how actions are taken on that basis is important because, as has been shown, not all resources are scarce yet may be treated as such, which is problematic in relation to government accountability, for example. The practical barriers to a change in physical distribution of resources due to this conceptualisation of scarcity do not undermine its importance in the fields of global justice and distributive justice. The conceptualisation of scarcity sheds light on problematic reasoning, and unjust distribution, and wasting of resources.

An issue of semantics

The third potential objection I wish to address is that this debate about scarcity may just be an issue of semantics. It may be argued that it does not matter that relative scarcity and absolute scarcity are conflated. This objection concerns my alleging that a category mistake is made regarding absolute scarcity and relative scarcity. Regarding category mistakes, some argue that they may be grammatical errors but are meaningless.[556] For example, Noam Chomsky argues that the sentence "colorless green ideas sleep furiously"[557] is grammatically erroneous but meaningless. This argument is used to support the argument that syntax and semantics are independent fields.[558] This is a contested topic in linguistics, and most of the discourse regarding category mistakes and their relevance is prominent in the field of linguistics.

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[555] Pogge, Thomas. 1994, "An Egalitarian Law of Peoples" *Philosophy and Public Affairs* 23 (3), 195–224, p.224

[556] See Chomsky, Noam. 1957, *Syntactic Structures;* and Chomsky, Noam. 1965, *Aspects of the Theory of Syntax.*

[557] Stanford Encyclopedia of Philosophy. 2019, *Category Mistakes,* < https://plato.stanford.edu/entries/category-mistakes/> (accessed 4 April 2021).

[558] Stanford Encyclopedia of Philosophy. 2019, *Category Mistakes,* < https://plato.stanford.edu/entries/category-mistakes/> (accessed 4 April 2021).

However, category mistakes also amount to philosophical fallacies. Understanding what a category mistake is and how it can be problematic, not just semantically but as a philosophical fallacy, is important in my argument for the need to distinguish between absolute scarcity and relative scarcity in the context of global justice. Suppose a category mistake, and thereby a philosophical fallacy, is committed in the conflation between absolute scarcity and relative scarcity, as I argue, then per Ryle's test. In that case, reliance on certain theories can lead to absurdity.[559]

This is, however, more than an academic endeavour. There are real-life consequences to category mistakes, as illustrated in Chapter Four.[560] Where relative scarcity is treated as absolute scarcity, resources that exist may be denied to those in need. Resource deprivation could impact on health needs, poverty cycles, amongst other concerns of global justice. The material effects of category mistakes in this regard arguably amount to far more than just an issue of semantics, given the life-impacting effects the consequences of interpretation and application may have.

To illustrate the importance of distinguishing between absolute scarcity and relative scarcity, beyond semantics, consider the concept of 'north'. North is a term used to refer to a direction and is generally understood as such. However, it is conceptually more intricate as there is true north and magnetic north. True north and magnetic north are not one in the same thing and refer to different things. The concept of 'north', much like scarcity, has two, more specific denotations, although both are broadly referred to as 'north'.

True north refers to a fixed point on the globe and is also referred to as geographic north.[561] True north is where the lines of longitude converge in the artic. True south is where the lines of longitude converse in Antarctica. Magnetic north refers to the direction in which a compass needle points according to the earth's magnetic field.[562] The magnetic north pole is located on

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559 See Chapter 4.

560 See Chapter 4.

561 GIS Geography. 2021, *Magnetic North vs Geographic (True) North Pole*, <https://gisgeography.com/magnetic-north-vs-geographic-true-pole/> (accessed 14 May 2021).

562 GIS Geography. 2021, *Magnetic North vs Geographic (True) North Pole*, <https://gisgeography.com/magnetic-north-vs-geographic-true-pole/> (accessed 14 May 2021); Royal Museums Greenwhich, *True north and magnetic north: what's the difference?* <https://www.rmg.co.uk/stories/topics/true-north-magnetic-north-whats-difference#:~:text=True%20north%20is%20a%20fixed,with%20the%20Earth's%20magnetic%20field.&text=H

Ellesmere Island in Northern Canada.[563] The earth has a magnetic field that dictates the direction in which a compass needle points.[564] The difference between true north and magnetic north is called magnetic inclination.[565] The difference between true north and magnetic north depends on where you are, and compass readers need to compensate for this difference by using charts of declination or local calibration.[566] Currently, the physical difference between true north and magnetic north is 500km.[567] Magnetic north moves due to a phenomenon known as the polar shift theory, so this distance between the two points is constantly changing.[568]

While it is fine to refer to north in the broader sense generally, there are instances when one must be specific about whether true north or magnetic north is being referred to. Say, for example, a small sailing vessel is navigating the ocean by compass, and the directions are given just say 'north' for *x* amount of distance. Suppose the captain of the vessel interprets this as true north and compensates for the magnetic inclination by using charts of declination or local calibration. In that case, his end point will be different than if he interprets north as magnetic north and simply follows the compass. This example illustrates the need to be specific with terms such as north which have more varying denotations. There may be consequences to not being specific, and thus this is evidently not just an issue of semantics. Similarly, scarcity has varying denotations – as has been discussed. Similarly, there can be consequences when decisions are made on the basis of scarcity without the specific understanding thereof being determined.

ere%20at%20Greenwich%2C%20the%20magnetic,north%20for%20hundreds%20of%20years> (accessed 14 May 2021).

563 GIS Geography. 2021, *Magnetic North vs Geographic (True) North Pole*, <https://gisgeography.com/magnetic-north-vs-geographic-true-pole/> (accessed 14 May 2021).

564 GIS Geography. 2021, *Magnetic North vs Geographic (True) North Pole*, <https://gisgeography.com/magnetic-north-vs-geographic-true-pole/> (accessed 14 May 2021).

565 GIS Geography. 2021, *Magnetic North vs Geographic (True) North Pole*, <https://gisgeography.com/magnetic-north-vs-geographic-true-pole/> (accessed 14 May 2021).

566 GIS Geography. 2021, *Magnetic North vs Geographic (True) North Pole*, <https://gisgeography.com/magnetic-north-vs-geographic-true-pole/> (accessed 14 May 2021).

567 GIS Geography. 2021, *Magnetic North vs Geographic (True) North Pole*, <https://gisgeography.com/magnetic-north-vs-geographic-true-pole/> (accessed 14 May 2021).

568 GIS Geography. 2021, *Magnetic North vs Geographic (True) North Pole*, <https://gisgeography.com/magnetic-north-vs-geographic-true-pole/> (accessed 14 May 2021).

A further example of a semantical issue with real-life consequences is the phenomenon of evicting the homeless. That may sound like an oxymoron, but it is something that occurs often and globally. The 'homeless' are evicted. On the face of it, it does not make sense how someone who is 'homeless' can be evicted, for that contradicts the very nature by which they are being identified. However, take, for example, these headlines from around the world. In Australia, "Homeless camp eviction in Melbourne";[569] in Tokyo, "Downtown Tokyo's homeless fear removal ahead of Olympics";[570] in Canada, "Residents of Kitchener homeless camp being evicted";[571] and in the United States, "Homeless people to be evicted from Sacramento encampment under highway overpass."[572] To be evicted is to be removed from one's home or place of residence. Thus, it does not follow that one without a home; someone who is homeless can be evicted. However, this is a reality that has forced us to adapt our understanding of what it means to be homeless and what it means to be evicted. If taken at face value that someone is only homeless if they have nowhere to stay, then by that understanding, a homeless person cannot be evicted. However, homeless and 'nowhere to stay' are not one in the same thing. Everyone must stay somewhere; people do not cease to be when the sun goes down if they have nowhere to retire to. This complex conglomerate of terms lends itself to a category mistake in that someone labelled as homeless may be assumed to be someone who has nowhere to live, while at the same time that 'homeless' person may be subject to eviction from wherever they do reside.

The Los Angeles Times reported that "[w]ith eviction hours away, homeless residents of Echo Parke Lake speak of uncertainty, fear, anger".[573] Here people are considered both homeless and residents of a place and subject to eviction. It is a minefield of terminology.

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[569] Sakar, Recep. 2017, "Homeless camp eviction in Melbourne" *Anadolu Agency*, <https://www.aa.com.tr/en/pg/photo-gallery/homeless-camp-eviction-in-melbourne> (accessed 10 May 2021).

[570] Kageyama, Yuri. 2020, "Downtown Tokyo's homeless fear removal ahead of Olympics" *AP News*, <https://apnews.com/article/d452c1190049d94af74d393222f8c31f> (accessed 10 May 2021).

[571] CTV Kitchener News, <https://kitchener.ctvnews.ca/video?clipId=2020332> (accessed 10 May 2021).

[572] Bartell, John. 2021, "Homeless people to be evicted from Sacramento encampment under highway overpass" *abc10*, <https://www.abc10.com/article/news/local/sacramento/homeless-relocated-sacramento-encampment-where-will-they-go/103-3abddec5-a458-4218-b671-e70ea6b52d92> (access 10 May 2021).

[573] Reyes, Emily A., *et al*. 2021, "With eviction hours away, homeless residents of Echo Park Lake speak of uncertainty, fear, anger" *Los Angeles Times*, <https://www.latimes.com/homeless-housing/story/2021-03-25/lapd-eviction-echo-park-homeless-residents> (accessed 10 May 2021).

Homeless cannot mean nowhere to stay if 'the homeless' are subject to evictions. 'Homeless' can mean not having a home, but a person does not have to be living on the street to be homeless.[574] Temporary stays in hostels or hotels or staying in someone else's home could also render someone as 'homeless'.

Additionally, someone living in unsuitable or dangerous conditions may also be considered as homeless.[575] Homeless people are people without a fixed or permanent residence, yet homelessness is an intricate phenomenon to comprehend. The United Nations Special Rapporteur on the right to adequate housing reported on this complex phenomenon:

> "Absence of home may include a range of experiences and deprivations, both physical and social. In some circumstances, absence of physical shelter may be the primary concern, in other contexts, lack of access to land may be equally critical. While some residents of informal settlements do not self identify as homeless but are rather struggling for upgrading, services and security of existing homes, for others who live in precarious situations, sometimes renting informally and subject to eviction at a moment's notice or in grossly inadequate shelter, informality is a form of homelessness. Intertwined with physical deprivations and lack of security is the loss of social connection – the feeling of 'belonging nowhere.' For street connect children, homelessness may be experiences as a reliance on substitute social connections, established for survival on the street."[576]

The United Nations Office of the High Commissioner considers homelessness in terms of the absence of a physical structure and the social aspects of a home.[577]

Now the relevance of this example may be puzzling. However, it shows how something which may appear to be an issue of semantics has real-life implications. Just as homeless cannot mean nowhere to stay if 'the homeless' are subject to evictions, scarcity of resources cannot mean absolute scarcity if produce is wasted, as with the examples of food waste in Chapter Three.[578] Scarcity of resources cannot mean absolute scarcity if there is this paradox of

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[574] Shelter Scotland. "What is the definition of homelessness?" <https://scotland.shelter.org.uk/housing_advice/homelessness/what_is_homelessness> (accessed 10 May 2021).

[575] Shelter Scotland. "What is the definition of homelessness?" <https://scotland.shelter.org.uk/housing_advice/homelessness/what_is_homelessness> (accessed 10 May 2021).

[576] United Nations Office of the High Commissioner. *Homelessness and Human Rights*, A/HRC/31/54.

[577] United Nations Office of the High Commissioner. *Homelessness and Human Rights*, A/HRC/31/54.

[578] See Chapter 3.

abundance and need. I have discussed how scarcity can be created through the market and human behaviour, politics, and policies. Scarcity is malleable.

Just as in the case of how we understand homelessness, there are real-life consequences to the interpretation of scarcity. The scarcity status of resources determines how they are treated, accounted for, and distributed. If there is a need for a scarce resource, and a state has some obligation to provide this resource to its people, the scarcity status of the resource to an extent determines how the state treats the resource and how the state distributes the resource. For example, the state's treatment of donor organs for transplantation, for example, or a geologically scarce mineral, will differ from the state's treatment of, say, livestock or food produce. The determinations for who is entitled to the resources will differ, the urgency of distribution will differ, and the treatment of the actual resource will differ. For example, more care is likely to be taken in the transport of an organ for transplantation than the transportation of food produce.

More so than just the state's treatment of the resource, the state's accountability for the resource will differ according to its scarcity status. Take, for example, donor organs for transplantation. The state arguably has a different level of accountability for the preservation of and logistical management of these resources than for resources of a lesser scarcity status. The responsibility of determining the distribution of such resources also differs. When resources are scarce, states are tasked to determine how the resources should be distributed and who should get them.

Evidently, the responsibility and accountability of the state change depending on the scarcity of the resource in question. However, what is at issue here is instances where resources that are in fact not scarce, or at least not absolutely scarce, are presented as scarce. At first glance, it may seem like a good thing if all resources are treated with the care that scarce resources such as donor organs are treated. Yet, when states are responsible for making a resource available and distributing it, it is a lot more difficult when there is enough of a resource for everyone, and that resource has to be distributed to everyone in a timely manner.

The obligations and accountability regarding allocation and distribution of resources are different for absolutely scarce resources and relatively scarce resources. Without distinguishing between absolutely scarce resources and relatively scarce resources, the onus regarding obligations is overlooked, and accountability may be treated differently. A state may be held less accountable for the nonfulfilment of rights or duties if a resource was absolutely scarce.

For example, it would be justified for a state not to be able to provide life-saving treatment to all those who require a new heart, given that such an obligation is predicated on the number of hearts donated for transplantation - and the state has no control over that resources' availability. However, the same degree of accountability cannot be employed where the state is also the power that determines the availability of the resource required for the fulfilment of rights or duties, for example, vaccinations. Vaccinations are not scarce in the same way in which hearts donated for transplantation are unless a material needed in the vaccination is naturally scarce and cannot be synthesized. Suppose the state is the power that decides how vaccinations are prioritised, how many to be made available through resource allocation, and how to distribute them. In that case, the state cannot rely on resource scarcity or limited resources to justify the nonfulfilment of its obligation to provide access to such vaccinations.

Suppose the state is the one responsible for determining the amount of the resource available. In that case, it cannot also hide behind the scarcity of resources as a justification for inaction or poor prioritisation or distribution of resources. However, this happens. As discussed in previous chapters,[579] states repeatedly rely on a justification of limited resources for the non-fulfilment of rights and duties. This comes about because of treating the distinction between absolute scarcity and relative scarcity as a mere semantical issue. The conflation has far-reaching implications, and a proper interpretation and understanding of scarcity and how we rely on it could provoke positive change with regard to access to necessary resources.

Scarcity and global justice

I have argued that a more nuanced understanding of scarcity can affect the interpretation and application of global justice and distributive justice theories. Considering scarcity in the context of global justice issues, given this more nuanced understanding, arguably offers possibilities or avenues previously unexplored due to the conflated misunderstanding of scarcity.[580] By considering relative scarcity and absolute scarcity as a distinct phenomenon, rather than one in the same thing, the idea of scarce resources is challenged. By implication, resource prioritisation, resource distribution, and resource allocation are influenced by the 'scarcity status' of a resource.

[579] See Chapter 1 and see Chapter 3.

[580] See Chapter 4.

I have argued why a more nuanced understanding of scarcity is necessary. In short, it is necessary not only to avoid a likely category mistake with potentially grave consequences but also to correctly account for how resources are treated in terms of allocation and distribution.[581] This enlightening understanding of scarcity lends itself to possibilities of alternate action in addressing issues of global justice, such as those discussed in Chapter One.[582] A different understanding arguably can lead to different actions. In the case of scarcity, it has been shown that scarcity can be relative or absolute yet is often, albeit not always, treated as absolute. Consequently, the possibility exists that another realm of approaches to certain issues of justice exists where absolute and relative scarcity have been conflated. Where scarcity has been treated as absolute, there should, at least theoretically, also be an approach to treat the issue as though the scarcity of the given resource is relative.

In Chapter One, global justice was examined as issues of justice on a global scale, and inequalities were recognised as a source of such injustices.[583] Material deprivation is also a concern of issues pertaining to global justice. I seek to articulate some possibilities that align with the broader themes of global justice when a resource-centric approach to scarcity is taken, and recognition of the distinction between absolute and relative scarcity is recognised.

Poverty

Poverty refers to a state where a person does not have enough resources to meet basic minimum needs.[584] Material deprivation and poverty are intertwined. Although poverty is often discussed in terms of monetary terms, financial resources provide access to material goods.[585] Scarcity of resources may be seen to be a contributing factor or a source of poverty. For instance, where people are hungry, it may be assumed that there is a shortage or scarcity of food resources to feed the population.

[581] See Chapter 3.

[582] See Chapter 1.

[583] See Chapter 1.

[584] See Chapter 1.

[585] See Chapter 1.

However, as has been discussed and illustrated with the examples of famine,[586] hunger alone is not sufficient evidence of there not being enough food resources. The resources may be there to alleviate poverty, but access to such resources may be hindered by various factors such as politics, economics, social circumstances, and physical barriers. For example, discrimination may impede certain people from gaining access to necessary resources. Similarly, geographic location may render certain people unable to access certain resources, resulting in material deprivation. Some resources may be too expensive, and economic access to resources may be unavailable to those without sufficient economic means. None of these instances, which may contribute or result in poverty, allude to resources being scarce. Instead, the primary issue at hand is the accessibility of resources, not the existence of resources. Making this distinction is important because when recognised that there is enough food to feed the hungry, enough resources to house the homeless, enough resources to provide water, and so forth, then the reasons why accessibility is hindered can be stricter scrutiny interests of justice. Why, if there are enough resources, are the resources not accessible to all? This is a question of global justice that cannot hide behind the farce of scarcity.

Environment

Global justice issues pertaining to the environment such as climate change, conservation, pollution, and sustainability are also affected by a more nuanced interpretation of scarcity of resources. Environmental issues also require resources, and the scarcity status of these resources may affect the actions taken in pursuit of environmental justice.

Take pollution, for example. Say a major global company is responsible for the vast amount of air pollution, and it is heavily contested that they should be doing something about it, such as changing their practices. The company may argue that they cannot do any different due to resource constraints – that is, how they are operating is the most economically efficient way, and pollution is just an unfortunate consequence thereof. They may argue that to do otherwise would be too expensive, and they do not have the resources to do so. Now say it can be shown that the resources to operate differently do exist, that scarcity as an absolute is simply unacceptable as reasoning. Would this company have a greater responsibility to change its way if we no longer accepted scarcity as the status quo?

[586] See Chapter 2.

Environmental issues pertaining to global justice also concern resources to counter-act effects that have already impacted the environment. Resources in this regard should not be taken to be absolutely scarce as if resources necessary to take measures are available, they should be taken. For example, they are planting trees for oxygen production. Suppose it cannot be argued that resources are scarce to take such measures. If it is argued that resources, perhaps budgetary or financial, are limited in this regard, it should be subject to greater scrutiny.

Health

Health as an issue of justice illustrates the issue of resources. Resources, both financial and physical, are necessary to meet health needs. Ill health exists in the absence of such resources being available to meet health needs or inaccessibility to such resources. For these resources, both financial and physical, may exist, but various factors may impair access to them. For example, a person may not be able to access health care services, despite there being adequate and sufficient health care services, because they cannot physically get to the location. A person could also be denied access to health because of financial means.

In instances where a state may justify inadequate health care services or its failure to provide basic health care to all because of supposedly limited or scarce resources, this allegation regarding the scarcity status of the resources, be it physical resources or financial resources, need to be scrutinised. Suppose there is a lack of financial or budgetary resources. In that case, it may be an issue of prioritisation, in which case it needs to be examined how health needs are being prioritised and how budgetary allocations are being made to meet health needs. Suppose it is a matter of physical resources being insufficient. In that case, it needs to be examined whether it is a matter of distribution, inadequate allocation, misappropriation, or why there are insufficient resources to meet the health needs, unless the resource in question is some absolutely scarce resource, such as a donor heart for transplantation, for example.

Health as an issue of global justice lends itself to many examples pertaining to resources and really emphasises the issue of prioritisation of needs regarding resource allocation. Health illustrates how poor prioritisation and, thereby, misallocation can create a façade of scarcity of resources. Such a presumption of scarcity of resources can have fatal implications.

Education

Similarly to health, both physical and financial resources are necessary to provide education. Where an education system may exist, showcasing that the resources exist, some children may still lack access to those resources because of a lack of finances, physical proximity, or social circumstances. There may be an instance where a school system can physically accommodate all the children in a country, yet not all those children have access to the school system.

Education requires human resources, financial resources, and physical resources. Where a state uses limited resources as a justification for insufficient schooling, such justifications need to be examined. The resources may exist to provide sufficient and adequate schooling, but lack of prioritisation and subsequent lack of allocation of resources may result in a perception of limited resources. Education is undeniably an issue of global justice, especially as it is intertwined with poverty. There is a need to prioritise education to help in reducing poverty rates and to provide every child with the opportunity to learn.[587]

Where states are in the position to decide how to prioritise education and allocate resources towards education, states cannot also justify the lack of access to education by means of resource scarcity or limited resources.

Conclusion

This chapter has considered the arguments made regarding the conflation between absolute scarcity and relative scarcity. The conflation has consequences that impact people's lives and can be detrimental to the interests of global justice as it pertains to issues such as poverty, health, and education. I argue for a resource-centric approach to determining resource scarcity as opposed to an economic approach to truly determine the origin of the scarcity status of a resource. I argue that this is necessary to avoid the conflation between absolute scarcity and relative scarcity, which can have implications for state accountability. By taking a resource-centric approach to determining the scarcity status of resources, the resource itself becomes the starting point as opposed to the economic climate in which it exists. The example of diamonds, as discussed in Chapter Three,[588] illustrates the difference in such approaches succinctly. A resource-centric approach to diamonds considers diamonds as a resource – how do they come

[587] See Chapter 1.

[588] See Chapter 3.

about, can they be replicated, where do they occur, and so on. An economic approach would consider diamonds as portrayed in the economic climate, dictated by supply and demand and influenced by marketing. In an economic approach, where diamonds are expensive and demand is high, diamonds appear scarce. This is despite the fact that diamond reserves are estimated to be 1.2 billion carats worldwide.[589]

This chapter also considers potential objections to this argument, which also grapple with the issue of the conflation between absolute scarcity and relative scarcity. In considering three key objections, the issue of market freedom, practical limitations, and the semantic argument, the objections are discussed. While the practical limitations objection, in particular, does pose a problem for the arguments made, the scope of this work must be borne in mind. To address both the theoretical issue in our understanding of scarcity and interpretation and application thereof *and* then to provide practical solutions to that issue would go far beyond a philosophical enquiry but would require economic analysis, political considerations, and a better understanding of specific resources at issue. The objection regarding market freedom provides room for debate as to how a free market can function justly. This is not a new debate in the realm of global justice but a reoccurring one bound to arise in examining theories pertaining to resource distribution. The objection regarding semantics raises the question of whether category mistakes are merely semantic issues. This is not an issue that has been dealt with in the field of global justice, and thus the potential real-life implications that a category mistake could have needs to be considered carefully.

This chapter has sought to clarify the arguments made and discuss potential objections likely to arise from these arguments. In doing so, key issues have been re-examined and emphasised.

[589] Garside, Melissa. 2021, "Diamond Industry – statistics & facts" *Statista*, <https://www.statista.com/topics/1704/diamond-industry/#dossierSummary> (accessed 11 May 2021).

CHAPTER 6: THE COVID-19 PANDEMIC

Introduction

The year 2020 saw drastic changes in the world in all facets as the COVID-19 pandemic hit. The Coronavirus disease 2019 (COVID-19) is caused by SARS-CoV-2, a contagious respiratory disease. It was first identified in China, in Wuhan province, at the end of 2019. By January 2020, a study was published in *The Lancet* on the 41 confirmed cases of COVID-19 in Wuhan, China.[590] On January 30th, 2020, the World Health Organisation (WHO) held that COVID-19 was a 'Public Health Emergency of International Concern."[591] By March 7th, 2020, there were over 100 000 confirmed cases around the world.[592] COVID-19 was characterised as a pandemic by the WHO on March 11th, 2020.[593] In May 2020, there were over 151 million confirmed cases of COVID-19 and over 3 million deaths at the time of writing.[594] The pandemic had a myriad of consequences and, as Rebecca Hamilton observes, "[w]ithin a matter of weeks, COVID-19 had caused widespread scarcity – scarcity of products, scarcity of services, and scarcity of resources – for millions of consumers all over the world."[595]

What started as reading news updates and checking statistics on the spread of COVID-19 in China and Italy in early 2020 very quickly transgressed into a lockdown bringing the world as we knew it, to a standstill. News about what was happening somewhere very quickly became a local reality – everywhere. Lockdowns, stay-at-home orders, and states of emergency were

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[590] Wang, Chen., *et al*, 2020, "A novel coronavirus outbreak of global health concern" *The Lancet*, 395:10223, 470-472.

[591] World Health Organisation. Coronavirus, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline?gclid=EAIaIQobChMIjtqk4fGs8AIVD7LtCh0sowD8EAAYASAAEgJiAvD_BwE#! (accessed 20 April 2021).

[592] World Health Organisation. Coronavirus, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline?gclid=EAIaIQobChMIjtqk4fGs8AIVD7LtCh0sowD8EAAYASAAEgJiAvD_BwE#! (accessed 20 April 2021).

[593] World Health Organisation. Coronavirus, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/interactive-timeline?gclid=EAIaIQobChMIjtqk4fGs8AIVD7LtCh0sowD8EAAYASAAEgJiAvD_BwE#! (accessed 20 April 2021).

[594] World Health Organisation. Coronavirus, <https://covid19.who.int/> (accessed 20 April 2021).

[595] Hamilton, Rebecca. 2021, "Scarcity and Coronavirus" *Journal of Public Policy & Marketing*, 401(1), 99-100, p.99.

put in place to try and prevent the rapid spreading of COVID-19. Slowly movement began again, but masks, sanitiser, and physical space became high priorities as fear of the unknown remained.

Testing, isolation, lockdowns, social distancing, sanitiser, and masks quickly became part of everyday life and language. In a very short period of time, the world came to look completely different. Empty streets, sparse shops, and isolated tourist attractions were commonplace. There were no people gathered taking photos at the Colosseum in Italy; no tourists posing by the Leaning Tower of Pisa; the Eiffel Tower stood isolated; the Louvre Museum had no foot traffic; Petra was once again deserted, and the Great Wall of China was left alone. In these uncertain and unprecedented times brought on by the COVID-19 pandemic, it would be remiss of me not to address it in the context of my work.

I want to consider four examples of scarcity in the context of the COVID-19 pandemic. These are scarcities that may be fictitious, may have been created by behaviour, or where the market may be manipulating the impression of scarcity to the public. I shall refer back to the examples used in my main body of work and the ideas postulated around fictitious scarcity. The COVID-19 pandemic accentuates some of my arguments regarding artificial scarcity. It provides examples in the extreme that were it not for the pandemic circumstances, and it might seem ludicrous to suggest in an argument. But these are now the times we live in, and these are the realities that the COVID-19 pandemic has thrust upon us.

COVID-19 sparked worldwide panic. Most notable, the threats of lockdowns and stay-at-home orders led people to panic buying, resulting in shortages and stockouts of certain items. Other behaviours under the COVID-19 pandemic have also created scarcities. Additionally, new needs have emerged, such as sanitisers and face masks. Regarding scarcity under the COVID-19 pandemic, behaviours have influenced supply and demand. In light of this, I will examine the toilet paper shortages experienced at the height of the pandemic, the steel shortage, blood shortages, and the economics of face masks.

The toilet paper crisis

Several economic behaviours were expected due to the COVID-19 pandemic, such as increased demand for masks and sanitiser. However, the rise in demand for toilet paper was not as predictable.[596] Toilet paper sales increased by 700 percent from February 2020 to March 2020.[597] With lockdowns and stay-at-home orders and people just being afraid to go out, toilet paper became a high-priority commodity, and demand thereof exponentially increased across the globe. Lockdowns and stay-at-home orders resulted in panic-buying of goods and a lot of hoarding behaviour from consumers.[598]

The demand for toilet paper suddenly far outweighed the supply simply because the supply chain could not keep up with the increase in demand. Additionally, because of the pandemic, it was impossible to import toilet paper from another area to the place experiencing a shortage because the shortage was not localised but worldwide, and toilet paper manufacturers everywhere faced the same pressure to increase supply globally. Usually, when there is a shortage in supply in one area, it is possible to locate that product elsewhere and supplement the supply until the supply chain can meet the demand. However, given the pandemic, there was nowhere to turn to since the increase in demand was worldwide and not localised. This is somewhat unprecedented – at least when it comes to toilet paper. There was no means to supplement the supply while manufacturers adapted to the increase in demand. This led to a shortage. The hoarding and panic-buying resulted in some stores having to ration customers, assuring them that the toilet paper supply has not stopped in its entirety. The media frenzy over the unknown, panic-buying, and shortages did not help the situation. The media coverage over toilet paper shortages led to even more panic-buying, and a vicious cycle led to extreme behaviours – over toilet paper.

Extreme behaviours over the fear of toilet paper running out led to toilet paper becoming a valued currency. A café in Australia began accepting toilet paper rolls as payment for coffee. A cup of coffee cost three toilet paper rolls.[599] A supermarket in Hong Kong was held up in an

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[596] Labad, Javier., Rodriguez, Alexandre G., Cobo, Jesus., Punti, Joaquim., & Farre, Josep M. 2021, "A systematic review and realist synthesis on toilet paper hoarding: COVID or not COVID, that is the question" *PeerJ*, 9:e10771.

[597] Nature. 2020, "Why the pandemic unleashed a frenzy of toilet-paper buying" <https://www.nature.com/articles/d41586-020-01836-1> (accessed 20 April 2021).

[598] Labad. 2021, "A systematic review and realist synthesis on toilet paper hoarding: COVID or not COVID, that is the question" *PeerJ*.

[599] Fisher, Marc. 2020, "Flushing out the true cause of the global toilet paper shortage amid coronavirus pandemic" *The Washington Post*, <https://www.washingtonpost.com/national/coronavirus-toilet-paper-shortage-panic/2020/04/07/1fd30e92-75b5-11ea-87da-77a8136c1a6d_story.html> (accessed 20 April 2021).

armed robbery – where no money was stolen, only 600 toilet paper rolls.[600] Airports even saw people travelling with their toilet paper – checking it in as luggage.[601]

While these instances are somewhat laughable because of their absurdity, and they exemplify just how scarce toilet paper seemed to be. People's fear of the unknown led to stockpiling, and toilet paper just so happened to be something the world considered to be necessary and valuable given the circumstances. Stockpiling and panic-buying, and such behaviour sometimes occurs when there are hurricane warnings, for example. However, then the issue is localised, and it is possible to supplement the supply as explained above. Yet, in this situation, with an increased demand for toilet paper globally, the supply chain faced difficulties.

This begs the question of whether one could label toilet paper as scarce during the COVID-19 pandemic. There are two facets from which to examine this. Firstly, one could argue that the COVID-19 pandemic did not result in increased *use* of toilet paper, just increased buying of toilet paper. So while the toilet paper may have been absent from the shelves in the stores, it was still in existence, just in people's homes. Without evidence of increased *use* of toilet paper during the COVID-19 pandemic, the amount of toilet paper in existence should be the same, just dispersed differently. In fact, given that empty stores shelves eventually led to an increase in supply, one could even argue that there was more toilet paper in existence because of COVID-19.

However, this is a very technical way of looking at it, and economists would argue that given scarcity's roots in supply and demand, that is where the analysis should lie. This brings me to the second approach to determining if toilet paper was scarce due to COVID-19. Now I have argued that it is essential to distinguish between absolute scarcity and relative scarcity.[602] In this instance, although the increase in demand was global and the supply was globally deficient, it cannot be said that toilet paper is absolutely scarce. Absolute scarcity can only exist

[600] Fisher, Marc. 2020, "Flushing out the true cause of the global toilet paper shortage amid coronavirus pandemic" *The Washington Post*, <https://www.washingtonpost.com/national/coronavirus-toilet-paper-shortage-panic/2020/04/07/1fd30e92-75b5-11ea-87da-77a8136c1a6d_story.html> (accessed 20 April 2021).

[601] Fisher, Marc. 2020, "Flushing out the true cause of the global toilet paper shortage amid coronavirus pandemic" *The Washington Post*, <https://www.washingtonpost.com/national/coronavirus-toilet-paper-shortage-panic/2020/04/07/1fd30e92-75b5-11ea-87da-77a8136c1a6d_story.html> (accessed 20 April 2021).

[602] See Chapter 3 and see Chapter 4.

when the supply of a resource cannot be increased. Relative scarcity, however, is when a resource is in short supply because of inadequate or disrupted distribution or supply. Toilet paper, as a resource itself, can be increased. The increase in supply is evidence of that. Subsequently, the resources needed to make toilet paper cannot be argued to be absolutely scarce if the supply of toilet paper can be increased. The shortage in toilet paper was a direct result of increased demand and then the inability of supply to grow at the same rate. This amounted to inadequate supply and disrupted distribution (as toilet paper supply could not be supplemented from elsewhere), and thus the toilet paper shortage amounts to relative scarcity. It is purely circumstantial and not, in fact, resource availability related.

The toilet paper 'scarcity' is, in fact, a great example of how the market can create scarcity when there is a significant imbalance between demand and supply. In the case of diamonds, I considered this, but this was subject to marketing and also control of supply by the supplier. In the case of toilet paper, the scarcity is created by the public's economic behaviours – stockpiling, panic-buying, and hoarding. The increased demand over the fear of the unknown, coupled with the fact that this was a global phenomenon and not localised, led to supply being inadequate and subsequently constructed a scarcity of toilet paper due to the COVID-19 pandemic.

This illustrates that economic behaviour can 'create' scarcities. People's reaction to the COVID-19 pandemic is what resulted in the toilet paper shortage – the shortage did not originate from the supply side. The influence of consumer behaviour on the market is exaggerated in this bizarre example. It goes to show how 'scarcities' can be created in the supply-demand relationship by the economic behaviour of consumers, not just by suppliers, as in the case of diamonds examined in Chapter Three.[603] And yet again, it is first and foremost necessary to determine whether a commodity, such as toilet paper in this example, is absolutely or relatively scarce. This will influence how one examines the other factors, such as the market, for example.

The toilet paper 'crisis' was entirely constructed by consumers' panic, the media spreading this panic, and the supply chain not being able to keep up with the exponentially increasing demand for toilet paper. At no point was toilet paper absolutely scarce, yet even relative scarcity led to extreme behaviours.

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[603] See Chapter 3.

Global steel shortage

Among the shortages that occurred as a result of the COVID-19 pandemic, a steel shortage also arose. A number of factors have contributed to the current steel shortage. While steel is a raw material that is subject to absolute scarcity as there is a finite amount of steel to be mined from the earth, the current shortage of steel is not as a result of its potential absolute scarcity.

Most governments allowed steel to continue mining, as such activity is considered an essential service.[604] However, despite mining activities continuing, other non-economic factors have impacted the mining industry, resulting in the mines operating at a lower capacity.[605] Issues of logistics and transportation of mined steel became an issue because of the shutdowns caused by the COVID-19 pandemic. Such factors altered the demand, effectively lowering it. Coupled with the fact that industries that use steel were also affected by the COVID-19 pandemic and many such industries shut down or operated at significantly lower capacity, the demand for steel drastically dropped, and steel mines and manufacturers, as a result, began to operate at a lower capacity.[606] Global production and manufacturing of steel have significantly declined due to the economic impacts of the COVID-19 pandemic.[607]

The steel shortage has significant consequences as steel is a widely used metal with no real alternative. Many industries rely on steel. Such industries include the automotive industry, construction, consumer appliances, the energy industry, and the transportation industry.[608] Many production facilities faced shutdowns because of the COVID-19 pandemic.[609] Such shutdowns affected steel imports. When facilities began opening up again, some much sooner than anticipated, and mines and steel manufacturers were still operating below capacity, the

[604] Jowitt, Simon M. 2020, "COVID-19 and the Global Mining Industry" *SEG Discovery*, 122, p.34.

[605] Jowitt. 2020, "COVID-19 and the Global Mining Industry" *SEG Discovery*, p.35.

[606] Jowitt. 2020, "COVID-19 and the Global Mining Industry" *SEG Discovery*, p.35.

[607] Jowitt. 2020, "COVID-19 and the Global Mining Industry" *SEG Discovery*, p 35.

[608] Newton, Emily. 2021, "How the Steel Shortage Impacts the Manufacturing Industry" <https://matmatch.com/blog/how-the-steel-shortage-impacts-the-manufacturing-industry/> (accessed 20 June 2021).

[609] Newton, Emily. 2021, "How the Steel Shortage Impacts the Manufacturing Industry" <https://matmatch.com/blog/how-the-steel-shortage-impacts-the-manufacturing-industry/> (accessed 20 June 2021).

demand for steel quickly began to outweigh the supply.[610] The demand increased quickly as industries began to open and adjust to the COVID-19 pandemic, but because mines had been operating below capacity, there is now a steel deficit.

This deficit, or steel shortage, occurred not as a result of steel being a resource with finite availability but as a result of the economic effects of the COVID-19 pandemic. The steel shortage is not an issue of absolute scarcity, and there is not suddenly a demand for steel that outweighs the naturally existing resources on the earth. Instead, this is an issue of relative scarcity, even though steel is a resource that has the potential to be absolutely scarce. The economic and logistical impacts of the COVID-19 pandemic impacted the supply and demand in a manner that caused this deficit because when shutdowns reverted, the supply could not catch up to the demand quickly enough. The shortage is caused by logistical factors such as shutdowns, inability to import, and economic factors such as industries that create the demand for steel shutting down, effectively decreasing the demand during the shutdown. The scarcity of steel in this instance is relative, and it is created by factors that implicate the supply and demand. The scarcity is not absolute as it is not as a result of the natural resources of steel suddenly insufficient to meet the demand for steel in the various industries.

In some areas, such as India in particular, steel mines and manufacturers were shut down by the state to divert oxygen for medical use.[611] Steel plants require oxygen for the steel manufacturing process.[612] Oxygen is used in gaseous form in steel manufacturing and also for oxygen enrichment in blast furnaces.[613] Many people who fell ill from the COVID-19 virus required ventilators and oxygen for treatment. In India, where numbers of COVID-19 patients increased exponentially, it became necessary to divert industrial oxygen for steel plants to

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610 Fitzgerald, Micheal. 2020, "US auto manufacturers and others facing steel shortage" *S & P Global*, <https://www.spglobal.com/platts/en/market-insights/latest-news/metals/112020-us-auto-manufacturers-and-others-facing-steel-shortage> (accessed 20 June 2021).

611 Bone, Carrie. 2021, "New wave of coronavirus threatens India's booming steel industry as mills divert oxygen" *Metalbulletin*, <https://www.metalbulletin.com/Article/3986194/FOCUS-New-wave-of-coronavirus-threatens-Indias-booming-steel-industry-as-mills-divert-oxygen.html> (accessed 20 June 2021).

612 Bone, Carrie. 2021, "New wave of coronavirus threatens India's booming steel industry as mills divert oxygen" *Metalbulletin*, <https://www.metalbulletin.com/Article/3986194/FOCUS-New-wave-of-coronavirus-threatens-Indias-booming-steel-industry-as-mills-divert-oxygen.html> (accessed 20 June 2021).

613 Bone, Carrie. 2021, "New wave of coronavirus threatens India's booming steel industry as mills divert oxygen" *Metalbulletin*, <https://www.metalbulletin.com/Article/3986194/FOCUS-New-wave-of-coronavirus-threatens-Indias-booming-steel-industry-as-mills-divert-oxygen.html> (accessed 20 June 2021).

medical use. Thus, the Indian Government shut down steel plants because they needed the oxygen produced by the steel plants for medical use. The steel plants could not continue without industrial oxygen.[614]

Such a situation obviously contributed to the steel shortage. India, for example, faces a steel shortage not only because of the economic and logistical impacts of the COVID-19 pandemic but also because of steel mines being shut down as a result of oxygen being diverted for medical use. Here the shortage of steel is also as a result of the COVID-19 pandemic, causing the Indian Government to reprioritise where resources of the state need to go at a given moment. The state has prioritised where its oxygen resources should go, and as a result of this, steel mines cannot operate and are shutdown. This, similarly to other logistical and economic impacts of the COVID-19 pandemic, contributes to a relative scarcity of steel.

Steel is an interesting example of a scarcity or shortage as it is a natural resource subject to absolute scarcity. However, its scarcity in this instance is entirely relative. The scarcity of steel is relative as it has resulted from various factors impacting the supply and demand of steel because of the COVID-19 pandemic. The amount of steel in existence has nothing to do with the current shortage being experienced. This is yet another example of how relative scarcity could easily be misconstrued as absolute scarcity, in this case, because of the potential of steel to be or become absolutely scarce. However, when the causes behind the scarcity are examined, it becomes evident that this is an instance of relative scarcity and not absolute scarcity.

Blood shortages during the COVID-19 pandemic

A vital resource that became scarce during the COVID-19 pandemic is blood. Lockdowns, stay-at-home orders, and general public angst led to a massive decline in blood donations, resulting in a shortage of blood supply. The blood shortage during the COVID-19 pandemic is not because patients suffering from COVID-19 have needed blood but because there has been such a decline in blood donations.[615] The COVID-19 pandemic has not halted other medical

[614] Ghosh, Malyaban., & Pathak, Kaplan. 2021, "Covid curbs slow down manufacturing" *Hindustan Times*, <https://www.hindustantimes.com/business/covid-curbs-slow-down-manufacturing-101620688925971.html> (accessed 20 June 2021).

[615] Stiepan, DeeDee. 2020, "Critical blood shortages because of COVID-19", *Mayo Clinic* <https://newsnetwork.mayoclinic.org/discussion/critical-blood-shortages-because-of-covid-19/> (accessed 20 April 2021).

issues where patients require blood: cancer patients still need blood; surgeries still need access to the blood supply, and babies are still being born and need access to blood supply in case of birth complications.[616]

The WHO estimates that there has been a 20-30 percent reduction in blood supply since the onset of the COVID-19 pandemic.[617] Blood transfusion activities, such as blood drives and blood donations services, have reduced as a result of the COVID-19 pandemic.[618] This has compromised blood availability. Ideally, blood suppliers have one to two weeks of blood supply available. Yet, due to the decline in donations, the shortage has resulted in blood suppliers on average only having one to two days of blood supply available.[619] Barring the first few months of the COVID-19 pandemic, the demand for blood has not decreased.[620] Urgent surgery and trauma treatment, elective surgery, obstetrics, cancer treatment, and emergencies all still occur and still require the availability of blood.[621]

There was a slightly lower demand in the first few months of the COVID-19 pandemic as there were fewer elective surgeries and elective medical treatment.[622] Yet as things began to normalise and the world began to carry on amid the COVID-19 pandemic, the demand for

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616 Stiepan, DeeDee. 2020, "Critical blood shortages because of COVID-19", *Mayo Clinic* <https://newsnetwork.mayoclinic.org/discussion/critical-blood-shortages-because-of-covid-19/> (accessed 20 April 2021).

617 Loua, André., Kasilo, Ossy M J K., Nikiema, Jean B., Sougou, Aissatou S., Kniazkov, Stanislav., & Annan, Edith A.2021, "Impact of the COVID-19 pandemic on blood supply and demand in the WHO African Region" *Vox Sanguinis*, International Society of Blood Transfusion.

618 Loua. 2021, "Impact of the COVID-19 pandemic on blood supply and demand in the WHO African Region" *Vox Sanguinis*, International Society of Blood Transfusion.

619 Brewer, Jessica. 2021, "Blood Donation – Be a First, First Responder" *LMH Health* <https://www.lmh.org/news/2021-news/the-importance-of-blood-donation/> (accessed 20 April 2021).

620 Brewer, Jessica. 2021, "Blood Donation – Be a First, First Responder" *LMH Health* <https://www.lmh.org/news/2021-news/the-importance-of-blood-donation/> (accessed 20 April 2021).

621 Sahu, Kamal K., et al, 2020, "Because Every Drop Counts: Blood donation during the COVID-19 Pandemic" *Transfusion Clinique et Biologique*, 27: 105-108.

622 Stanworth, Simon., New, Helen V., Apelseth, Torunn O., Brunskill, Susan., Cardigan, Rebecca., Doree, Carolyn., Germain, Marc., Goldman, Mindy., Massey, Edwin., Prati, Daniele., Shehata, Nadine., So-Osman, Cyntheia., & Thachil, Jecko. 2020, "Effects of the COVID-19 pandemic on supply and use of blood for transfusion" *Lancet Haematol*, 7: e756-764.

blood availability somewhat returned to its normal state while the supply decreased.[623] Blood drives were cancelled to reduce the gathering of people. The American Red Cross reported that 37 000 blood drives were cancelled between March 2020 and June 2020.[624] A decrease in blood donation resulted in hospitals having low reserves and making blood a scarce resource due to the circumstances brought on by the COVID-19 pandemic.

Can blood be considered scarce given the circumstances described above? When considering blood as a resource, I mean blood that has been donated or is available for transfusion. Blood is also really complex when considering scarcity. If demand exceeded supply, then the circumstances would be fatal. Thus, it is necessary to consider the 'demand' to be the necessary reserves hospitals or health care facilities require to avoid fatalities as a result of blood shortages.

Given this understanding, blood can still be considered scarce under the conditions imposed by the COVID-19 pandemic. The supply was inadequate for the demand in that health care facilities did not have the blood reserves available that they are comfortable with given the work they do. To determine whether blood as a resource is absolutely scarce or relatively scarce, it is necessary to consider blood as a resource donated or provided for transfusion. The determination cannot be made on the grounds of considering all the blood in every person everywhere as that blood is not all available as a resource.

There is a limit to how much and how often a person can donate blood. Certain people also cannot donate blood for various reasons. Thus, if all the people able to donate blood did so at every opportunity they could, there would be a finite amount of blood as a resource available. However, it is more intricate than that. Even if blood as a resource can be argued to be absolutely scarce, it is limited by the number of people in the world and the amount of blood they can donate. The frequency upon which they can do so, the blood shortage during the COVID-19 pandemic is not necessarily as a result of the absolutely scarce nature of the resource.

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[623] Stanworth. 2020, "Effects of the COVID-19 pandemic on supply and use of blood for transfusion" *Lancet Haematol*.

[624] Weintraub, Arlene. 2021, "Keep it Flowing: Combating COVID-19 Blood Shortages in Cancer Treatment" *Cure, Hematology Special Issue* <https://www.curetoday.com/view/keep-it-flowing-combating-covid-19-blood-shortages-in-cancer-treatment> (accessed 20 April 2021).

It might seem odd to think of blood in demand and supply terms, but it is necessary to do so in this instance. For there to be sufficient blood as a resource available, supply needs to meet the demand. If the supply fails to do so, then the resource may be considered scarce. This is what transpired with blood supply as a result of the COVID-19 pandemic. The supply of blood decreased to concerning levels compared to the availability necessary for the demand, which remained the same as pre-pandemic times. However, this scarcity did not occur because there were not enough people to donate but because people stopped donating due to the conditions of the COVID-19 pandemic. Lockdowns, stay-at-home orders, and fear of the unknown discouraged people from leaving their homes. People did not want to go near health care facilities or even just near other people, and blood donation became a low priority. People's behaviour created the 'scarcity' of blood as a resource that presented itself as a result of the COVID-19 pandemic. It was not a matter of absolute scarcity – in theory, there was enough blood because if all the people who usually donated continued to do so, then the balance between supply and demand would have remained. Blood scarcity was relative, created by the conditions of the COVID-19 pandemic that resulted in behavioural patterns of people changing and blood donations decreasing the availability of blood.

Face mask economics

The wearing of face masks for personal protection is not a new phenomenon. During the bubonic plague in the 17th-century, doctors wore eerie, beaked masks that were stuffed with spices and flowers to mask the smells produced by the plague. During the influenza epidemic of 1918, masks became popular among health care professionals, and many civilians started wearing masks for their own protection. However, as medicine evolved and flu vaccines became more effective, the *need* for wearing masks for protection became less common.

Masks did, however, have a large market prior to the COVID-19 pandemic. Many professions require both surgical masks and respirators for safety and hygiene. Health care professionals such as doctors, nurses, and dentists require masks to protect both themselves and patients from airborne pathogens and any contagious diseases either of them might unknowingly have. First responders also require masks. Firefighters, emergency medical technicians, and even police require masks in instances where there is smoke, dust, chemicals, debris, or potential airborne pathogens. Masks must be available in such instances. Construction workers also need respirators or masks to ensure they don't breathe in anything dangerous or harmful. For example, carpenters, painters, and masons need masks or respirators for their personal safety when working. Miners also require respirators for similar protection when working. Respirators ensure that dust, debris, or dangerous allergens are not breathed in by miners.

The COVID-19 pandemic saw a drastic increase in demand for surgical masks and respirators as they were recognised as a means of reducing the spread of COVID-19.[625] Both surgical masks and respirators are disposable, which means that the demand has remained high as people use and dispose of masks and then require more.[626] Meeting this high demand for face masks quickly became a major concern for many states.[627] This section focuses on surgical masks more specifically because they are easy and cheap to make.[628] The global mask market has shifted greatly as a result of the COVID-19 pandemic. For instance:

> "China was the main producer of masks at the start of the crisis, accounting for approximately half of world production. But even this was insufficient to meet its own demand related to COVID-19, and China imported a large quantity of masks. In January 2020, China could produce 20 million masks per day, which was insufficient to meet a total demand estimated at 240 million masks per day to equip health, manufacturing and transport workers."[629]

It is significant to note that the increase in supply could not even account for the people who did not *need* to wear masks for work. The shortfall in supply could not even meet the needs of those who *had* to wear masks. For example, in the health care sector, the risk became greater and masks, therefore, all the more important. As a result of COVID-19, health care facilities

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[625] Kirstie, M. "The Upward Trend in Medical Mask Prices: Is There Room for Ethics in Economics?" *Citizen.*, <https://www.concordiashanghai.org/citizenc/citizenc-post-detail/~board/the-current/post/the-upward-trend-in-medical-mask-prices-is-there-room-for-ethics-in-economics> (accessed 10 April 2021).

[626] OEC., 2020, "The face mask global value chain in the COVID-19 outbreak: Evidence and policy lessons" <https://www.oecd.org/coronavirus/policy-responses/the-face-mask-global-value-chain-in-the-COVID-19-outbreak-evidence-and-policy-lessons-a4df866d/> (accessed 10 May 2021).

[627] OECD. 2020, "The face mask global value chain in the COVID-19 outbreak: Evidence and policy lessons" <https://www.oecd.org/coronavirus/policy-responses/the-face-mask-global-value-chain-in-the-COVID-19-outbreak-evidence-and-policy-lessons-a4df866d/> (accessed 10 May 2021).

[628] OECD. 2020, "The face mask global value chain in the COVID-19 outbreak: Evidence and policy lessons" <https://www.oecd.org/coronavirus/policy-responses/the-face-mask-global-value-chain-in-the-COVID-19-outbreak-evidence-and-policy-lessons-a4df866d/> (accessed 10 May 2021).

[629] OECD. 2020, "The face mask global value chain in the COVID-19 outbreak: Evidence and policy lessons" <https://www.oecd.org/coronavirus/policy-responses/the-face-mask-global-value-chain-in-the-COVID-19-outbreak-evidence-and-policy-lessons-a4df866d/> (accessed 10 May 2021).

were busier, more staff were needed, and therefore more masks were needed. Countries began banning the export of masks in order to prevent local shortages:[630]

> "In order to guarantee these resources for their own nation's health workers, governments around the world are bargaining for their share in a strangled global supply chain. For example, countries such as Taiwan, Thailand, Russia, Germany, the Czech Republic, and Kenya have blocked the export of all face masks."[631]

When a commodity is in such high demand and necessary, as in this instance, then there is the potential for suppliers to take advantage of the market by charging more for the item. South Africa experienced this first-hand with face masks. As noted above, prior to the COVID-19 pandemic, there were already professions and jobs that required the use of masks. This did not change under the COVID-19 pandemic; these professions and jobs still required the availability of face masks. However, as more people outside these professions and jobs began wearing face masks, or where, like in South Africa, the wearing of face masks became mandatory, the demand increased drastically. This especially affected those professions and jobs that used to purchase masks prior to the COVID-19 pandemic. They were now restricted to how many they could buy and affected by price increases as a result of the increase in demand.

Just as masks are not a new phenomenon brought on by the COVID-19 pandemic, neither was price gouging. Price gouging refers to instances where sellers increase the price of goods beyond what is ordinarily considered reasonable or fair. Instances of price gouging can be seen after natural disasters when demand for certain commodities is high, and people desperately need certain items. Sellers may take advantage of such a situation by increasing the price of a good beyond 'normal' market value.

Similarly to circumstances faced after natural disasters such as hurricanes or tsunamis, the COVID-19 pandemic created dire circumstances where people were desperate for certain goods. Unfortunately, this has resulted in firms taking advantage of their position by increasing prices for goods in high demand under the circumstances imposed by the COVID-19 pandemic.

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[630] OECD. 2020, "The face mask global value chain in the COVID-19 outbreak: Evidence and policy lessons" <https://www.oecd.org/coronavirus/policy-responses/the-face-mask-global-value-chain-in-the-COVID-19-outbreak-evidence-and-policy-lessons-a4df866d/> (accessed 10 May 2021).

[631] OECD. 2020, "The face mask global value chain in the COVID-19 outbreak: Evidence and policy lessons" <https://www.oecd.org/coronavirus/policy-responses/the-face-mask-global-value-chain-in-the-COVID-19-outbreak-evidence-and-policy-lessons-a4df866d/> (accessed 10 May 2021).

However, it may be questioned how price gouging differs from different instances where advantage is taken of the circumstances:

> "If price gouging – charging high prices unjustified by costs for essential products during a pandemic – reflects a temporary imbalance between demand and supply, then why should authorities be concerned? How is it different from normal situations, such as high airfares during peak seasons, where authorities typically do not intervene?"[632]

Arguably, sellers exploit the circumstances in a manner that differs from merely adjusting prices according to the season. Usually, instances of market exploitation are concerned with the abuse of market power – the power a firm has over the market that enables it to exploit certain circumstances. For example, an airline that has a monopoly over flights to the number one island holiday destination would be able to abuse this power in summer seasons by charging high prices, knowing that travellers do not have a choice of airlines available to them if that is their chosen destination. Another example would be a bottled water company with market power because it is the only bottled water company in the area. Therefore, there is no competition, increasing the price of water after a hurricane. The company would be exploiting the circumstances of people who have endured the hurricane and who are in need of drinking water and have no alternative but to buy the overpriced water.

Evidently, price gouging can be an abuse of market power. However, this is also what distinguishes price gouging generally from the example of face mask price increases. Usually, for a firm to get away with over charging for a good, it needs to have some degree of market power to ensure that the good will still be sold – regardless of the price charged. However, with face masks and the COVID-19 pandemic, smaller firms have been able to increase prices exorbitantly, taking advantage of the circumstances imposed by the COVID-19 pandemic. Market exploitation of this kind has not required firms to hold any market power, unlike other instances where price gouging has been seen. This may be because of the global nature of the COVID-19 pandemic, coupled with the mostly mandatory wearing of face masks and the increasing demand for them. In South Africa, many smaller firms have been found to have overpriced face masks. Smaller firms that have no degree of market power in so far as face masks are concerned are now being found guilty of price gouging. Price gouging amounts to

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[632] Fung San Sua., & Roberts, Simon. 2021, "The economics of potential price gouging during covid-19 and the application to complaints received by the CMA" *Centre for Competition Policy*, <https://ideas.repec.org/p/uea/ueaccp/2021_02.html> (accessed 10 May 2021).

unfair market prices in terms of competition law, and competition authorities across the world have been grappling with such issues since the start of the COVID-19 pandemic.[633]

In South Africa, there have been two major instances of unfair market practices concerning masks. Babelegi Workwear Overall Manufactures and Industrial Supplies ("Babelegi") were the first company brought before South Africa's Competition Tribunal for overcharging on masks.[634] The Competition Commission investigated and found that in January 2020, a box of masks cost R41,00. By March 2020, the price of a box of masks had increased to R500,00. The tribunal found that Babelegi increased the price of a box of masks by 888 percent from the beginning of March 2020 to December 2020. Babelegi appealed the finding, and the Competition Appeal Court found in favour of the Competition Tribunal and agreed that Babelegi's prices were "of an exploitive nature".[635] The Competition Appeal Court confirmed that Babelegi was taking advantage of consumers amid the COVID-19 pandemic. It was also noted that the cost price of masks had not increased nearly as drastically, and thus there was nothing to support such a substantial price hike as introduced by Babelegi.

Similarly, the Competition Tribunal had a matter regarding Dis-Chem Pharmacies Limited ("Dis-Chem") and excessive pricing of surgical masks.[636] Dis-Chem was also found to have charged excessive prices for surgical masks, taking advantage of consumers during the COVID-19 pandemic. The tribunal held that:

> "Material price increases of the magnitude of 47%-261% without corresponding increases in costs, of any goods in a country such as South Africa with a long history of economic exclusion and deep inequality would seriously affect the public interest adversely. Material price increases of surgical masks, without corresponding costs justifications, in the context of Covid-19 for which there is no discernible cure and where health services are skewed towards the wealthy, would seriously impact

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633 OECD. 2020, "Exploitative pricing in the time of COVID-19" *OECD, Tackling Coronavirus*, <www.oecd.org/cornoavirus> (accessed 10 May 2021).

634 Feketha, Siviwe. 2020, "Covid-19 in SA: Company accused of hiking price of face masks by 888%" *IOL* <https://www.iol.co.za/news/politics/covid-19-in-sa-company-accused-of-hiking-price-of-face-masks-by-888-46821863> (accessed 10 May 2021).

635 Babelegi Workwear and Industrial Supplies CC v Competition Commission of South Africa (186/CAC/JUN20) [2020] ZACAC 7 (18 November 2020)

636 Competition Tribunal, South Africa. 2020, "Tribunal fines Dis-Chem R1.2 million for excessive pricing of face masks during covid-19 pandemic" <https://www.comptrib.co.za/info-library/case-press-releases/tribunal-fines-dis-chem-r12-million-for-excessive-pricing-of-face-masks-during-covid-19-pandemic> (accessed 10 May 2021).

> vulnerable and poorer consumers even more. Poorer customers would have been excluded from accessing the masks by such exorbitant increases, other customers would have spent more on these items as a percentage of their disposable income."[637]

Dis-Chem was liable for an administrative fine of R1 200 000, an amount which was lower than what it would have been had it not been for the strained economic climate brought on by the COVID-19 pandemic.

These two examples of suppliers taking advantage of the market are certainly not the only ones. However, is it the imbalance of supply and demand that enables suppliers to hike prices or the perceived scarcity of an item? Regarding this question, it is necessary to consider the other issues raised concerning scarcity and the COVID-19 pandemic, whether masks have become scarce. For masks to be absolutely scarce, the materials used to make masks would need to be in short supply, or, perhaps, it should be timeously impossible to make enough masks to meet the daily demand (this, however, can be challenged with the idea of making more mask factories, innovations, improved technology, etc.). For masks to be relatively scarce, it must be because of some human or market intervention. Now the COVID-19 pandemic is not a human intervention per se, but rather a *force majeure*. Yet, in reaction to this event, people's behaviour could be what creates the scarcity (as opposed to the COVID-19 pandemic itself creating the scarcity).

The availability of masks has decreased because many countries are no longer exporting their own masks. More people are wearing masks all around the world (so similarly to toilet paper, it is not a localised shortage). Masks have not become scarce because of something inherent about the mask or the making thereof but about people. People decide not to export masks; it is people needing to or wanting to wear masks as a response to the COVID-19 pandemic. Therefore, though arguably, masks are relatively scarce, not absolutely scarce. Were it not for the COVID-19 pandemic, then there would be no mask issue. There was never a cap on how many masks could be made in the next century before we run out of materials to do so – we are simply making more masks because more is required, and the supply simply has not been able to keep up with the increase in demand.

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[637] Competition Tribunal, South Africa. 2020, "Tribunal fines Dis-Chem R1.2 million for excessive pricing of face masks during covid-19 pandemic" <https://www.comptrib.co.za/info-library/case-press-releases/tribunal-fines-dis-chem-r12-million-for-excessive-pricing-of-face-masks-during-covid-19-pandemic> (accessed 10 May 2021).

Scarcity under the COVID-19 pandemic

The COVID-19 pandemic greatly impacted both food resources as well as medicines and health care resources. As discussed in Chapter Two,[638] food and medicine are two examples I rely on to illustrate my assertions regarding scarcity of resources and the difference between absolute scarcity and relative scarcity. The COVID-19 pandemic somewhat illustrates extreme examples of relative scarcity, which is scarcity due to human behaviour, albeit that that behaviour is in reaction to a pandemic. The COVID-19 pandemic did not diminish food resources; it would use inhibited food availability in terms of Amartya Sen.[639] Similarly, with medicines, the COVID-19 virus itself did not rid the world of raw materials needed to make essential medicines; it hindered the availability of these medicines.

Chapter Three on food and medicines was written before the COVID-19 pandemic.[640] As the example of food, in particular, illustrates, food resources can seldom be absolutely scarce, even in instances of famine.[641] More food can be produced, and food can be imported and exported, and given the amount of food waste, there should theoretically be no hunger in the world.[642] The pre-pandemic perspective is important in this regard as it illustrates that even in an instance of famine, it is not a given that there is not enough food to eat. Regarding the COVID-19 pandemic, one can then infer that it is also not a given that there are not enough resources to eat during this time. The same applies to medicines, and the COVID-19 pandemic is itself not enough evidence to show that medicines are scarce. Just as one would *prima facie* hold that a lack of food caused a famine, one would infer that the COVID-19 pandemic *caused* a shortage of resources such as food and medicine. However, this is not necessarily the case.

Before the COVID-19 pandemic, food insecurity was becoming more prevalent.[643] Conflict, socio-economic conditions, natural disasters, climate change, and pests all contribute to

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638 See Chapter 3.

639 See Chapter 3.

640 See Chapter 3.

641 See Chapter 3.

642 See Chapter 2.

643 The World Bank. 2021, "Food Security and COVID-19" <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19> (accessed 10 May 2021).

growing food insecurity.[644] According to the World Bank, the COVID-19 pandemic accelerated the growth of food insecurity as global food prices rose by approximately 20 percent from January 2020 to January 2021.[645] People living in lower and middle-income countries are disproportionately affected by rising food prices as they spend a bigger percentage of their income on food than people living in high-income countries.[646] Coupled with reduced incomes due to the COVID-19 pandemic as business was restricted, food insecurity has become rampant:[647]

> "COVID-19 is estimated to have dramatically increased the number of people facing acute food insecurity in 2020-2021. As of April 2021, the World Food Programme (WFP) estimates that 296 million people in the 35 countries where it works are without sufficient food – 111 million more people than in April 2020."[648]

The COVID-19 pandemic did not reduce the amount of food in the world per se; it affected food production and the supply chain as businesses were restricted, travel was restricted, and people fell ill. Theoretically, enough food could be available, but either people could not afford it due to decreased incomes or higher prices due to importing. The COVID-19 pandemic created a market scarcity as it affected the supply chain of food production. The COVID-19 pandemic can only be said to have caused food insecurity if it directly affected the number of natural resources for food. For example, if cows also got sick and died and became on the brink of extinction, only then could the COVID-19 pandemic be labelled as the cause of scarcity in the absolute sense.

Causation needs to be determined in some instances when seeking to determine if a diminished resource is relatively scarce or absolutely scarce:

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[644] The World Bank. 2021, "Food Security and COVID-19" <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19> (accessed 10 May 2021).

[645] The World Bank. 2021, "Food Security and COVID-19" <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19> (accessed 10 May 2021).

[646] The World Bank. 2021, "Food Security and COVID-19" <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19> (accessed 10 May 2021).

[647] The World Bank. 2021, "Food Security and COVID-19" <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19> (accessed 10 May 2021).

[648] The World Bank. 2021, "Food Security and COVID-19" <https://www.worldbank.org/en/topic/agriculture/brief/food-security-and-covid-19> (accessed 10 May 2021).

1. if it were not for x, would y be scarce?
2. y can only be scarce if x = depletion of natural resources (for example, cows becoming endangered)
3. if y would not be scarce in the absence of x, then it cannot amount to absolute scarcity

If it were not for the COVID-19 pandemic, would medicine, for example, be scarce? Medicine can only be scarce if the raw material necessary for the synthesisation thereof is absolutely scarce in nature. Just because a certain medicine may not be as commonly available currently in the COVID-19 pandemic does not prove that the COVID-19 pandemic *caused* an absolute scarcity of the medicine. Similarly, if it were not for the COVID-19 pandemic, would meat, for example, be scarce? Meat could only become absolutely scarce as a result of the COVID-19 pandemic if the virus also affected animals or inhibited them from reproducing. The diminished availability of meat, as an example, under the COVID-19 pandemic does not prove that the COVID-19 pandemic made meat scarce.

Where there is not direct causation, it can seldom amount to absolute scarcity. Thus 'scarcities' under the COVID-19 pandemic are relative scarcities created by the behaviour of people, politics, and the market, all *in response* to the COVID-19 pandemic.

Scarcity, the COVID-19 pandemic, and global justice

There are issues of global justice pertaining to scarcity under the COVID-19 pandemic. Issues include how to allocate medical resources, for example. Three prominent issues include are equal access to resources such as food, medicine, hospital beds, and social security; prioritisation of resources with regard to resources necessary to combat the COVID-19 pandemic and resources needed for pre-pandemic issues. It is, however, beyond my scope to address the issues surrounding how states decide to allocate resources in response to the COVID-19 pandemic. Nonetheless, that is an issue of justice in and of itself which will certainly provoke academic enquiry.

Before the COVID-19 pandemic, if people did not have access to health care, scarcity of resources made for an easy scapegoat. 'Limited resources' of states were apparently used to their maximum utility in an effort to provide health care for all. However, the COVID-19 pandemic has shown how quickly states can, in fact, increase resources for health care in an instance of a public health crisis. More beds, more staff, and more monetary resources were quickly allocated to health care sectors around the world in response to the COVID-19 pandemic. This begs the question of why states' obligation to provide access to primary health care cannot be fulfilled. Would fulfilling this obligation (outside of the context of the COVID-19 pandemic) simply be a matter of reallocation and reprioritisation of resources?

Conclusion

This chapter has considered scarcities under the COVID-19 pandemic. Although the circumstances of the COVID-19 pandemic showcase extreme examples of relative scarcity, these examples are complementary to the arguments made regarding absolute scarcity and relative scarcity in the preceding chapters. This chapter shows how scarcities can be created by human behaviour – even if that behaviour is in reaction to a pandemic. This chapter has also shown the importance of determining the causation of scarcities. The COVID-19 pandemic did not rid the world of toilet paper or steel, for example, and the true causes behind these scarcities experienced need to be scrutinised.

The global impact of the COVID-19 pandemic has provided insight into what it is like to be wanting and what it is like to be without. 'Scarcities' that are created by markets, politics, and human behaviour, outside of the context of the COVID-19 pandemic, have the same effect of leaving people wanting and without. However, outside of the context of the COVID-19 pandemic, this impact affects only some people, which is an issue of global justice distributional justice. Thus, it is necessary to be cautious of relying on the scarcity of resources to justify the non-fulfilment of state obligations, such as ensuring people have access to health care, as the COVID-19 pandemic has now revealed that resources are not indefinitely limited but can be reallocated. Issues of global justice such as poverty, the environment, health, education, space, and preservation of natural resources need to be prioritised. Resources need to be allocated to adequately address these issues. There is a lot to be learned from the global response to the COVID-19 pandemic regarding resource allocation.

CONCLUSION

This study began with Tim Mulgan's idea of a world where there are not enough resources to meet basic human needs.[649] A world in which scarcity dominates all resources and where material deprivation and human suffering are unavoidable. Despite this prophecy that scarcity of resources is unavoidable, I have argued that scarcity is not a sufficient ground to say that global justice cannot be achieved or that issues of global justice cannot be addressed. I have argued that issues of global justice such as hunger, health, and education, among others, can be addressed despite the presumption of the scarcity of resources.

Data relied on in Chapter Two has shown that scarcity can exist in the presence of abundance. Thus, the presence of scarcity alone is not enough to justify material deprivation or consequent human suffering. Additionally, scarcity is a nuanced and complex concept. In seeking conceptual clarity on scarcity, I have articulated the difference between absolute scarcity and relative scarcity and shown how these are erroneously conflated. Scarcity is also something that is malleable and can be created. Because scarcity can exist despite an abundance of resources, as illustrated specifically in the case of famines, there is a need to scrutinise instances of resource scarcity to determine causation so that responsibility for material deprivation and consequent human suffering is properly attributed.

There is a patent need to distinguish between absolute scarcity and relative scarcity. Failing to do so creates the possibility of a category mistake being made in treating one as the other. When this distinction is made, then the causes of resource scarcity can be better examined to react appropriately and possibly provide recourse to justice.

As emphasised throughout this dissertation, there is a need for conceptual clarity on scarcity. Lyla Mehta frames many of the issues concerning the conceptualisation of scarcity that I sought to address:

> "Resource scarcity continues to be linked with population growth and growing environmental conflicts, and science and technology or innovation are usually evoked as the appropriate 'solutions'. Scarcity remains an all-pervasive fact of our lives. But what is scarcity? Why has blame been attributed to it for many of humankind's woes, for centuries? Why is it so all-pervasive and does its all pervasive character help or hinder us in governing the allocation and distribution of crucial resources such as water, oil, food and so on? What are the different disciplinary perspectives on scarcity? Are the economists to be blamed for creating

[649] Mulgan, Tim. 2011, *Ethics for a Broken World*.

scarcity? Are there alternative viewings of 'scarcity' and better ways to talk about finite resources?"[650]

The discourse on global justice thus far has neglected the concept and has failed to scrutinise scarcity for its intricacies. This thesis has identified an insufficiency in the discourse as the conceptual understanding of scarcity has been neglected, despite scarcity being a prominent issue in global justice, especially concerning material deprivation and consequent human suffering. A better understanding of scarcity can result in better responsibility and accountability regarding resource allocation, prioritisation, and distribution. A better understanding of scarcity can also provide possible avenues of recourse in instances of material deprivation where it can be shown that the resource in question is not absolutely scarce. These issues go beyond academia as "a failure to appreciate diverse understandings of scarcity helps perpetuate flawed governance interventions, policies and programmes to mitigate scarcity conditions."[651]

Considerations for a resource-centric approach to scarcity of resources

I have argued for a resource-centric approach to the scarcity of resources. I have argued that such an approach is favourable over an economic approach as the true scarcity status of a resource can be determined instead of merely the degree of scarcity reflected by the market. This is important because the market does not necessarily provide an accurate indication of whether a resource is scarce. As in the case of medicine and diamonds, I have shown that what the market reflects is not necessarily an accurate depiction of the need or demand for the resource or the scarcity of the resource.

Therefore, an approach that centres itself around the resource in question is preferable, at least in the context of global justice. A resource-centric approach to scarcity of resources seeks to give more content and conceptual clarity to scarcity. A more nuanced understanding of scarcity can arguably result in more appropriate approaches to instances of material deprivation and consequent human suffering. Additionally, a more nuanced understanding of scarcity of resources can also properly attribute responsibility in instances where people or institutions

[650] Mehta, Lyla. (ed). 2010, *The Limits to Scarcity*, p. 2.

[651] Mehta. (ed). 2010, *The Limits to Scarcity*, p.8.

have caused the scarcity of a resource. Such instances are central to issues of global justice where resources are concerned.

Further enquiry into the scarcity of specific resources, especially those relevant to issues of global justice, presents an opportunity to further this conceptualisation of scarcity. By considering in what way certain resources are scarce, the causes behind such scarcity, and the consequences of such scarcity, issues of global justice that concern resources may be better addressed.

The value of a more nuanced understanding of scarcity

There is value in understanding the nuances of scarcity. The socio-economic and political consequences of how scarcity is presented can be better understood and scrutinised. Without properly understanding scarcity, there exist limited measures to address the actual causes of material deprivation and consequent human suffering. A better understanding of scarcity dismisses claims that global justice cannot be achieved because of a scarcity of resources.

Without conceptual clarity of scarcity, the consequences of assuming scarcity will perpetuate. Scarcity will continue to be used as a scapegoat for the lack of fulfilment of access to basic human needs and instances of material deprivation, which will be justified by the scarcity of resources. A resource-centric approach to scarcity of resources, which requires a more nuanced understanding of scarcity, eliminates the potential of scarcity being used to justify the lack of access to resources to fulfil basic human needs or instances of material deprivation and subsequent human suffering. A resource-centric approach to scarcity of resources challenges the acceptance of scarcity in instances of abundance. My conceptual analysis of scarcity shows that we do not have to live in a world where there is waste and hunger in the same vicinity.

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