

Recovering Environmental and Economic Traditions in the Islamic World



Edited by
Sami Al-Daghistani

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Foreword

It has been many decades, now, that scientists have known the detrimental effects of our human activity on the health of the planet, its flora and fauna, its various ecosystems, and consequently, the risks this activity poses to the survivability of future generations of human beings on its surface. It has been at least several decades since the notions such as global warming, climate change, and species collapse have entered mainstream discourse and the mechanisms by which these changes are occurring are broadly understood by most of the educated population throughout the world. Even if an understanding of these processes generating the environmental crisis were not widely known, the effects of this crisis are all around us. They should be impossible to ignore, and they are surely impossible to ignore for many of the most vulnerable populations around the globe. Yet, for all the scientific, and political effort, the situation has, by most measures, grown unrelentingly more dire.

Top-down political approaches are necessary for proposals to reduce carbon emissions, for example on a macro-level—ideally reigning in the corporate or state entities generating the largest carbon emissions or other pollutants and investing in renewable energy technologies on a sufficient scale to have meaningful impact. Yet projects at this corporate or governmental level are vulnerable to shifting political or economic winds. International efforts by way of treaties and agreements lack enforcement mechanisms, but even more problematically, have had to wrestle with the question of how to spread the burden of reducing carbon emissions and other forms of ecological damage in a situation where this is, and has been historically, tremendous wealth inequality across the globe. As is well-known, developed countries are the largest polluters, by many factors, compared to poorer nations. Additionally, these countries have already historically profited from their careless use and abuse of natural resources, and can afford to invest in efforts to develop more environmentally-friendly modes of consumption to reduce their carbon footprint, but also to shield themselves from the most detrimental effects of climate change. Developing countries and regions, on the other hand—long a victim to imperialist economic exploitation from these same developed countries—are being asked to curtail efforts at development and industrialization before they have had a chance to economically benefit from them in the name of worldwide efforts to reduce carbon emissions, even as they suffer the most from the effects of climate change.

Scientific approaches appear very promising, at least superficially. Renewable energies seem to offer hope of a future with far less reliance on carbon-

producing fossil fuels, and electric and hybrid vehicles or modes of public transportation have exploded in recent years. Yet it is clear that science alone is not sufficient to address the problem on a global scale. Even renewable technologies often require other kinds of resources—such as lithium and nickel—that have to be mined at increasing scale, which not only does additional environmental harm, but also leads to the exploitation of mine workers, often located in some of the poorest countries on the globe. Moreover, it is far from clear whether renewable energies will be enough to power our species' increasing appetite for and consumption of energy. In economic terms, we have not only a supply problem, but a demand problem as well. More fundamentally, these scientific efforts, like various top-down political efforts—necessary as they might be—are not sufficient to address the fullness of the global environmental crisis we face, focused as they are on treating the symptoms rather than the root causes of climate change. Some might argue that reducing carbon emissions and harmful pollutants are indeed a way of treating causes and not symptoms, but this is to take a far too shallow view of “causes” and “roots.”

The true causes, of course, are patterns of human living and resource use that are increasingly unsustainable for our planet and its valuable ecosystems, plagued as they are by both overconsumption and overpopulation. It is often noted that it is the developed, European and North American populations that are the primary contributors to human overconsumption through their consumerist excesses and wasteful lifestyles: from car culture to single-use items; from fast fashion to food waste; from diets heavy in meats on the one hand, to the demand for year-round produce on the other grown all over the world on the other; from the Amazon-fueled and pandemic-inspired expectation that nearly everything one wants can be delivered to one's door in 48 hours or less to the need to have everything manufactured as cheaply as possible overseas and shipped in from all over the world. All of these lifestyle elements are both heavily dependent on fossil fuels, chemical and plastic pollution, while serving to continue and expand the exploitation of economically vulnerable human populations. Less developed countries, primarily in the global South, on the other hand, consume at far lower rates per person, but have contributed disproportionately to the rapid growth of human population on the planet, which has been increasing by about a billion people every 12 years since the 1960s, and is expected to reach 10 billion near the end of this century. Today nearly 5/6 of the world's population resides in the global South, while the carbon footprint of global North countries is estimated by some researchers to be about 100 times that of the poorer countries of the global South.

The differences are stark; but both elements of this discrepancy have their roots in the imperialist and colonialist economic systems that allowed the

European and North American countries to profit through the extraction of both resources and cheap labor from countries in the global South for nearly 200 years. This roughly 200-year period also coincides with the industrial revolution, the development of automobile and aeronautical technology, many devastating wars, the emergence of nuclear weaponry and power, and the rapid rise of digital and information technology. Many would argue that it is *these* developments that have had the greatest impact on the environmental crisis. But in a profound way, all of these other developments are inescapably connected to, if not rooted in, the very imperialist economic structures that have led to vast global wealth inequalities, which in turn both facilitate and necessitate the increasing growth of human consumption and population patterns in the North and South, respectively. To create a perfect dilemma, these widely recognized inequalities then, in turn, complicate international attempts to deal with the environmental crisis, given the recognized need for socio-economic justice in the development of global plans for carbon and pollution reduction. It is clear to this author, to the many authors of this volume, and to an increasing number of scholars and activists, that our environmental problems cannot be solved until the inequalities of our global economic system have been addressed.

Recognizing the deeper roots and ethical complications of the environmental crisis, some scholars and thinkers have argued that the crisis can only be fully understood by considering it through a religious or spiritual lens. Seyyed Hossein Nasr, a religious scholar and philosopher, argued as early as the 1960s that the environmental crisis had its roots in a spiritual crisis, particularly the spiritual crisis of Western world, which had loss of the sense of the sacred in the natural world as a result of intellectual shifts that took place during the Enlightenment, whose leading thinkers celebrated the superiority of the rational human intellect. The ensuing devaluation of some traditional religious values, together with the subsequent rise of a scientific movement focused on the empirical, material, and experimental, worked to effectively “disenchant” the natural world for modern human beings, encouraging them to see it as filled with inert and insensate matter and non-rational creatures without moral significance, all of which could be manipulated at will to serve human needs. In addition to Nasr’s call to engage religion anew as a means of rekindling a sense of the sacred that would act as a check on human use and misuse of the natural world, others have recognized the importance of religious views that see the nature as God’s handiwork, and so to be respected as such, or even as a theophany, a second “book” of revelation. Some have pointed to the more practical effects of religion in constraining human behavior. The many forms of religious fasting and dietary restrictions,

the Jewish Sabbath, and the ethical principles of modesty and charity found in many religious traditions act as ritually- and morally-grounded curbs on human desire, greed, and consumption, or on gross inequities of consumption.

Nonetheless, other thinkers have been particularly critical of elements of the Biblical religions of Judaism and Christianity (the dominant religions in the context of the global North) that contribute to a less than respectful view of the natural world. These thinkers have pointed out the seeming inescapable anthropocentrism of these (and other) religious traditions, as well their scripturally-based conception of the “dominion” of human beings over the rest of creation. In the Christian case, in particular, some have argued that its focus on the world to come and the “kingdom of heaven” leaves many with little incentive to care for the “this world” on earth. In response to these criticisms, some have argued for reinterpreting or expanding Jewish and Christian views of nature to develop an environmental ethic that will provide a spiritual basis for more respectful relations between human beings and the rest of creation, or have argued that Judaism and Christianity, properly understood, are not anthropocentric, but *theocentric*, asserting that notions like “stewardship” (a more benign Biblical description of human beings’ relationship to other parts of creation than “dominion”) can be understood as reinforcing the idea of humanity’s responsibility before God to care for the natural world. Others have found Western religious traditions like Christianity and Judaism too inherently limited to serve as a sufficient basis for an meaningful environmental ethic on their own, seeking either to leave them behind for a pure nature spirituality, like deep green ecology, or else to enrich Judaism and Christianity’s own moral and ethical principles through a respectful appreciation and even incorporation of the spiritual views of nature found in some indigenous traditions, or through selectively appropriating certain ethical principles from other religious traditions, for example, the Buddhist idea of *ahimsa*, or nonviolence toward other sentient beings.

Muslims, too, have evaluated their scripture and tradition, and have generally found the views on nature and human consumption found in these religious texts and resources to be useful for the formulation of an environmental ethic based on fundamental Islamic principles. The Qur’an constantly engages natural phenomena in its spiritual message, and seems to consider various natural phenomena—including a wide variety of animals, trees, celestial bodies, rocks, and even the earth itself—as not only *passive* reflections or manifestations of God as Creator and Sustainer, but also as *active* (if involuntary) submitters to God, conscious of their status as His creatures, and engaged in praise and prayer and prostration toward Him. The words of the Prophet Muhammad

and *shari'ah* principles proscribe wasteful consumption, the pollution of water resources, and the destruction of trees and livestock in military campaigns, for example.

Moreover, the Islamic tradition includes a set of social and economic principles, rooted in scripture, Prophetic tradition, and *shari'ah* that are designed to ensure that resources are shared justly and equitably, neither hoarded nor spent prodigally. Finally, like other religions, Islam aims not only to improve the moral character of society, but to be the basis for cultivating individual virtues and a path for realizing the highest spiritual and moral aspirations of the human being. Many of these virtues, which it shares with other religious traditions, are significant for addressing a global environmental crisis that is also complicated by a global situation of tremendous wealth inequality and social injustice.

Curiously, however, and despite the seeming richness of the Islamic tradition as a source for environmental thinking, and the useful ethical concepts it shares with other traditions, Muslim texts are rarely invoked outside of their own communal contexts—either as sources of spiritual inspiration or of common ethical principles—in cultural and multi-religious conversations about environmental ethics. While some religious thinkers from major world religious traditions, like Christianity, have been willing to incorporate into their environmental thinking some conceptions of the natural world found in various indigenous traditions (with which they have little else in common) or have found common moral ground with other major world religions, Islam (with which they share much more) is not a tradition that they typically turn to outside of their own for cross-cultural and interreligious inspiration. This rich and diverse volume of thoroughly researched entries has the potential to change that, collectively demonstrating that Muslim religious tradition possesses a range concepts that can be retrieved, re-imagined, or re-deployed in the service of developing an environmental ethic that might be morally influential for the nearly 2/5 of the world's population that is Muslim, and enriching as part of a cross-cultural and interreligious dialogue about the moral imperatives that the environmental crisis should impose upon us all.

Importantly, the volume does not present a single-minded, or uncritically celebratory view of the relationship between Muslim tradition and ethical approaches to the environment, but rather shows us where Muslim concepts and traditions might be helpful, where they need to be re-thought in order to be helpful, and even where they have been unhelpful. The volume's editor, Sami Al-Daghistani, for example, explores the Islamic moral and mystical concept of *tazkiyat al-nafs*—the purification of the soul—as one that can be understood as a kind of self-vigilance and individual accountability that could be applied

to an understanding of our own individual responsibility for what the author clearly sees as a contemporary moral crisis with ecological, economic, social justice, and scientific aspects. Waleed El-Ansary argues that traditional Muslim conceptions of both science and economics—including the assessment of commercial value and the nature of work, both of which, he argues, have been harmfully distorted in the dominant, global understanding of economics—contain principles that could help correct both fields in a manner with important implications for the environment. Natana DeLong-Bas addresses one of the most pressing environmental and social justice issues—the availability and just distribution of water. Mining Muslim religious texts and ethical sources, she makes a powerful argument for the theological, ritual, and symbolic significance of water, and its importance in a warming world that aims both for human survivability and social justice. Katharina Ivanyi argues for a retrieval of the classical understanding of the term *iqtisād*, which in modern Arabic is used simply to mean “economics” in its modern sense, but which was part of an Islamic moral tradition in the premodern period that related to notions of moderation and frugality. Retrieving this meaning could serve as the basis of an important critique modern economists’ theoretical indifference to questions of overconsumption. If Ivanyi asks to retrieve the premodern meaning of *iqtisād*, Sarah Robinson argues for an expansion and redeployment of the Muslim prohibition on usury (*ribā*) with a view to the future. She notes that the current overconsumption of resources amounts to a “borrowing against the future,” which will necessarily entail future generations paying “excessively” for what is being borrowed today (the very definition of usury in classical Islamic economic ethics). She further asks Muslims, in particular, to imagine a world in which global warming has made Mecca uninhabitable, and the *hajj* impossible, and thus to consider what contemporary consumption patterns might mean for this essential element of their religion in the future. On a more realistic note, Jonathan Brockopp, presents a study of climate policy in Muslim-majority Senegal, noting both that religious motivation does not seem to have been a motivating factor at all in some ecological improvements in the country, and that as a poor country Senegal is dependent on wealthier nations, like Sweden, for investment in its energy sector, putting it, and other countries like it, very much at the mercy of the environmental views of more developed countries for its environmental policies and infrastructure.

This volume offers a wide collection of articles that engage the potential Muslim contributions to cross-cultural discussions about a global crisis—both environmental and economic—that threatens all of us. It argues that a crisis as complex as this requires, in the words of this volume’s editor, an “epistemic decolonization” that would allow all of the world’s traditions a metaphorical

seat at the table of these discussions. This volume examines the issues through a distinct, but not simplistic, Islamic lens. At the same time, it contributes more broadly to the calls, increasingly heard from all parts of the world, that this complex crisis needs approaches that treat not only its symptoms, but also its spiritual, intellectual, social, and economic causes; that the effort that must simultaneously be undertaken individually, communally, and globally; that it must marshal the best and most helpful interpretations of the world's religious and secular ethical traditions in the process of changing the modern human behaviors that have generated and are worsening this crisis; and that it must be rooted in the moral and ethical higher purposes of these various traditions while imagining them anew and in partnership with one another.

Maria Dakake

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Notes on Contributors

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Jonathan Brockopp

(Penn State University). My primary research focus is on the literary remains of early Islamic cultures, including the Qur'an, hadith, legal and theological texts. I am particularly interested in the rise of a professional scholarly community in Egypt and North Africa, using early Arabic manuscripts to trace arguments and lines of influence. Recently, I have focused on the question of how these early scholars construct their notion of religious authority in my book, *Muham-*

mad's Heirs: the Rise of Muslim Scholarly Communities (Cambridge, 2017). This work has led me to formulate a new theory of charismatic authority, one that attempts to account for the dynamic roles of text, community and history in constructing the charismatic leader. I plan on devoting my next book to fleshing out some of the implications of this theory. Arguably, Islamic law is as much a set of ethical guidelines as it is law. It thereby forms an essential backdrop to modern discussions of war, bioethics, economic justice, etc. I have pursued an active interest in these contemporary issues including the impact of climate change on Muslim communities.

Introduction

Sami Al-Daghistani

1 Theoretical Framework

In the face of 21st century financial developments and environmental concerns, there is reportedly a rise in ethical questions on the human impact on nature and the climate. In recent decades, attempts by scholars and practitioners that challenged modes of economic growth, introduce ecological renewal strategies, or implement environmental and business ethics, have coalesced to deliver more sustainable approaches in society. The destructive forces of human actions towards the environment and the fluctuations in climate change inevitably leads one to rethink what constitutes ethical conduct in economics. Today's tipping elements of global environmental issues—some of which include the Sahel and West African monsoon, the depletion of the Amazonian rainforest and El Nino southern oscillation (ENSO) and the Atlantic thermohaline circulation, as well as the exponential urbanization in the Arab Gulf and growing water scarcity in the Middle East—require global and comprehensive solutions.

Environmental ethics may be defined as a set of norms describing how one should behave toward the natural environment and its resources. These sets of norms are often drawn from particular moral values. Some scholars¹ indicate that the modern environmental crisis is inextricably linked to the net of economic and social factors, tied to various belief systems and human perceptions of progress. According to such understanding, the environmental crisis appears to be closely linked to the current prevailing unsustainable economic patterns generated and nurtured by modern society. The root causes of environmental degradation and depletion of natural resources is also a manifestation of widespread production activities and excessive consumption. A growing body of scholarship in environmental humanities and ethics,² and

1 See e.g., Seyyed Hossein Nasr, *Man and Nature* (London: Unwin Hyman Limited, 1990).

2 See e.g., Dale Jamieson, *Ethics and the Environment* (Cambridge: Cambridge University Press, 2008); Johan Vetlesen, *The Denial of Nature* (London: Routledge, 2015); Elizabeth DeLoughrey, Jill Didur, and Anthony Carrigan (eds.), *Global Ecologies and the Environmental Humanities* (London: Routledge, 2015).

in religion and ecology³ has started to address some of these pressing concerns from both historical and religious angles, including through a sustained attention on Abrahamic and non-Abrahamic religious traditions. In Islamic studies more specifically, the notion of “Green Islam,” in particular with the development of ecological Islam,⁴ and Islamic economics,⁵ has gained prominence in the last few decades. In the second half of the 20th century, Muslim economists generated a new economic narrative, whilst Islamic financial institutions blossomed, achieved in part through the creation of their own niche as a new economic system. This new system was conceived as an alternative response to socialism and global capitalism, yet some posit⁶ that Islamic

- 3 See e.g. Roy Rappaport, *Ecology, Meaning, and Religion* (Richmond, CA: North Atlantic Books, 1979); David Joseph Wellman, *Sustainable Diplomacy: Ecology, Religion, and Ethics in Muslim-Christian Relations* (New York: Palgrave Macmillan, 2004); Roger S. Gottlieb (ed.), *Oxford Handbook of Religion and Ecology* (New York: Oxford University Press, 2006); Ursula K. Heise, Jon Christensen, and Michelle Niemann (eds.), *The Routledge Companion to the Environmental Humanities* (London: Routledge, 2017).
- 4 E.g. S. Waqar Ahmed Husaini, *Islamic Environmental Systems Engineering* (London: The Macmillan Press, 1980); Harfiyah Abdel Haleem (ed.), *Islam and the Environment* (London: Ta-Ha Publishers, 1988); Richard C. Foltz, Frederick M. Denny and Azizan Baharuddin (eds.), *Islam and Ecology* (Cambridge, MA: Harvard University Press, 2003); Fazlun M Khalid, “Islam and the Environment,” *Encyclopedia of Global Environmental Change*, ed. Peter Timmerman (2002): 332–339.
- 5 For works on contemporary Islamic economics, see e.g. Ahmad Khurshid, *Economic Development in an Islamic Framework* (Leicester: Islamic Foundations, 1979); Mohammad Nejatullah Siddiqi, *Contemporary Literature on Islamic Economics* (Jeddah: International Centre for Research on Islamic Economics, King Abdul Aziz University / Leicester: The Islamic Foundation, 1978); Ahmad Khurshid, *Studies in Islamic Economics* (Leicester: The Islamic Foundation, 1981); Muhammad Umer Chapra, *Islam and the Economic Challenge* (Herndon, VA: International Institute of Islamic Thought, 1992); Masudul Alam Choudhury, *Islamic Economics and Finance: An Epistemological Inquiry* (London: Palgrave MacMillan, 1992); Muhammad Akram Khan, *An Introduction to Islamic Economics* (Islamabad: International Institute of Islamic Thought, 1994). For historical overview of the subject, see e.g. Ahmed El-Ashqar and Rodney Wilson, *Islamic Economics: A Short History* (Leiden: Brill, 2006); Rauf Azhar, *Economy of an Islamic Economics* (Leiden: Brill, 2009); Yassine Essid, *A Critique of the origins of Islamic Economic Thought* (Leiden: Brill, 1995); Abdul Azim Islahi, *History of Economic Thought in Islam* (Aligarh, India: Department of Economics, Aligarh Muslim University, 1996); Abdul Azim Islahi, *Contribution of Muslim Scholars to Economic Thought and Analysis, 11–905 A.H./632–1500 A.D.* (Jeddah: Islamic Economics Research Centre, King Abdulaziz University, 2004).
- 6 See e.g. Wael Hallaq, *The Impossible State* (New York: Columbia University Press, 2012) 139–154; Anver M. Emon, “Islamic Law and Finance,” *The Oxford Handbook of Islamic Law*, eds. Anver M. Emon and Rumeen Ahmed (Oxford: Oxford University Press, 2017), 843–860; Lena Rethel, “Whose Legitimacy? Islamic Finance and the Global Financial Order,” *Review of International Political Economy*, Vol. 18, No. 1 (2011): 75–98; Mehmet Asutay, “A Political Economy

economics has adopted a global economic paradigm rather than altered the existing modalities of political economy.

The modern notion of sustainability is often reduced to a set of individualized behaviors, such as consumer recycling, buying fuel-efficient vehicles, printing double-sided, or adjusting a household thermostat. While these are helpful commitments on the part of individuals, it is improbable that they are adequate responses to the socioecological implications of larger, institutionalized global discourses and practices. In fact, these approaches often reify neoliberalism⁷ in that they shift the focus from government to citizens, or worse yet, from state to consumers. Approaches to sustainability are varied and contested, with most common constructions building primarily on perspectives from the natural sciences. Yet issues of justice and equity are foundational to a world that is sustainable. Rather than seeing climate, energy, food, water, and economic production as separate systems, for example, systems thinking focuses on the interconnected whole.

In the modern era, a relatively newly established field of ecological economics (pioneered by early-modernists in the early 20th century such as K. William Kapp⁸ and Karl Polanyi,⁹ established as a field in 1960s and 1970s, and institutionalized in the 1980s with Robert Costanza, Herman Daly, Charles Hall, Bruce Hannon, Howard T. Odum, and David Pimentel) aimed at questioning some of the norms and regulations of conventional economics, such as scientific objectivity and acquisition of wealth, in relation to human factors and needs. Ecological economics is studied as a natural object and conceptualized in terms usually used to describe processes in nature.¹⁰

Neoclassical economic theories have provided the underpinning for many environmentally destructive practices.¹¹ Many alternative theories and ap-

Approach to Islamic Economics: Systemic Understanding for an Alternative Economic System," *Kyoto Bulletin of Islamic Area Studies*, 1–2 (2007): 3–18; Sami Al-Daghistani, *The Making of Islamic Economic Thought* (New York: Cambridge University Press, 2022).

7 John Bellamy Foster defined capitalism as a system that is intrinsically geared to the maximum possible accumulation also through matter and energy. Economic growth (in its more abstract sense) or capital accumulation (viewed more concretely) cannot occur without expanding rifts in the Earth system. See John Bellamy Foster, "The Great Capitalist Climacteric: Marxism and 'System Change Not Climate Change,'" *Monthly Review*, Vol. 67, No. 6 (2015): 1–18.

8 K. William Kapp, *The Social Costs of Private Enterprise* (New York: Schocken books, 1975).

9 See Karl Polanyi, *The Great Transformation* (Boston: Beacon Press, 2001), especially the second part.

10 Inge Ropke, "The Early History of Modern Ecological Economics," *Ecological Economics*, Vol. 50, Issue 3–4 (2004): 293–314.

11 Deane-Drummond C., B Szerszynski and R. Grove-White (eds.), *Reordering Nature: The-*

proaches have been developed in order to counter those unsustainable patterns, including the deep ecology movement. Analyzing contemporary modalities of epistemology (study of knowledge) and ethics (moral philosophy) in environment (nature-human relations), entails also inquiring into the very notions of economic and ecological sustainability, social justice, material consequences of religious traditions, and their larger cosmological implications. Analyzing those modalities involves not only applying environmental (religious) ethics to social and political structures, but includes a wholesale reconfiguration of social systems, including political and legal changes that would produce legislation in areas of concern such as pollution, conservation, and urbanization.

From the very inception of modern economic science in the 17th century, economics was concerned with creation, consumption, and transfer of wealth, and this is looming also in 21st century and its globalized economy. Economics plays a crucial role in shaping the activities in modern society. The attitude of modern economics rests upon valuing wants as means and not needs as ends,¹² and thus obliterating human possibility of choosing ends according to ethical predispositions, while economic development and economic performance became catch phrases in today's financial world. Blindly adopting such concepts, however, presupposes a lack of understanding of the human condition, in that making (adequate) profit from a market perspective is diametrically opposite to one's reliance on the natural world, since the market does not represent the majority of people and their vital needs, and is, as Schumacher observed, "institutionalization of individualism."¹³ In this sense, natural habitat, environment, and/or nature cannot be privatized or bought, since they cannot have a sticker price. Instead of advocating economic variables and calculus as part of the dominant economic outlook, studying the so-called meta-economics, that is, its epistemological and methodological functions derived from the study of nature,¹⁴ opens up possibilities for a different definition of economic growth and environmental sustainability.¹⁵ Judging by the contri-

ology, Society and the New Genetics (London: Bloomsbury, 2003); John Bellamy Foster, *Marx's Ecology: Materialism and Nature* (New York: Monthly Review Press, 2000); John Bellamy Foster, *The Return of Nature: Socialism and Ecology* (New York: Monthly Review Press, 2020).

12 See e.g. John Maynard Keynes, *The General Theory of Employment, Interest, and Money* (Cambridge: Cambridge University Press, 2013).

13 E.F. Schumacher, *Small is Beautiful* (New York: Harper and Row, 1973), 44.

14 E.F. Schumacher, *Small is Beautiful*, 47.

15 "Economics operates legitimately and usefully within a 'given' framework which lies altogether outside the economic calculus. We might say that economics does not stand on

butions of many pre-modern scholars in the Islamic world, as well as other modern economists who oppose the mechanistic worldview, economics can derive its aims, functions, methodologies, and objectives from a study of the human being and her faculties in the context of the natural environment. If economic progress is possible beyond human selfishness,¹⁶ then capital provided by nature is far greater than that by human beings. According to Schumacher, the key concept from an economic point of view is permanence,¹⁷ in that only economic continuance is and can be sustainable, which brings about the difference between needs and wants, as well as between means and ends. For Schumacher (as for the whole plethora of heterodox economists and classical Muslim scholars), instead of focusing on one's needs, preserving permanence might be an answer to achieve economic and environmental sustainability, which involves a different worldview, technological orientation, and recovery of sustainable traditions.

The process of reading and interpreting the very terms and concepts of economics, ethics, and environment—produced by specific social, political, and historical conditions, as well as epistemological reasoning in Europe—raises concerns of how to translate and compare those concepts and forms of knowledge with non-European intellectual and religious traditions. The modern division of knowledge is rooted in a particular understanding of the world, which itself correlates in part to the birth of the modern nation state. The inception of the modern state continues to pose an analytical and epistemological challenge for the social sciences in general, and religious/Islamic studies in particular, because of the impact it has had on the sociology of knowledge, especially in the Middle East, North Africa, Asia, and in other parts of the world. One, then, is faced with the questions, such as what do religious and intellectual traditions say on environmental and economic thought and

its own feet, or that it is a 'derived' body of thought-derived from meta-economics. If the economist fails to study meta-economics, or, even worse, if he remains unaware of the fact that there are boundaries to the applicability of the economic calculus, he is likely to fall into a similar kind of error as that of certain medieval theologians who tried to settle questions of physics by means of biblical quotations. Every science is beneficial within its proper limits, but becomes evil and destructive as soon as it transgresses them." E.F. Schumacher, *Small is Beautiful*, 46.

16 Human selfishness in economics is often linked to the idea of the consumer as the maximizers of personal wealth and power and the model of *Homo economicus*. See e.g. Friedrich Hayek, *The Road to Serfdom* (Chicago, IL: University of Chicago Press, 2007); Friedrich Hayek, *Individualism and Economic Order* (Chicago, IL: University of Chicago Press, 1948).

17 F. Schumacher, *Small is Beautiful*, 33.

how to “recover” them, given the ideologically laden understanding of environmental sustainability and economic growth. How to negotiate religious traditions and their intellectual histories with environmental-economic philosophy? Such philosophy would address human relation toward the lived environment as a multifaceted phenomenon bound not only to biological-scientific but also historical-ethical factors, offering an alternative to the modern scientific apparatus and prevailing economic order. While the so-called “green” projects have sprung out in the Muslim-majority societies, it is not entirely clear what are their ideological rationale that undergirds these projects. More specifically, how ethical teachings on the environment permeates initiatives across the Middle East and North Africa, such as the “Green Mosque initiative” in Morocco, the Egyptian Benban Solar Park near Aswan, and the solar power project in Saudi Arabia, or ethical responses to climate change in Senegal?¹⁸ To what extent these and other projects question the prevalent understanding of environmental and economic sustainability as conceived by the major philosophical trends throughout the developed world, remains largely unanswered.

Religious traditions—Judaism, Christianity, Islam, Buddhism, and other Asian religions—have had a close relationship with the environment on one hand and economic postulates on the other.¹⁹ A spiritual link between natural cosmology, economic engagement, and human behavior can be found in various religious cultures. Varied approaches to conservation and the natural world exist in Judaism since the Torah outlines numerous ethical obligations to the conservation of nature. The Baha’i faith teaches that the natural diversity reflects God’s grandeur, whilst Buddhism emphasizes that human being main-

18 *World Economic Forum*, “Will Morocco’s ‘green mosques’ spark an energy revolution?,” 2017, accessible at <https://www.weforum.org/agenda/2017/01/will-morocco-s-green-mosques-spark-an-energy-revolution/>; *The Arab Republic of Egypt Presidency*, “‘Benban’, the Largest Solar Power Plant in Aswan,” accessible at <https://www.presidency.eg/en/المشاريع-الشمسية-الطاقة-لإنتاج-محطة-أكبر-بنبان/القومية->; *Vision2030*, “Sakaka Solar Power Plant,” accessible at <https://www.vision2030.gov.sa/v2030/v2030-projects/sakaka-solar-power-plant/>.

19 See e.g. John Grim and Mary Evelyn Tucker, *Ecology and Religion* (Washington D.C.: Island Press, 2014); Thomas Berry, *The Sacred Universe* (New York: Columbia University Press, 2009); Hava Tirosh-Samuelson (ed.), *Judaism and Ecology* (Cambridge, MA: Harvard University Press, 2003); Dieter T. Hessel and Rosemary Radford Ruether (eds.), *Christianity and Ecology* (Cambridge, MA: Harvard University Press, 2000); Christopher Key Chapple and Mary Evelyn Tucker, *Hinduism and Ecology* (Cambridge, MA: Harvard University Press, 2000); Mary Evelyn Tucker and Duncan Ryuken Williams, *Buddhism and Ecology* (Cambridge, MA: Harvard University Press, 1998); Mary Evelyn Tucker and John Berthrong, *Confucianism and Ecology* (Cambridge, MA: Harvard University Press, 1998).

tains a respectful and conscious relation to the natural world while examining spiritual, psychological, and philosophical approaches to economic behavior. Classical conceptualizations of early Christianity and Islam presuppose that nature and the environment were associated also with the economic behavior of human beings, one's aspirations toward higher goals, and self-actualization principles. A growing number of Jewish and Christian theologians and scholars have been active in reinterpreting the religious sources of their faiths in order to provide more environmentally sensible definitions. In Islamic studies, a small number of scholars work on the topic of environmental ethics whose ideas have been resurfacing in academic circles,²⁰ indicating that there is room for new approaches and perspectives on those questions, considering also economic variables within such a matrix.

Yet numerous voices within the Islamic tradition designate that economic behavior and social engagements (*mu'āmalāt*) are interconnected with metaphysical qualities of worship (*'ibādāt*). Hence, reading, for instance, the classical Islamic scholarship (e.g. al-Muḥāsibī, al-Ghazālī, Ibn Ṭufayl, etc.)²¹ presupposes that the fields of ethics, economics, and environmental thought were not always separated and divided into categories as they are known nowadays, but rather amalgamated into a cosmological realm, that also permeates law and jurisprudence.²² Such a value paradigm is neither purely metaphysical nor material, but virtuous (*akhlāq*) in essence. Whilst de-sacralization and debasement of nature might lead to the abandonment of moral responsibilities, classical scholars indicate that attitudes toward the environment permeated the entirety of Muslim society, including its social fabric, construction of cities, and questions of spatial proximity.

Key terms found in the Qur'an and addressed by modern Muslim scholars bear significance for environmental and economic thought, such as *tawḥīd* (Unity of God or oneness), *'adl* (justice), *i'tidāl* (moderation), *khilāfa* (stewardship), *akhlāq* (ethics), and *amāna* (trust), yet they remain primarily conceptual

20 On Islam and ecology, see the works of e.g. Fazlun Khalid, Mawil Y. Izzi Deen, Richard C. Foltz, Frederick M. Denny, and Anna Gade, among others.

21 See e.g. al-Muḥāsibī, *Al-Makāsib wa al-Wara'* (Beirut: Mu'assasa al-Kutub al-Thaqāfiyya, 1987); Abū Ḥamid al-Ghazālī, *Iḥyā' Ulūm al-Dīn* (Beirut: Dār al-Nadwah, n.d.), Vol. 2; Ibn Ṭufayl, *Ḥay Ibn Yaqẓān* (Qatar: Kitāb al-Dūḥa, 2014).

22 If we take seriously the proposition that *Sharī'a* encompassed a comprehensive cosmology of human life, it means that knowledge and disciplines were not compartmentalized into separate spheres as it is known in the modern era. See e.g. Wael Hallaq, "Groundwork of the Moral Law: A New Look at the Qur'an and the Genesis of Sharī'a," *Islamic Law and Society*, 16 (2009): 239–279; Wael Hallaq, *The Impossible State* (New York: Columbia University Press, 2012).

and detached from practical applications. By analyzing those terms and contexts in which they emerge, one could possibly establish links between the interconnectedness of the material realm and metaphysical monism, which is important also for understanding the changes in the sociology of knowledge which has been heavily impacted by the onslaught of colonialism in the Middle East from the 19th century onwards. In the context of classical Islamic scholarship, it is evident that the legal, economic, and what we would nowadays call the ecological realm, were an integrative component of the cosmological.²³ Since the Qur'an does not differentiate between natural and metaphysical laws,²⁴ the material and metaphysical environments are infused with ethical reasoning that constitutes the cosmological order. Interoperating classical scholarship with modern theories assumes adopting polyvalent and interdisciplinary hermeneutical lenses. In other words, studying economics and the environment connects multiple disciplines and fuses them through a holistic epistemology. Therefore, the current concepts of environment and economics stem from a specific epistemological reasoning and the politics of power which normalized a particular economic and environmental lexicon in our modern world. Therefore it is important to critically assess these terms and to compare them to other non-European intellectual and religious traditions, including Islamic.

Analyzing traditions which were conscious of holistic attitudes toward the environment, hence also entails the study of human consciousness in and toward the environment. Instead of crafting a new Anthropocene-based environmental paradigm, exploring the possibility of recovering polyvalent (intellectual) traditions is pivotal for critically assessing modern theories of environmental sustainability. Ethics is believed to be spatially and temporally bound,²⁵ and since human actions can significantly disrupt the Earth's functions, environmental sustainability has often been addressed not in the context of the preservation of the inherent value of nature, but more about sustaining our own existence on it as a human race. Aldo Leopold advocates for a "land ethic" in that it "changes the role of *Homo sapiens* from conqueror of the land-community to just plain member of it."²⁶ The deep ecology movement,

23 E.g. Abū Ḥamid al-Ghazālī, *Iḥyā' 'Ulūm al-Dīn*, 4 vols. (Beirut: Dār al-Nadwah, n.d.); Seyyed Hossein Nasr, *An Introduction to Islamic Cosmological Doctrines* (London: Thames and Hudson, 1978), xxi.

24 Wael Hallaq, "Groundwork of the Moral Law: A New Look at the Qur'an and the Genesis of Shari'a," *Islamic Law and Society*, 16 (2009): 261 f.

25 Aldo Leopold, *Sand County Almanac* (Oxford: Oxford University Press, 1989), 224–225.

26 Aldo Leopold, *Sand County Almanac*, 204.

pioneered by Arne Naess,²⁷ advocated for the inherent worth of the living environment and aimed at promoting human consciousness toward nature. Arne Naess proposes a deep questioning of our own understanding and assumptions about nature and the environment, in order to reach beyond an anthropocentric conceptualization of nature and adopt a more eco-centric worldview, which assigns value to all forms of the lived environment.²⁸ Thomas Berry holds that the human community must move away from its anthropocentric norm to a more geocentric value,²⁹ which challenges the mechanistic perception of the universe. Understandably, reservations for each of these theories exist. Yet, a new environmental paradigm would bring together scientists, sociologists, philosophers, and religious experts. What undergirds the dominant trends in environmental ethics and religious studies is an idea of a systemic change that would challenge unsustainable practices in society and alter the current anthropocentric ethos with a worldview that emphasizes a cosmological relationship with nature and the lived environment. The criterion for such a worldview rests upon the effects it would have on the sustainability of the human-nature relationship.³⁰ Despite different philosophical orientations between religious and non-religious worldviews, they might, nonetheless, share the same environmental concerns. While in normative Islamic tradition a responsible attitude toward nature is bound to the concept of *khalifa* or stewardship—discussed also in many works in Islamic ecology—deep ecology sees inherent worth of all living beings. Both theories could be portrayed through a set of guidelines that persist on penetrative questioning and critique of utilitarian subjugation of nature. The stewardship concept is theocentric, while deep ecology and other contemporary environmental ethical theories advocate for an integrative perception of humans as an interconnected element within the lived environment. Despite the different intellectual orientations between these worldviews, they nonetheless partake in the discussion on environmental ethics by questioning pervasive economic models. While those theories differ and are at times bound to opposing epistemological reasoning,

27 Arne Naess, *Ecology, Community and Lifestyle* (Cambridge: Cambridge University Press, 1989); Arne Naess, *Ecology of Wisdom* (Berkeley: Counterpoint, 2008); Arne Naess, *Life's Philosophy* (Athens & London: The University of Georgia Press, 2008); Nina Witoszek and Andrew Brennan (eds.), *Philosophical Dialogues Arne Naess and the Progress of Ecophilosophy* (Lanham, Maryland: Rowman & Littlefield Publishers, 1999).

28 Arne Naess, *Ecology, Community and Lifestyle*, 105 ff.

29 See Thomas Berry, *The Dream of the Earth* (San Francisco: Sierra Club, 1988).

30 Eric Reitan, "Pragmatism, Environmental World Views, and Sustainability," *Electronic Green Journal*, Vol. 1 No. 9 (1998), Retrieved from <https://escholarship.org/uc/item/oth496m4>.

they are similar in their search for integrative social and cosmological structures with a common goal to achieve an alternative notion of sustainability. Vistas to achieve such a goal are therefore multiple and pluralistic, as is the very subject of this volume. The call for a recovery of neglected past and modern environmental and economic conceptualizations hence also entails a new vision of the *self* that is part of the natural order.³¹

2 Background of the Edited Volume

Recovering Environmental and Economic Traditions in the Islamic World analyzes under-researched intellectual accounts of environmental and economic thought in the classical Islamic tradition and in selected contemporary case studies. Analyzing both pre-modern and contemporary Muslim discourses on environmental and economic questions assist us in understanding the intertwined nature of these multifaceted approaches to, and processes within, the lived environment.

The volume is the result of two international workshops, “Religion, Environment, and Economic Traditions—Refining an Epistemology of Moral Accountability” organized by the Institute for Religion, Culture and Public Life at Columbia University in New York in March 27–28, 2019,³² and the Muslim Studies Program 13th Annual Conference “Islam, Environmental Science and Conservation” held at Michigan State University in October 15–16, 2020.³³ While the first workshop looked at and beyond the cluster of approaches and convergences of environmental and economic theories within religious and intellectual traditions, the second workshop specifically addressed environmental questions in the Muslim world and their possible ethical applications. Drawing from recent work on environmental humanities, anthropology, religious studies, and Islamic studies, among other fields, the participants in both workshops asked if and how economic and environmental discourse must be symbiotically entwined with ethical restructuring of human behavior if systemic

31 Arne Naess, *Ecology, Community and Lifestyle*, 81f.

32 “Religion, Environment, and Economic Traditions—Refining an Epistemology of Moral Accountability” workshop, IRCPL, Columbia University, <https://www.ircpl.columbia.edu/events/archive/religion-environment-and-economic-traditions-refining-an-epistemology-of-moral-accountability>, accessed October, 2022.

33 Muslim Studies Program 13th Annual Conference “Islam, Environmental Science and Conservation”, Michigan State University, <https://muslimstudies.isp.msu.edu/muslimstudies/events/?id=51359>, accessed October, 2022.

changes of current political and economic systems are to occur. This assumes that it is not about making sustainable environmental-economic philosophy work with religion, but rather reconsidering the very conditions of possibility.

The multivalent nature of environmental and economic issues and conceptual approaches that this volume addresses are in academic literature often studied in an unassociated fashion. Hence, the essays in the volume invite us to think across the boundaries of respective intellectual traditions in order to conceptualize the varied historical trajectories and modern schools of thought on environmental and economic discourses while simultaneously exploring their ethical application as a tool of critique. This helps situate the discourse on environmental and economic thought in a broader context as a means to think of those modalities, terms, ideas, and concepts as fluid, interrelated, and enmeshed with multifarious political, ethical, and cosmological perspectives and vistas.

The authors' diverse perspectives, guided by their respective areas of expertise are meant to stimulate thinking of histories, theories, and materialities of environmental and economic accounts across disciplines and fields. Contributors come from different disciplinary backgrounds, ranging from Islamic studies, religious studies, environmental humanities, and anthropology, employing manifold methodological and theoretical frameworks and approaches. The overarching theme integrates all the papers through the concept of *recovery* as an ethical tool. Among others, the volume covers the topics of classical economic and environmental thought in the Islamic tradition; environmental/green policies in the Middle East; usury in the eco-halal industry; ethical approaches to climate change in Senegal; the role of water in Islamic tradition, and material effects of economic growth and environmental degradation. The contributors in this volume analyze and try to *recover* sustainable approaches, ethical theories, and propositions, while rethinking past and present modalities of recovery themselves. Instead of simply collecting heterogeneous chapters organized around a particular theme, by bridging diverging fields and time periods, one of the aims of this collection of essays is to approach the above-mentioned areas from multifaceted perspectives that explore classical and modern attitudes to the lived environment and the concepts of nature and earning, by introducing epistemologies of recovery as employing, installing, rediscovering, and reinterpreting multiple ethical and intellectual accounts in Islamic thought and practice. This volume hence intends to both challenge and complement the existing literature on ethics, environment, and economics in Islamic studies by reaching beyond the field of "religion and ecology". It invites us to think of environment and economic thought not through purely scientific, political, or spiritual lenses alone, but rather as multifaceted disci-

plines whose ontologies are permeated with broad-ranging forms of knowledge.

The above theoretical propositions were framed in a set of guiding questions which were the primary points of engagement for the participants. Some of the questions that the papers in the volume pose are: "Is there a religiously stipulated reading/understanding of nature, environment, and economic engagement in Islamic traditions?"; "How to think of economics and environment as interrelated and ethical concepts?"; "What is the contribution of the Islamic tradition to environmental consciousness, and what are current environmental predicaments in Muslim societies?"; "What influence does Islamic scholarship exert on fighting against climate change, and through what body of knowledge could this work be done?"; "What kind of systemic changes does this shift entail on political, social, and legal levels?"; "How does the study of nature and environment correspond to the societal, political, and especially economic issues in postcolonial society?"; and "To what extent is contemporary environmental ethics informed by the dominant forces within Euro-American intellectual discourses?"

3 Structure of the Volume

The volume is divided into two parts. The first part discusses classical economic and environmental thought in Islamic traditions, while exploring the notion of a cosmological approach toward the environment. In the first section, Sami Al-Daghistani in "On *Tazkiya* and *Zakāt al-Nafs*: Decolonizing Modern Economic and Environmental Thought" interrogates the concepts of *tazkiya* and *zakāt al-nafs* in light of classical and modern economic-environmental theories, as well as asks how to decolonize mainstream economics. Waleed El-Ansary in "Islamic Environmental Economics and Sciences of Nature" examines environmental economics and the Islamic sciences of nature through metaphysical and cosmological doctrines, while Katharina Ivany's article "*Iqtiṣād* in Pre-modern and Early Modern Islamic Thought" critically assesses the notion of *iqtiṣād* in pre-modern and early-modern Islamic history. The second part investigates contemporary examples of Muslim environmentalism and economic participation. Firstly, Natana Delong-Bas' article "Islamic Resources for Water Conservation and Management," which discusses resources for water management, considering both classical Islamic textual sources and modern approaches to water management. Sarah Robinson's paper "Borrowing against the Future: Is Ecological Usury Changing the Climate?," analyzes the impact of usury in the eco-halal industry, and finally Jonathan Brockopp's text on "Sene-

galese Responses to Climate Change: An Ethical Analysis,” engages with the environmental and climate change discourse in contemporary Senegalese society.

The themes and topics in the volume aim to inform the reader about human contiguity with and continuity toward economic and environmental questions across varied intellectual spaces. The aim of the volume is not so much about what one can or should do to mitigate climate change, curtail economic development, or employ religious ethic. Rather, we hope, it will lay the ground for engagement with intellectual landscapes across Islamic thought and practice, in an effort to better grasp the complexities of pre-modern and contemporary interventions on economic and environmental philosophies.

PART 1

*Premodern Islamic Environmental
and Economic Thought*



On *Tazkiya* and *Zakāt al-Nafs*: Decolonizing Modern Economic and Environmental Thought

Sami Al-Daghistani

It is not wealth that stands in the way of liberation but the attachment to wealth; not the enjoyment of pleasurable things but the craving for them.

E.F. SCHUMACHER, *Small is Beautiful*, 57



Introduction

This paper analyzes the prevalent hegemonic methods of economic (and environmental) thought and their epistemological untranslatability to classical Islamic discourses. Firstly, I survey the modern field of economics and the idea of “progress” as it was devised by some of the leading classical economic schools in Euro-America, as well as environmental humanities. While environmental humanities is a rather recent development, it carries some of the similar and persistent issues of knowledge production as does modern economic science. I argue that modern manifestations of economic and environmental rationality based on the idea of “progress” and “sustainability” are chiefly mechanistic and devoid of ethical fiber that reflects a multifaceted ontology of economic and environmental ideas found in other non-European histories, for instance, in the Islamic intellectual traditions. These modern manifestations and methods are part of larger socio-political visions that measure ideas of economic progress and sustainable development not between the “developed north” and the “developing south”, but between those theories that are rooted in scientific reasoning and those that are frivolously regarded as metaphysical or ethical and hence non-scientific.

Against the backdrop of modern economic and environmental theories (which have also been, to an extent, adopted by many modern Muslim scholars), I consider a series of economic and environmental advancements of

knowledge production from the classical (roughly between 8th and 15th centuries) and modern periods in the Islamic traditions that necessitate non-material and ethical conception of production processes. Despite the formal decolonization of many Muslim-majority countries, the persistent policies of economic progress and “sustainable Orientalism”¹ endure in refreshed forms in Muslim societies. If the transmission of modern conceptions of progress and sustainability to non-Western contexts is justified by the distortion and manipulation of the latter’s political environments and local cultures, such a process eventually frames local discourses as marginal, less developed, unscientific, and in need of corrective tutelage from the dominant, that is, Euro-American discourse.

Since economics and environment are conceptually integrated terms (not only in classical Islamic milieu but also in other pre-modern traditions, including Ancient Greece, where *oikos* referred to family, its property, and household, from which both “economics” and “ecology” derive), I propose to study them as interconnected entities in the context of a few select pre-modern texts based on *tazkiya* and its derivative *zakāt al-naḥs* as the purification of the self (*naḥs*). Pre-modern sources might present a challenge of how to negotiate these sources with contemporary financial and ecological concerns. Analyzing classical sources, however, also provides incentives on how to study economic and environmental ethics from the perspective of intellectual history, ethical psychology, and, more broadly, metaphysics. Such a process requires, *inter alia*, a grasp of both the complexities of the contemporary world and the historical context of the Islamic intellectual legacy. By reading several Muslim scholars on economic and environmental thought, both classical, e.g. al-Muḥāsibī’s *al-Makāsib wa al-Waraʿ*, al-Rāghib al-Iṣfahānī’s *Kitāb al-Dharīʿa ilā Makārim al-Sharīʿa*, Abū Ḥāmid al-Ghazālī’s *Ihyāʾ*, and Ibn Ṭufayl’s *Ḥayy ibn Yaqẓān*, and modern, the two concepts—“economics” and “environment”—seem not only interdependent and closely intertwined, but also enmeshed in what I call the idea of holistic accountability through *tazkiya*, in that it pertains to one’s wholesome outlook toward nature and environment, linked to the physical substratum as well as to the celestial realm.²

1 For more on the term “sustainable Orientalism,” see Ernesto Valero Thomas, “Sustainable Orientalism: Hegemonic Discourses for Environmental Sustainability and Their Transmission to Non-Western Habitats,” *Critical Planning*, 22 (2015): 135–151, accessible at <http://dx.doi.org/10.5070/CP8221025632>.

2 See e.g. Y. Tzvi Langermann, “Arabic Cosmology,” *Early Science and Medicine*, Vol. 2, No. 2, *Medieval Cosmologies* (1997): 185–213.

Recent literature on Islamic economics³ has concentrated primarily on Islamic banking and finance. Its proponents have either depicted it as an alternative economic system or connected it to the pervasive conceptual frameworks of economics and social sciences as they developed in early modern Europe. Such labeling sheds light on a deeper problematic of how Islamic economics is conceived as a field.⁴ Similar is the case with the so-called “Islamic environmentalism,” which has been gaining spotlight. Already in the early 20th century, Muhammad Iqbal in *Reconstruction of Islamic Thought*⁵ attempted to devise a theological ecology based on his metaphysical system of *khudi* (self). For some scholars, Islamic environmentalism is an umbrella term that encompasses various fields, including ethics, theology, and Islamic law; land-water resource management and nature conservation; mystical-philosophical thought or eco-philosophy; socio-political reform (Eco-Islamist); Green lifestyles (Green Deen); and Islamic economics and finance.⁶ Islamic environmentalism emphasized the relevance of Islam for nature conservation and environmental protection. While authors such as Fazlur Khalid⁷ in his exposition on environment and nature criticizes the global economic and finance systems—seen as the root cause of the ecological crisis—the field does not necessarily provide critical reevaluation of contemporary Muslim discourse on economics and environment, their worldview, and their main paragons. In the last few decades, the literature on Islamic environmentalism focused on various aspects of religious approaches to nature, ecology, and resource allocation, and includes the works by Seyyed Hossein Nasr⁸ and his cosmological understand-

3 For some of the modern theories on Islamic economics, see the works by e.g. Mohammad Nejatullah Siddiqi, Ahmed Mohamed Khan, Ahmed Fakhim Khan, Masudul Alam Choudhary, Monzer Kahf, and others.

4 For instance, Mannan argues, “Islamic economics is a social science which studies the economic problems of the people imbued with the values of Islam” while Khan states that “Islamic economics aims at the study of human *falāh* (well-being), achieved by organising the resources of the earth on a basis of co-operation and participation”. See Muhammad Abdul Mannan, *Islamic Economics: Theory and Practice* (Sevenoaks, Kent: Hodder & Stoughton, 1986); Muhammad Akram Khan, *An Introduction to Islamic Economics* (Islamabad: International Institute of Islamic Thought, 1994).

5 Muhammad Iqbal, *Reconstruction of Islamic Thought in Islam* (Stanford: Stanford University Press, 2013).

6 For a variation of these fields, see e.g. A.M. Schwencke, “Globalized Eco-Islam, A Survey of Global Islamic Environmentalism,” Draft, Leiden Institute for Religious Studies (LIRS), Leiden University, 2012.

7 Fazlun Khalid (ed.), *Islam and the Environment* (London: Ta-Ha Publishers Ltd., 1998).

8 Seyyed Hossein Nasr, *Man and Nature* (London: Unwin Hyman Limited, 1990).

ing of nature as sacred, Mawil Izzi Dien's⁹ study of nature in the Qur'an, and various other contributions within the broader field of "Religion and ecology".¹⁰ Some of those perspectives can be designated as belonging to the Islamization of knowledge process,¹¹ which posits a critique of modernity but also advocates for Islam's compatibility with modern knowledge. Often, however, such theories nurture a cyclic and self-perpetuating narrative of an alleged "authentic" Islamic economic and environmental philosophy, by solely relying on the notion of *tawhīd* as an all-encompassing tool to explain human role in society. Furthermore, in the past decade, a "green shift" has been taking place in the Middle East and North Africa, whereby various states have introduced more environmentally friendly approaches to tackle climate change.¹² The significance between economics and environment is also visible in the emergence of the field of ecological economics.¹³ Yet, the physical and immaterial transactions between nature and the economy have always been centered on the human production and consumption. Hence, discussions on environment and economics are often disassociated from metaphysical considerations in line with the anthropocosmic dimension,¹⁴ which perceives nature and humans as cosmologically linked entities, a phenomenon that can be found also in pre-modern Islamic tradition.

This paper is divided into three parts. In the first part, I briefly present history of economics and its scientific reasoning, as well as the emergence of the field of environmental humanities. The second part introduces *tazkiya* (and *zakāt al-naḥs*) through the idea of purification of the self and holistic accountability, whereas in the third part, I consider the possibility of applying these ideas through the process of decolonization of economic and environmental thought.

9 Mawil Izzi Dien, *The Environmental Dimensions of Islam* (Cambridge, UK: Lutterworth Press, 2000).

10 For more on the Religion and Ecology platform, see the Yale Forum on Religion and Ecology, accessible at <https://fore.yale.edu>.

11 There are at least two variations or strands within this project—the conceptual Islamization by Muhammad Naquib al-Attas and the Islamization of disciplines by Ismail al-Faruqi.

12 Some of those projects are the solar panel project and the green mosque initiative in Amman, Jordan and in Marrakesh, Morocco, the Benban Solar Park in Aswan, Egypt, and the Saudi Arabian solar megaproject funded by the SoftBank and the Saudi Public Investment Fund.

13 For more on ecological economics, see e.g. Inge Ropke, "The Early History of Modern Ecological Economics," *Ecological Economics*, Vol. 50, Issue 3–4 (2004): 293–314.

14 William C. Chittick, "The Anthropocosmic Vision in Islamic Thought," in *God, Life, and the*

1 The Prevalent Economic and Environmental Theories

1.1 *Economics*

In the modern world “Economics takes place not just as an academic discipline, but in the design and marketing of goods, in the calculations and forecasting of reserve banks and investment houses, in the case studies of business schools and law schools, in the programs of political think tanks, and in the policies of international development organizations.”¹⁵ Understanding the works of economics requires a critical assessment of its major postulates and concepts and investigating its historical association with other sciences. I begin then by outlining how economics emerged in early modern Europe and how it was devised based on mechanisms of natural sciences, especially biology and physics. Conceptual formulations from natural sciences were used in economics, which defined individual choice theory, the notion of economic growth, and the very concept of utility. Perceptions of economics as a distinct science is a rather recent development that can be linked to late 19th and 20th centuries. Economics as laid out by Ancient Greek philosophers, such as Aristotle, however, had a very different connotation that bears some resemblance with classical Muslim scholars’ exposition of earning as a wholesome development of a character. For Aristotle, the individual human action of using wealth is what constitutes the economic dimension. The purpose of economic action is to use things that are necessary for life (survival) and for the “good life” (flourishing). The good life is the moral life of virtue through which human beings attain happiness. Observing that human nature has capacity pertaining to its dual material and spiritual character, Aristotle explains that economics is an expression of that dual character. The economic sphere is the intersection between the corporeal and mental aspects of the human person. Aristotle informs us that, ontologically, economic operations are inextricably related to morality and politics.¹⁶

In early modern Europe, political economy was initially a branch of moral philosophy. Yet, economic development has been the prime concern of economic science from its very inception. It is the Enlightenment and utilitarian

Cosmos, eds. Ted Peters, Muzaffar Iqbal, Syed Nomanul Haq (London: Routledge, 2002): 125–152.

15 Timothy Mitchell, “The work of economics: how a discipline makes its world,” *European Journal of Sociology / Archives Européennes de Sociologie / Europäisches Archiv für Soziologie*, Vol. 46, No. 2 (2005): 297–320, 298.

16 For more see, Aristotle, *Nicomachean Ethics* (Cambridge: Cambridge University Press, 2000); Aristotle, *Politics* (New York: The Modern Library, 1943).

philosophy that profoundly shaped the science of economics as we know it nowadays. Even though neoclassical economists refer to Adam Smith as their predecessor, Smith and his followers were also concerned about moral issues and the norms of good social behavior.¹⁷ Smith uses the term economy in the context of frugality of resources: “Capital has been silently and gradually accumulated by the private frugality and good conduct of individuals ... It is the highest impertinence and presumption ... in kings and ministers, to pretend to watch over the economy of private people.”¹⁸ 18th-century political economy was not focused on structures of exchange or production within an economy, but rather with the circulation of goods pertaining to the very household of the monarch. In the 19th century, however, the economists distanced themselves from the theory of the household.¹⁹ The break in economy happens in 1870 and the so-called marginal utility theory as “the analysis of economic phenomena as the interaction of buyers and sellers seeking to maximize their individual values or utilities.”²⁰ Terms and concepts borrowed intact from physics—such as equilibrium, expansion, stability, inflation, distribution, movement, etc.—emerged, indicated a new discipline. One of the main concepts of economics was individual utility, which was modeled according to the idea of energy in physics.²¹ Mitchell informs us that these individual utilities were meant to be balanced in order to achieve an equilibrium. Then “the market” was introduced, which was different from the market of the city as put forward by Marx or Smith, in that it was linked to an abstract and mathematically constructed concept.²²

Arguably, one could state that Smith, as a moral philosopher by training, has more in common with the pre-modern Muslim scholars than with the neo-classical economists of the day who claim Smith to be the father of modern economics. The transformation of economics into an independent science was responsible for the rise of positive economics as an analysis of the facts of how markets operate at the expense of normative economics, which is primarily concerned with social rights by examining how markets ought to operate. In

17 See Adam Smith, *The Theory of Moral Sentiments* (MetaLibri, electronic edition, 2005).

18 Adam Smith, *Wealth of Nations* (MetaLibri, electronic edition, 2007), 270.

19 Lionel Robbins described the very subject matter of Economics as a “human behaviour conceived as a relationship between ends and means.” Lionel Robbins, *Essay on the Nature and Significance of Economic Science* (London: Macmillan & Co., 1932), 21.

20 Timothy Mitchell, “Origins and Limits of the Modern Idea of the Economy,” Draft, November 1995, 13, accessible at <https://blogs.cuit.columbia.edu/tm2421/all-articles-by-subject/>.

21 Timothy Mitchell, “Origins and Limits of the Modern Idea of the Economy,” 13.

22 See Léon Walras, *Éléments d'économie politique pure, ou théorie de la richesse sociale* (Paris, Lausanne: 1926).

classical utilitarianism, the summum bonum was individual happiness according to pleasure and pain. A moral agent should then pursue actions that generate the greatest happiness for the greatest number of people.²³ In modern utilitarianism this pursuit could easily be explained in terms of preference satisfaction. The benefit-cost analysis stems from Bentham's utilitarianism, in that it calculates the utility of an economic process as a rational principle based on impartiality.²⁴

Neoclassical economic theories play out in affirming the position of a natural man as a rational and autonomous subject that seeks to maximize utility, which became the core constituent of mainstream ideas reflected in the canonical literature on economics.²⁵ Such an approach was to be found in scientific theories of physics²⁶ and evolutionary biology,²⁷ since pioneering economists, such as William Stanley Jevons (d. 1882) and Léon Walras (d. 1910), drew their economic presuppositions in accordance with Isaac Newton's (d. 1727) theory of physics. Jevons's approach to the natural sciences was based on a belief in the mechanical constitution of the universe and scientific knowledge. The adaptation of economic theory to natural sciences has been framed within the terms of individual self-assertion and competition, which modeled the existence of (socioeconomic) equilibrium, found in the (neo)classical economic theories, too.²⁸ Mainstream economic worldview as we know it nowadays, has been

23 Jeremy Bentham, *An Introduction to the Principles of Morals and Legislation* (Kitchener, Ontario: Batoche Books, 2001), 39. Peter Singer, *Animal Liberation: A New Ethics for our Treatment of Animals* (New York: HarperCollins, 2009).

24 "In the name of impartiality, utilitarianism has been expressed in a non-anthropocentric form on the grounds that non-human animals also have preferences—especially in not being made to suffer unnecessarily—and interests in satisfying those preferences. Discriminating on the basis of species is as irrational as discriminating on the basis of race or religion—or so goes the argument for "animal liberation," the utilitarian form of animal ethics." J. Baird Callicott, "Environmental Ethics in the Anthropocene," *Transtext(e)s Transcultures, Journal of Global Cultural Studies* 跨文本跨文化, 3 (2018): 1–20, 10.

25 On the other hand, gratefulness is part of *Sharī'a*'s conception of social responsibility. See Wael Hallaq, *The Impossible State* (New York: Columbia University Press, 2013), 150–151.

26 For more, see Harro Maas, *William Stanley Jevons and the Making of Modern Economics* (New York: Cambridge University Press, 2005). Walras provided the general equilibrium theory and amoral definition of economic utility, wherein value is independent of the common meaning of utility. See Léon Walras, *Éléments d'économie politique pure, ou théorie de la richesse sociale* (Paris, Lausanne: 1926).

27 See John Searle, *Social Construction of Reality* (New York: The Free Press, 1995); John Searle, *Making the Social World* (Oxford: Oxford University Press, 2010); see also Tony Lawson, *Reorienting Economics* (London and New York: Routledge, 2003), 110–123.

28 The invisible hand of market, which raises the question of individual pursuits and the lack of moral limitations, is one of the most important components of Western economics.

informed by the scientific developments within a particular worldview of early modern Europe, thereby also espousing its biases, miscomprehensions, and errors.²⁹ In addition to its multiple subdivisions and mathematical models,³⁰ mainstream economic worldview grounds its analysis and economic outlook in a particular experience of history and societies.

Despite the many facets of economic sub-theories, the prevalent theory in the so-called orthodox or mainstream economics is rooted in liberal philosophy and neoclassical tradition of economics, advocating for individual gains, free markets, and rational choice theory. Mainstream or orthodox economics is the body of knowledge and economic models taught by universities worldwide that are generally accepted by economists, sometimes referred to as “Economic Imperialism”.

Economics is not only a social science, it is a genuine science. Like the physical sciences, economics uses a methodology that produces refutable implications and tests these implications using solid statistical techniques. In particular, economics stresses three factors that distinguish it from other social sciences. Economists use the construct of rational individuals who engage in maximizing behavior. Economic models adhere strictly to the importance of equilibrium as part of any theory. Finally, a focus on efficiency leads economists to ask questions that other social sciences ignore. These ingredients have allowed economics to invade intellectual territory that was previously deemed to be outside the discipline's realm.³¹

See Adam Smith, *Wealth of Nations*, electronic edition, MetaLibri, 2007; Lionel Robbins, *An Essay on the Nature and Significance of Economic Science* (New York: St. Martin's Press, 1962).

- 29 As an example, neoclassical economic science studies utility in a mechanical manner, while reducing needs to wants. See e.g. Ezra J. Mishan, *Economic Myths and the Mythology of Economics* (Atlantic Highlands, New Jersey: Humanities Press International, 1986); Mark Lutz and Kenneth Lux, *Humanistic Economics: The New Challenge* (New York: The Bootstrap Press, 1988). See also Diana Strassmann, who states “To a mainstream economist, theory means model, and model means ideas expressed in mathematical form.” Diana Strassmann, “Feminist Thought and Economics; or, What do the Visigoths Know?” *American Economic Review*, Vol. 84, No. 2 (1994): 153; Syed Farid Alatas, *Alternative Discourses in Asian Social Science: Responses to Eurocentrism* (London: Sage, 2006).
- 30 Tony Lawson, *Reorienting Economics* (London and New York: Routledge, 2003), 54–55, 73.
- 31 Edward P. Lazear, “Economic Imperialism,” *The Quarterly Journal of Economics*, Vol. 115, Issue 1 (2000): 99–146.

Such theories echo the conventional idea of the economy. Mitchell states that economists

simply hope to find more sophisticated and accurate techniques for representing it. This commitment appears to distinguish them from an older and more radical critique developed on the fringes of and outside professional economics, which calls for the conventional idea of the economy to be abandoned. This kind of criticism has been driven by the new social movements that emerged in the late 1960s and 1970s, particularly the environmental movement (Daly 1991, Daly and Cobb 1994, Group of Green Economists 1992, Henderson 1978)-but there have also been important feminist, developmentalist, minority, working-class, and other critiques of how mainstream economists portray the economy (Haq 1995, Schwab 1994, Waring 1988).³²

Yet, apart from measuring the GDP, the economy is not represented in a way that can account for the value of personal health or the preservation of the environment. And despite the various theories and approaches within the discipline of economics, its proponents nonetheless retain the idea of “the economy” as a distinct ontology and an object whose elements form a dynamic system that is separable from other systems and can be identified and measured in their entirety. We now take the economy for granted, referring to the self-contained structure or totality of relations of production, distribution, and consumption of goods and services within a given geographical space, yet the very idea of the economy dates only from the second quarter of the 20th century.

Many of the post-colonial states (including Muslim-majority countries) adopted the prevalent understanding of economics and the very idea of economic growth as a leading feature of economy and the idea of progress. Economics nowadays represents a discursive order and a particular neoclassical ideology. Such a view clearly treats the modern world according to its material reality.

The proliferation of models, statistics, plans, and programs of economic discourse all claim to represent the different elements and relationships of a real object, the national-economy. Yet this object, as one could show at length, is itself constituted as a discursive process, a phenomenon

32 Timothy Mitchell, “Origins and Limits of the Modern Idea of the Economy,” 6.

of values, representations, communications, meanings, goals, and uses, none of which can be separated from or said to pre-exist their representation in economic discourse.³³

Economic development must, however, be analyzed in tandem with other discursive traditions, not least, political, social, philosophical, and environmental. Links between economy and environment are manifold: for instance, environment provides resources to economy, and acts as a recipient for emissions and waste. The type of environmental problems that contemporary societies are facing are largely the result of industrialization and colonial modernity, meaning they are recent developments. Economics is, in any society, about people's way of acquiring a living and about the behaviors and activities related to their livelihood. Similarly, modern debates on environment and sustainable development do not always include the relationship between human attitudes and their exposition toward the lived environment, pertaining also to the growing concerns about ecological deterioration and issues of economic quality. Some of these issues were addressed also within the field of environmental humanities.

1.2 *Environment*

Environmental studies is a multidisciplinary academic field which studies the human interaction with the environment.³⁴ As a modern discipline, environmental studies covers diverse principles from the physical sciences, economics, the humanities, and social sciences in order to address complex environmental issues in the contemporary period. The field encompasses study in basic principles of ecology and environmental science, as well as associated subjects such as philosophy (ethics), geography, anthropology, politics, education, law, economics, philosophy, sociology, and others. The very term environment incorporates a range of issues, including more localized issues such as pollution control, waste-, water-, resource- and energy management and nature conservation, as well as global issues such as energy security, biodiversity, and climate change. Environmental discourse also incorporates social justice, human development, poverty alleviation, governance, and economic

33 Timothy Mitchell, "Origins and Limits of the Modern Idea of the Economy," 30.

34 For more on interdisciplinarity in environmental studies, see e.g. Robert Emmett and Frank Zelko (eds.), "Minding the Gap: Working Across Disciplines in Environmental Studies," *RCC Perspectives* 2014, no. 2. doi.org/10.5282/rcc/6313. On the history of Association for Environmental Studies and Sciences, see <https://aessonline.org/about-aess/history/>, accessed Oct 31, 2022.

systems.³⁵ In Euro-America and the rest of the “developed world,” however, mainstream environmental discourse has largely been a secular affair based on dominant voices within ecology and natural sciences until the development of an increasingly popular (sub)field, namely environmental humanities. The discipline of environmental humanities as an interdisciplinary area of research that draws on sub-disciplines in the humanities, including environmental philosophy, religion and ecology, environmental history, environmental literature, and environmental anthropology, has been growing since the 1970s, building also on seminal works from the late 19th century thinkers, such as Henry David Thoreau, Aldo Leopold, Kathleen D. Moore, George Perkins,³⁶ and others. More accurately, a group of Australian researchers introduced the term “ecological humanities” in the 1990s. Since then, various books have been written, journals launched, and academic programs initiated within the field.³⁷ Environmental humanities is based on multifold philosophical and ethical theories, some of which, however, have been Eurocentric. One of the more recent developments is that it has started paying attention not only to Western but also to indigenous, postcolonial, and feminist scholars who have helped define the field. Such voices in environmental humanities suggests that concepts such as “nature”, “environment”, and “culture” surpass the dominant, white, and Euro-American-centric viewpoints and question what constitutes the very essence of “nature”.³⁸ Given that environmental humanities was shaped by postcolonial thought, it can challenge the persistent anthropocentric and Eurocentric methodological and epistemological assumptions that ought to include also pre-modern, non-European discourses, perspectives, and ideas on environment and nature, including those from the Islamic intellectual traditions, which have been largely marginalized.

35 See Schwencke, “Globalized Eco-Islam, A Survey of Global Islamic Environmentalism,” Draft, Leiden Institute for Religious Studies (LIRS), Leiden University, 2012.

36 Henry David Thoreau, *Walden* (Walden Pond, MA: Internet Bookmobile, 2004); Aldo Leopold, *A Sand County Almanac* (Oxford University Press, 1966); George Perkins, *Man and Nature* (London, Sampson Low, 1864).

37 See e.g. Robert S. Emmett, *The Environmental Humanities: A Critical Introduction* (Cambridge, MA: MIT Press, 2017); Sharon E. Kingsland, *Modeling Nature* (Chicago: Chicago University Press, 1995); *Environmental Humanities* journal published by Duke University Press, accessible at <https://read.dukeupress.edu/environmental-humanities>; “The Environmental Humanities at UCLA,” accessible at <http://environmental.humanities.ucla.edu>; “The Association for the Study of Literature and Environment,” accessible at <https://www.asle.org/discover-asle/vision-history/>; etc.

38 Robert S. Emmett, *The Environmental Humanities: A Critical Introduction* (Cambridge, MA: MIT Press, 2017).

Furthermore, the Middle East and North Africa is in the contemporary period frequently portrayed not as natural habitat and one of the earth's terrestrial biomes but as a place of destruction, conflict, and aberration—and hence aligned with environmental orientalism and a construction of a particular presentation of its natural habitat.³⁹ The existing scholarship on the environment in the Middle East has often omitted theories that focus on a holistic understanding of the lived environment through the notion of human accountability, whereby economic and environmental concerns coincide with ethical subjectivity, and hence maintained a particular hierarchy of knowledge. This brings into question the dominant environmental (and economic) imaginaries of how representation of nature has become a model and a norm for what we call nature itself. As we shall see in the following subchapter, various classical and modern perspectives from Islamic intellectual history raises doubt about the apparent division between the physical and the metaphysical realms, the material and the non-material, the realm of ideas and the realm of natural facts.

As a subfield of environmental humanities, environmental ethics⁴⁰ may be defined as a set of norms describing how man should behave toward the natural environment and its resources. These sets of norms are often drawn from particular moral values. Modern environmental issues are inextricably linked to economic, social, and cultural factors. These are associated with the prevailing economic and environmental patterns that are for some scholars unsustainable, generated and nurtured by modern societies.⁴¹ Environmental ethics consist of three major viewpoints: anthropocentrism, biocentrism, and ecocentrism.⁴² Anthropocentrism is a philosophical form and an ethical belief indicating that humans alone possess intrinsic value. The opposite of anthropocentrism is biocentrism, positing there is another equally important dimension to evaluate than simply human interest, whereas ecocentrism suggests that all living organisms and their natural environment possess intrinsic

39 Timothy Mitchell, "Afterword: Are Environmental Imaginaries Culturally Constructed?," *Environmental Imaginaries of the Middle East and North Africa: History, Policy, Power, and Practice*, ed. Diana Davis and Edmund Burke (Ohio University Press, 2011), 266.

40 For introductory theories on environmental ethics, see e.g. Andrew Light and Holmes Rolston III (eds.), *Environmental Ethics: An Anthology* (Malden, MA, USA: Wiley-Blackwell, 2002); Allen Thompson and Stephen M. Gardiner (eds.), *The Oxford Handbook of Environmental Ethics* (Oxford: Oxford University Press, 2017).

41 See for instance, John Foster (ed.), *Valuing Nature? Ethics, Economics and the Environment* (London and New York: Routledge, 1997).

42 See e.g. Kopnina, H., Washington, H., Taylor, B. et al., "Anthropocentrism: More than Just a Misunderstood Problem," *Journal of Agricultural and Environmental Ethics*, 31 (2018): 109–127, <https://doi.org/10.1007/s10806-018-9711-1>.

value, regardless of their perceived usefulness or importance to human beings. Some scholars regard that the emergence of sustainability science has created both opportunities and challenges for the field of environmental ethics. On the one hand, it can foster socio-ecological relationship through its normative character. On the other, however, more traditional non-anthropocentric ethics will be not easily reconciled with sustainability's emphasis on science and its anthropocentric vision of human well-being. That includes not only maintaining appreciation for natural habitats but also valuing the lifeworlds of the non-human environment in how ecological systems are preserved, since the focus of conservation has primarily been for the human benefit. One way to reconcile scientific and ethical theories, as well as to counter individualism and Eurocentric bias in economic and environmental discourse, might be found in classical scholarship and its epistemology of self-accountability that was explicated by numerous pre-modern scholars.

2 *Tazkiya* and Pre-modern Economic and Environmental Thought in Islamic Tradition

A fundamental pillar of our moral practices in modern societies seems to be to hold others and ourselves responsible for actions and the consequences of these actions. The term accountability itself is closely related to responsibility and has several meanings in the modern vocabulary, including in psychological and philosophical literature. According to the American Psychological Association dictionary of psychology, accountability is “the extent to which an individual is answerable to another (e.g., a supervisor, official review body, a group of peers) for his or her behavior, decisions, or judgments.”⁴³ Already Aristotle, however, thought of moral responsibility as originating with the moral agent, which develops out of one's ability to rely on reason and has awareness of consequences of one's actions.⁴⁴ The preconditions to responsibility, then, are the acts of awareness of action, moral valence, and consequences. Accountability is about delivering a commitment and having responsibility for actions or holding another human being responsible for their actions. In this context, I address *tazkiya* as a process of self-purification and all-encompassing accountability with links to economic and environmental discourse in pre-modern Islamic traditions.

43 American Psychological Association dictionary of psychology, see <https://dictionary.apa.org/accountability>.

44 For Aristotle's theory of moral responsibility, see Aristotle, *Nicomachean Ethics* (Cambridge: Cambridge University Press, 2000), part three.

2.1 On Tazkiya

Drawing from several classical scholars, economic interactions appear to be embedded in the very environmental habitus, based on the Qur'anic metaphysics,⁴⁵ from which it derives its religious meaning and value. I have showed elsewhere in more detail that economic thought, as put forward by several classical scholars and jurists, was founded on the idea of the ethical self.⁴⁶ The focus on this section, however, is to introduce a few select texts and scholars who resorted to philosophical and Sufi conceptualizations of *tazkiya* and *zakāt al-naḥs* as pertaining to both commerce and natural environment, chiefly as the quality of nurturing and preserving ethical accountability of the self. This will serve as a building block for the part on the decolonization of modern economic and environmental discourses.

Understandably, *tazkiya*, as a path of purification of human attitudes,⁴⁷ is a multifaceted concept that sometimes takes upon different forms and terms,

45 See e.g. Nomanul Haq, "Islam and Ecology: Toward Retrieval and Reconstruction," in *Islam and Ecology*, eds. Richard C. Foltz, Frederick M. Denny, Azizan Baharuddin (Cambridge: Harvard University Press, 2003), 121–154.

46 Abū Yūsuf (d. 798) believed that only through justice an overall development (of society) can occur, since justice causes development and increases income. Al-Shaybānī, who was Abū Yūsuf's student, discussed the ways of earning and livelihood in *Kitāb al-Kasb*, acquiring wealth or livelihood (*al-kasb*) has to be conducted by licit means whereby gaining wealth is tantamount to one's faith, since one also provides for other members of society. Al-Shaybānī, like his successors, merged legal arguments with ethical reasoning, by discussing also the notion of *zuhd* as a form of detachment from the world. Practicing *zuhd* in economic affairs protects from harmful engagements, as the acquisition of wealth or earning a living is closely related to the public good. Economic affairs, such as purchases and sales, as well as money itself are hence part of both worldly and ascetic realms. Also, Ibn Abī al-Dunyā considered commerce and trading as part of ethical endeavours. Abū Yūsuf, *Kitāb al-Kharaj* (Cairo: Dār al-Matba'ah al-Salafiyyah, 1972), 102 in Abdul Azim Islahi, *Contribution of Muslim Scholars to Economic Thought and Analysis* (Jeddah: Islamic Economics Institute, King Abdulaziz University, 2005), 65. According to al-Shaybānī, *al-kasb* can be obligatory (*farḍ al-'ayn*), recommended (*mandūb*), or permissible (*mubāḥ*). Al-Shaybānī, *Kitāb al-Kasb* (Aleppo: Maktab al-Maṭbu'at al-Islāmiyya, 1997), 70. Adi Setia, "Imam Muḥammad Ibn al-Ḥasan al-Shaybānī on Earning a Livelihood: Seven Excerpts from his Kitāb al-Kasb," *Islam & Science*, Vol. 10, No. 2 (2012): 103. Sami Al-Daghistani, *Economics of Happiness* (London and New York: Anthem Press, 2021); Sami Al-Daghistani, *The Making of Islamic Economic Thought* (New York: Cambridge University Press, 2022); Sami Al-Daghistani, "Beyond *Maṣlaḥah*—*Adab* and Islamic Economic Thought," *American Journal of Islam and Society*, Vol. 39, Nos. 3–4 (2022/2023): 56–85, doi: 10.35632/ajis.v39i3-4.2988.

47 The *maqāmāt al-tazkiya* include repentance (*tawbah*), abstention (*wara'*), renunciation (*zuhd*), poverty (*faqr*), patience (*ṣabr*), trust in the Divine (*tawakkul*), and contentment (*riḍā'*). See Abū Naṣr al-Sarrāj al-Ṭūsī, *Kitāb al-Luma' fi al-Taṣawwuf*, ed. Reynold Alleyne Nicholson (Leyden: Brill, 1914).

including *ṭahāra*, as obtaining a state of purification in light of the Divine.⁴⁸ Several Sufi scholars emphasized a holistic understanding of the universe, including al-Ḥārith bin Asad al-Muḥāsibī (d. 857), ‘Abd al-Karīm ibn Hawāzin Abū al-Qāsim al-Qushayrī (d. 1074), al-Rāghib al-Iṣfahānī (d. 1108), and Abū Ḥāmid al-Ghazālī (d. 1111), to name but a few. *Tazkiya* reflects on increase, germination, repair, cleaning, and purification. The very word *tazkiya* is derived from the Arabic root word *z-k-y*, meaning “pure”, “righteous”, or “grow”. *Tazkiya* is the verbal noun (*maṣdar*) of the second verbal form *zakkā*, indicating causal effect⁴⁹ that imparts intensity, demonstrating a desire to purify or acquire purity. *Tazkiya* does not appear in the Qur’an directly, yet its derivative form *z-k-y* can be found in several instances.⁵⁰ In *Lisān al-‘Arab*, one of the most comprehensive dictionaries in the Arabic language, Ibn Manẓūr first describes *zakā* as something that grows or spreads, such as plants in soil; whatever it increases or grows, it is called *yazkū zakā’an*.⁵¹ *Zakāt* (as almsgiving) refers to *ṣalāḥ* (righteousness), whereas a human being can be *zakiyyun* in that he/she honors the very principles of *zakāt*.⁵² But *zakāt al-māl* also means its cleanliness or purity (*taṭhīrahu*) if *zakāt* as almsgiving is being applied to one’s wealth. Ibn Manẓūr clearly states that “*zakāt* as almsgiving is about purifying one’s wealth.”⁵³ The root of *zakāt* linguistically means *ṭahāra* (purity), *namā’* (growth), *baraka* (blessing), and *madḥ* (praise), which can be found in the Qur’an and hadith literature.

It is with early Sufi scholars that the conceptualization of *tazkiya* enters a more nuanced discourse on purification of the self. Al-Qushayrī, who wrote one of the most widely read works of early Sufism,⁵⁴ claims that “The [Sufi] folk engage in the purification of their thoughts, improving their morals and banishing forgetfulness from their hearts [inwardly], not by multiplying the acts of piety. They, however, must observe all prescribed rites and follow [the prophetic] customs.”⁵⁵ *Tazkiya* can be enacted only by those who know (the

48 *Tazkiya* is related also to several other key concepts, including *tawḥīd* or Unity of God, *tawakkul* or trust in God, and others.

49 Gavin Picken, *Spiritual Purification in Islam—The life and works of al-Muḥāsibī* (London: Routledge, 2011), 123.

50 See Qur’an e.g. 2:129; 2:151; 2:174; 3:77; 3:164; 4:49; 9:103; 20:76; 24:21; 35:18; 87:14; 91:9(–10);

51 Ibn Manẓūr, *Lisān al-‘Arab*, (Cairo: Dār al-Ma’ārif, 2008), s.v. “*zakā*,” 1849.

52 Ibn Manẓūr, *Lisān al-‘Arab*, s.v. “*zakā*,” 1849.

53 Ibn Manẓūr, *Lisān al-‘Arab*, s.v. “*zakā*,” 1849.

54 al-Qushayrī, *al-Risāla al-Qushayriyya fi ‘Ilm al-Tasawwuf*. For the English translation, see al-Qushayrī, *Epistle on Sufism: al-Risāla al-Qushayriyya fi ‘Ilm al-Tasawwuf*, trans. Alexander Knysh (Reading, UK: Garnet Publishing, 2007).

55 al-Qushayrī, *Epistle on Sufism: al-Risāla al-Qushayriyya*, 409.

sins of) their souls (*maʿrifat al-nafs*) and who repent (*tawba*). *Maʿrifat al-nafs* that brings one close to the Divine is believed to be the very essence of religious practice.

You will not be sincere to God until you are sincere to your own soul; and you will not be sincere to your own soul until you know it well; and you won't know it well until you examine closely and subject it to [remembering] death and the display in front of God, then its [true] states will be made manifest; and its [true] states will not be made manifest until you accuse it regarding that which it considers itself righteous therein and judge it according to its misdeeds.⁵⁶

Tazkiya is usually invoked together with *nafs*, as in *tazkiya al-nafs*.⁵⁷ The word *nafs* does appear in the Qur'an more frequently, with various meanings. While the word *al-nafs* is exceedingly complex, the most basic translation of the word is "self", "soul" or "ego". Ibn Manẓūr explains that *al-nafs* encompasses spirit (*al-rūḥ*), body (*al-jasad*), and blood (*al-dam*).⁵⁸ It has two meanings, either as *al-rūḥ* itself or as inner desire (*raghba*). He also narrates that human being has two types of soul (*nafsān*), namely, the soul of intellect (*nafs al-ʿaql*) and the soul of spirit (*nafs al-rūḥ*).⁵⁹ In Sufi literature, *nafs* often carries connotation of the lowest dimension of one's inward existence.⁶⁰ Al-Tirmidhī (d. 869), who wrote on training the self, advocated for voluntary work for those who seek salvation in the hereafter. For him, *nafs* is a space of debauchery and carnal appetites without stability.⁶¹ In this context, *tazkiya al-nafs* can be defined as the process of purifying the self from vices through the internalization of

56 al-Muḥāsibī, *al-Riʾāya li Ḥuqūq Allāh*, ed. ʿAbd al-Qādir Aḥmad Aṭā (Beirut: Dār al-Kutub al-ʿIlmiyya, n.d.), 326–327 in Gavin Picken, *Spiritual Purification in Islam—The life and works of al-Muḥāsibī* (London: Routledge, 2011), 189–190.

57 In relation to *tazkiya*, the word *nafs* is in this context understood as "soul" or "self/ego", which appears in the Qur'an as a heterogeneous concept. In addition to describing "soul", the word *nafs* also signifies the human being (31:28), one's intellectual comprehension (27:14), the heart (7:205), and an ethical disposition (50:16, 75:2). *Tazkiya* pertains also to several Sufi practices, such as *mujāhada* or striving with the carnal self and *murāqaba* or the practice of observing God.

58 Ibn Manẓūr, *Lisān al-ʿArab*, s.v. "*nafs*", 4500–4504.

59 Ibn Manẓūr, *Lisān al-ʿArab*, 4501.

60 William Chittick, "The Words of the All-Merciful," *Parabola* 8/3 (1983): 18–25; al-Qushayrī, *al-Risāla al-Qushayriyya fi ʿilm al-Tasawwuf*, trans. Alexander Knysh, 108.

61 Muḥammad b. ʿAlī al-Tirmidhī, *Nawādir al-Uṣūl* (Istanbul: n. pub., 1876), 201 in Gavin Picken, *Spiritual Purification in Islam—The life and works of al-Muḥāsibī* (London: Routledge, 2011), 153.

virtuous qualities,⁶² which would include one's relationship to the material, economic, and lived environments. *Nafs* can be sometimes referred to spirit (*rūḥ*), human being (*insān*), or heart (*qalb*).

One of the first writers to analyze the topic of *tazkiya al-nafs* was al-Muḥāsibī in his famous *al-Ri'āyah li al-Ḥuqūq Allāh*. According to al-Muḥāsibī (and later al-Ghazālī, among others), there are at least three levels of *nafs*, namely *nafs al-ammāra* (the commanding soul), *nafs al-lawwāma* (the self-blaming soul), and *nafs al-muṭma'inna* (the soul at peace). The process of *ma'rifat al-nafs* or "knowledge of the self" entails understanding the *nafs* before initiating to purify it. Al-Muḥāsibī maintains that the true nature of the *nafs* becomes evident once one acquires a fuller realization of its very nature.⁶³ The Sufi station of *murāqaba*, or the constant observance of the Divine is another important practice delineated by al-Muḥāsibī.⁶⁴ *Murāqaba* entails a constant remembrance and presence of the Divine before initiating any action. The next practice of *mujāhada al-nafs* or the struggle against the soul aims to tackle *al-shahawāt* or lustful desires and *al-hawā* or caprice, in order to purify both internal and external vices that are harmful to the *nafs*, including one's engagement with economic life. Al-Muḥāsibī ascribes a Divine element in the process of obtaining the purification or reforming the soul.⁶⁵

According to al-Rāghib al-Iṣfahānī, *tazkiya al-nafs* pertains to human effort to purify the soul, such as unbelief and innovation, polytheism, lust for mundane world and leadership, spites, arrogancy, vanities, stinginess, tyranny, and lust of the lower self. *Tazkiya al-nafs* can be done by engaging in various religious forms, like a good deed and *mujāhada*. One's function is to achieve prosperity in this world and worshiping God, whilst the ultimate aim is the Hereafter.⁶⁶ Al-Iṣfahānī's notion of *khalīfa* or vicegerency is closely associated with the process of purifying the soul, by striving for virtuous actions.⁶⁷ The soul

62 Gavin Picken, "Ibn Ḥanbal and al-Muḥāsibī: A Study of Early Conflicting Scholarly Methodologies," *Arabica*, T. 55, Fasc. 3/4 (2008): 337–361.

63 al-Muḥāsibī, *al-Ri'āyah li Ḥuqūq Allāh*, ed. 'Abd al-Qādir Aḥmad Aṭā (Beirut: Dār al-Kutub al-'Ilmiyya, n.d.), 181; Gavin Picken, *Spiritual Purification in Islam—The life and works of al-Muḥāsibī* (London: Routledge, 2011), 172.

64 See e.g. al-Muḥāsibī, *Adāb al-Nufūs* (Beirut: Mu'assasa al-kutub al-thaqāfiyya, 1991); Gavin Picken, "Tazkiyat al-nafs: The Qur'anic Paradigm," *Journal of Qur'anic Studies*, Vol. 7, Issue 2 (2005): 101–127.

65 Gavin Picken, *Spiritual Purification in Islam*, 170, 171.

66 See al-Rāghib al-Iṣfahānī, *Kitāb al-Dharī'a ilā Makārim al-Sharī'a* (Cairo: Dār al-Salām, 2007); Yasien Mohamed, *The Path to Virtue* (Kuala Lumpur: International Institute of Islamic Thought and Civilization, 2006), 472.

67 Yasien Mohamed, *The Path to Virtue*, 477.

can be purified by cleansing the rational faculty (*quwwat al-fikr*) through training (*riyāda*), wisdom (*ḥikma*), and knowledge (*ilm*). The concupiscent faculty (*quwwat al-shahwa*) is purified by engaging in modesty (*iffa*) and generosity (*jūd*), whilst the irascible faculty (*quwwat al-ḥamiyya*) is purified when it gives precedence to the intellect. The correct balance of the three faculties generates justice or *ʿadāla*.⁶⁸ *Akhlāq* (usually translated as ethics), then, is closely associated with *khuluq* (character) and *khulq* (creation), and it depends on one's spiritual insight (*baṣīra*).⁶⁹ For al-Iṣfahānī, soul refers to the mortal self (*nafs*) that can eventually be transformed and recuperated.⁷⁰

Imām al-Ghazālī expands on *tazkiya al-nafs* in several of his texts. His encyclopedic *Ihyāʾ ʿUlūm al-Dīn* (*The Revival of Religious Sciences*) expounds ethical principles and practices through a spiritual dimension, combining *ilm al-muʾāmalā* and *ilm al-mukāshafa*.⁷¹ The purification of the soul is dependent upon *ibādāt* or acts of worship, avoiding that which is forbidden, practicing *tafakkur* or God consciousness, *dhikr* or remembrance of God, and general good morals. Al-Ghazālī's definition of *nafs* is similar to its conventional Sufi understanding as the very principle that amends irascible and appetitive faculties.⁷² Al-Ghazālī state that *nafs*

also has several meanings, two of which concern us here; first, it means the powers of anger and sexual appetite in a person, which will be explained later, this usage being mostly found among the people of ṭaṣawwuf [Sufis], who take 'nafs' as the comprehensive word for all the blameworthy characteristics in an individual ... The second meaning of *nafs* is the delicate entity [the soul] we have already mentioned, the human being in reality, his self and his essence. However, it is described differently according to its different states. If it assumes calmness under

68 Yasien Mohamed, *The Path to Virtue*, 480.

69 Yasien Mohamed, *The Path to Virtue*, 493; 494.

70 al-Iṣfahānī, *Kitāb al-Dharīʿa ilā Makārim al-Sharīʿa* (Cairo: Dār al-Salām, 2007), 59; Yasien Mohamed, "Knowledge and Purification of the Soul: An Annotated Translation with Introduction of Iṣfahānī's Kitāb Dharīʿa ilā Makārim al-Sharīʿa (58–76; 89–92)," *Journal of Islamic Studies*, Vol. 9, No. 1 (1998): 14, 1–34.

71 al-Ghazālī, *Ihyāʾ ʿUlūm al-Dīn* (Beirut: Dār al-Maʿrifah, 1982), Vol. 3, book 1; Al-Daghistani, *Ethical Teachings of Abū Ḥāmid al-Ghazālī*, 34; Kenneth Garden, *The First Islamic Reviver: Abū Ḥāmid al-Ghazālī and His Revival of the Religious Sciences* (New York: Oxford University Press, 2014).

72 See al-Ghazālī, *Ihyāʾ ʿUlūm al-Dīn*, Vol. 3, book 1; al-Ghazālī, *On Disciplining the Soul & Breaking the Two Desires*, trans. Timothy Winter (Cambridge: The Islamic Texts Society, 1995).

command and has removed from itself the tumult caused by the onslaught of passion, it is called 'the tranquil soul' (al-nafs al-muṭma'inna) ... In its first meaning of the nafs one does not envisage its return to God, as it is far removed from Him and is from 'the party of Satan'. However, when it does not achieve calmness, yet resists the base soul (al-nafs al-shahwāniyya), objecting to it, it is called 'the self-reproaching soul' (al-nafs al-lawwāma), because it rebukes its owner for his deficiencies in worshipping its Master ...⁷³

Purification of the soul can be attained through removing vice from the soul or attaining virtuous traits.⁷⁴ Several practices based on one's sincerity are associated with the purification, including possessing good intentions with the sight of God's pleasure and worldly detachment or renouncement of the material world (*zuhd*), since the ultimate aim is the Hereafter. Al-Ghazālī declares the purification of the *nafs* as intrinsically tied to these two qualities. If they are both at excessive levels, it would produce harmful or blameworthy traits such as pride, conceit, lying, avarice, cowardice, backbiting, and so forth. If they are both at a moderate level, it will bring about many praiseworthy traits such as: *ṣabr* (patience), *shafaqa* (compassion), *maḥabba* (love), and so forth. The purification of the *nafs* is contingent upon the level of moderation established amongst the *hawā* and *ghadab* (anger), which finds its way also in commerce and trading. *Tazkiya* through its corresponding terms, as explicated in several classical texts, pertains to both earning a livelihood and the natural environment as part of the overall human development geared toward the Hereafter.

2.2 On Economics

Tazkiya is, as briefly indicated, also etymologically related to *zakāt*, as one of the five pillars in Islam and commonly translated as almsgiving. *Zakāt* on wealth is based on the value of one's possessions, whereas *zakāt al-nafs* refers to purification of one's wealth of impure worldly acquisition.⁷⁵ In this context, *tazkiya* can be theorized also within the context of *kasb/iqtisād* as acquisition of livelihood,

73 Gavin Picken, *Spiritual Purification in Islam—The life and works of al-Muḥāsibī* (London: Routledge, 2011), 155. See also al-Ghazālī, *Iḥyā' 'Ulūm al-Dīn*, Vol. 3, 4–5.

74 See al-Ghazālī, *Iḥyā' 'Ulūm al-Dīn* (Beirut: Dār al-Ma'rifah, 1982), Vol. 4, Book 8; al-Ghazālī, *On Disciplining the Soul & Breaking the Two Desires* (Cambridge, UK: The Islamic Texts Society, 1995).

75 See e.g., Qur'an, 9:103; S. Murata and W.C. Chittick, *The Vision of Islam* (London: IB Tauris, 1994), 16.

since many classical scholars believed that dealing with financial provision is, in essence, about human relations and development. *Zakāt al-naḥs* and *tazkiya* pinpoint to an ethical side of obtaining human capital in economic engagements and one's relation toward the lived environment. Economic "development" as theorized by some of the abovementioned scholars aims not only to improve the quality of economy (materiality) by encouraging what is good and forbidding that which is harmful (*al-'amr bi al-ma'rūf wa al-naḥy 'an al-munkar*),⁷⁶ but also to foster the philosophy of moderation and frugality as *iqtiṣād* (also through its non-material effects). Some of the aims of such economic philosophy are to increase justice (*'adl*) and welfare, and to decrease extravagance and exploitation in the market and society.⁷⁷ *Kasb* or *iqtiṣād*, nowadays loosely translated as "economics", was by, for instance, al-Muḥāsibī, al-Iṣfahānī, and al-Ghazālī, designated as the endeavor of seeking what is judicious,⁷⁸ covering the worldly and the material realms, with the aim to merge theoretical knowledge with moral action.⁷⁹ Ibn Manẓūr describes *kasb* as seeking subsistence (*ṭalabu al-rizq*).⁸⁰ Sībawayh stated that *kasaba* means *aṣāba* as to strike or befall, whereas *iktasaba* means to use/save (*taṣarrafa*) or exhort effort (*ijtahada*).⁸¹ Economic processes, such as, trading and acquiring wealth entail, first and foremost, ethical standards built on the quality of moral virtues, in that the material (economic) life is only a path toward attaining the Hereafter. For those scholars, trade and economic well-being are inextricably related to broader social and environmental issues, in order to strengthen social cohesion, diminish waste, and avoid any forms of harm in economic transactions.

Al-Muḥāsibī's system of cleansing the heart and avoiding desires and vices is not only theoretical but contains practical advice on how to fast, be silent, and how to execute righteous commercial gains. In economic context, al-Muḥāsibī's excerpts on self-examination and self-observation⁸² emphasize one's spiritual faculties, such as scrupulousness (*wara'*) and detachment (*zuhd*), when engag-

76 See Qur'an, e.g. 3:104; 3:110; 9:71; 9:12, etc.

77 For the condemnation of wasteful expenditure (*isrāf*), see e.g. Qur'an. 17:27 and 7:31.

78 Adi Setia, "The Meaning of 'Economy': *Qaṣd*, *Iqtiṣād*, *Tadbīr al-Manzil*," *Islamic Sciences*, Vol. 14, No. 1 (2016): 120–121.

79 I.e. the material (worldly) is not sought on its own, but rather as a moral endeavor of eschatological proportions. In this regard, the *Qur'anic* message is theological, spiritual, and moral that transcends purely material and techno-pragmatic realm. See e.g. al-Ghazālī, *Iḥyā' 'Ulūm al-Dīn* (Beirut: Dār al-Ma'rīfah, 1982), Vol. 2, book 3 entitled "Kitāb Adab al-Kasb wa al-Ma'āsh"; Al-Daghistani, *Ethical Teachings of Abū Ḥāmid al-Ghazālī*.

80 Ibn Manẓūr, *Lisān al-'Arab*, s.v. "*kasb*," 3870.

81 Ibn Manẓūr, *Lisān al-'Arab*, 3870.

82 al-Muḥāsibī, *al-Makāsib wa al-Wara'* (Beirut: Mu'assasah al-Kutub al-Thaqāfiyyah, 1987).

ing in economic (financial) transactions (*mu'āmalāt*). This further presupposes that one's inner disposition is in close proximity to the ways in which one acquires wealth, as well as to the (social) environment. In *Kitāb al-Waṣāyā al-Naṣā'iḥ al-Dīniyya*⁸³ and *al-Makāsib wa al-Wara'*, al-Muḥāsibī addresses commercial life and finances in light of ethical-psychological endeavors, such as renunciation (*zuhd*), reliance on God (*tawakkul*), introspection (*muḥāsaba*), remembrance of (*dhikr*), and closeness to (*al-taqarrub*) God, in order to purify one's heart (*ṭahārat al-qulūb*).⁸⁴ He advocates for a balanced approach to earning and spending, in order to provide for oneself and one's family, since the very aim of felicity is *taqwā*.

Al-Iṣfahānī affirms that work is important not as an end but to provide for shelter, food, and clothing, as well as to exercise one's generosity, whereby the material and earthly benefits coincide with metaphysical.⁸⁵ While wealth assists in attaining one's happiness, striving for virtuous life of the Hereafter takes precedence. Poverty (*faqr*) might be a positive motivation for earning wealth, however, begging is frowned upon, and wealth should not be obtained or spent lavishly but rather frugally. The reasons behind such conditions are not material but ethico-psychological, in that the fear of poverty and the danger of wealth are encapsulated in the reliance on and trust in the Divine (*tawakkul*) for sustenance (*rizq*) out of human being's restless nature. Along with other scholars within the ethical-economic genre, al-Iṣfahānī also advocates for a lawful acquisition of wealth (*kasb*). One can either seek and hoard worldly goods, partake in the worldly pleasures but is satisfied with less than what the basic needs provide, or one can confine only to what one needs.⁸⁶ The last type is called moderation. In relation to that, there are three types of people, namely, those who pay no respect to the Hereafter or *munhamiqūn*, those who emphasize the Hereafter but disregard the well-being of this world or *mukhālifūn*, and those who are in between the first two types or *mutawassit* and who engage in the Hereafter and in the *dunyā*.⁸⁷ Wealth can be obtained

83 al-Muḥāsibī, *Kitāb al-Waṣāyā*, ed. 'Abd al-Qādir Aḥmad Aṭā (Beirut: Dār al-Kutub al-Ilmiyyah, 1986).

84 See Adi Setia, *Kitāb al-Makāsib (The Book of Earnings) by al-Ḥārith al-Muḥāsibī (751–857 C.E.)* (Kuala Lumpur: IBFIM, 2016). Al-Muḥāsibī, *al-Makāsib wa al-Wara'* (Beirut: Mu'assasah al-Kutub al-Thaqāfiyyah, 1987).

85 Yasien Mohamed, *The Path to Virtue*, 377–378. See also al-Iṣfahānī, *Kitāb al-Dharī'a ilā Makārim al-Sharī'a* (Cairo: Dār al-Salām, 2007), 392–393.

86 Yasien Mohamed, *The Path to Virtue*, 382; al-Iṣfahānī, *Kitāb al-Dharī'a ilā Makārim al-Sharī'a*, 390 f.

87 Yasien Mohamed, *The Path to Virtue*, 383; al-Iṣfahānī, *Kitāb al-Dharī'a ilā Makārim al-Sharī'a*, 403 ff.

either without labor, through pure luck or inheritance, or through commercial activity and business. In both cases, however, effort to attain a virtuous character is needed in order to maintain the sight of the Hereafter. Since not every person possesses all necessary skills and since people have different abilities for production, cooperation between crafts and industries is necessary.⁸⁸

Al-Iṣfahānī's influence on al-Ghazālī is well documented, hence it is not surprising that the two share similar views on economics. For al-Ghazālī, who addresses the nature of work and money, *zakāt*, licit means of trade, counterfeiting, and benevolence,⁸⁹ it is necessary to revive human spirit through fulfilment of (religious) obligations bound to the Hereafter. In light of righteous trading activities and transactions, al-Ghazālī describes how trade should be conducted.⁹⁰ Given that for al-Ghazālī earning is not an aim on its own,⁹¹ he holds that money (*māl*) cannot be obtained for its own sake,⁹² but that it is a tool of exchange and one of the five necessities (*al-ḍaruriyāt*) that can safeguard righteous conduct.⁹³ The level of consumption thus has to range between necessity and extravagance.⁹⁴ In the context of balanced economic lifestyle, poverty occurs because of the excessive levels of wants in relation to one's income. *ʿAdl* is then an economic prerogative as an objective of *Sharīʿa*.⁹⁵

The above examples indicate that economic and commercial laws (*fiqh al-muʿāmalāt*) are not technical matters of jurisprudence aimed at regulating individual behavior, but in view of ethico-spiritual processes of cleansing the self, also address communal affairs. What these scholars exhort is an individual purification of the self as part of broad-ranging cosmological stipulations for well-being that have (in)direct impact on the environment. For instance, the economic mechanisms of *zakāt* and *ribā*, which were introduced to secure licit transactions and safeguard one's wealth and faith, are also relevant for one's relationship with environment and nature. This denotes that economic ideas

88 Yasien Mohamed, *The Path to Virtue*, 393; al-Iṣfahānī, *Kitāb al-Dharīʿa ilā Makārim al-Sharīʿa*, 374.

89 See al-Ghazālī, *Iḥyāʾ*, Vol. 2. For a more detailed account on al-Ghazālī's economic philosophy, see Sami Al-Daghistani, *Ethical Teachings of Abū Ḥāmid al-Ghazālī: Economics of Happiness* (London and New York: Anthem Press, 2021).

90 Muhammad Abdul Quasem, *The Ethics of Al-Ghazali* (Petaling Jaya: UKM, 1976), 223.

91 Al-Ghazālī, *Iḥyāʾ*, Vol. 2, 108.

92 Al-Ghazālī, *Iḥyāʾ*, Vol. 4, 114–115. Ibid, Vol. 4, 114–115.

93 Al-Ghazālī, *Iḥyāʾ*, Vol. 3, 231.

94 Al-Ghazālī, *Iḥyāʾ*, Vol. 2, 1. Ibid, Vol. 2, 1.

95 Abū ʿUbayd al-Qāsim ibn Sallām, *The Book of Revenue: Kitāb al-Amwāl* (Doha: Garnet Publishing Ltd., The Center for Muslim Contribution to Civilization, 2005).

and mechanisms in classical texts can be studied as part of a comprehensive corpus on *akhlāq* as virtuous traits of character with relevance to the lived environment.

2.3 *On Environment/Nature*

Even though ecological criticism or environmental sustainability⁹⁶ as we know them nowadays did not exist in the pre-modern period, many classical texts put forward theoretical advances and practical guide how to develop the self in order to achieve symbiosis between human and the lived environment. Understandably, classical scholars did not anticipate modern economic trends or hazards of environmental health but based on their integrative perspective on environment their natural philosophy seems to encompass a metaphysical understanding of the universe. In the post-classical period, however, Muslim scholars portrayed an anthropocentric vision of life,⁹⁷ by positioning human salvation at the forefront of their vision. In what follows, I briefly discuss the concept of nature and human relation toward it in the Qur'an and in a few examples within Islamic intellectual history.

Like economics, the concept of environment is clearly multifold. Nature (*tabī'a*) is not completely disassociated from the supernatural, nor the economic engagement from the broader natural habitat. In the Qur'an, nature is often depicted as a visible manifestation of God.⁹⁸ The destruction of environment or economic development that encroaches upon the natural habitat, is, in the context of such intervention, seen as human re-appropriation of nature. The traditional, theocentric, views assert that despite that in the Qur'an God subjected (*sakhkhara*) nature to man,⁹⁹ it does not mean destruction of nature, but rather that human beings can exercise sovereignty over nature in the name of viceregency. This brings into question the very principle of autonomy of nature, in that it operates by its own laws. Rather, for few select scholars presented below, nature's autonomy is encapsulated through cosmo-

96 For an introductory book on the field of environmental humanities, see e.g. Robert S. Emmett and David E. Nye, *Environmental Humanities* (Cambridge, Massachusetts: MIT, 2017).

97 Kaveh Afasiabi, "Toward Islamic Ecotheology," *Islam and Ecology*, ed Richard C. Foltz, Frederick M. Denny, Azizan Baharuddin (Cambridge, Massachusetts, Harvard University Press, 2003), 283.

98 Seyyed Hossein Nasr, "Sacred Science and the Environmental Crisis: An Islamic Perspective" in *Islam and the Environment*, ed. Harfiyah Abdel Halim (Ta Ha Publishers 1998), 121.

99 Qur'an, 22:65. This is also best demonstrated by the Qur'anic verse, "There is no God but He, the Creator of all things", stipulating that there is a link between creation and the Creator. Qur'an, 6:102.

logical processes.¹⁰⁰ Human being—as a natural entity and part of the creation¹⁰¹—participates in these natural processes and ecological balance, and any imbalance in the natural environment caused by human being is regarded as disparity or rather destruction of the self or *ẓulm al-nafs*.¹⁰²

Methods used by classical scholars were multiple, based on observation and experimentation, independent reasoning of *ijtihād*, as well as based on the religious sources, such as the Qur'an and *ḥadīth*.¹⁰³ In his ethical treatises *Kitāb al-Dharī'a ilā Makārim al-Sharī'a*, al-Iṣfahānī holds that human being is positioned between the animal and angelic realms, since he resembles both bodily desires, such as eating, drinking, and procreation, and angelic, since he possesses spiritual faculties, such as wisdom and justice.¹⁰⁴ For him, God created the heavens and the earth out of nothing, while human being was created in order to cultivate one's crafts and qualities.¹⁰⁵ In the process of creation, human being is of a particular importance, who was made of both terrestrial and celestial elements. Al-Iṣfahānī's understanding of the universe and nature is rooted in a Qur'anic worldview, paying attention to relation between nature and human being and hence emphasizing a view that considers human beings

100 Nomanul Haq, "Islam and Ecology," 146.

101 In the Qur'an, Adam as the first human being was fashioned out of clay. See e.g. "Indeed, the example of Jesus to Allah is like that of Adam. He created Him from dust; then He said to him, 'Be,' and he was." Qur'an, 3:59.

102 The very notion of the afterlife accountability influences intertemporal choice and behavior. The tradition of the prophet Muḥammad narrates normative viewpoints on the preservation of natural resources, frugality, and overall responsibility toward the lived environment, many of which were integrated into the core texts within Islamic intellectual history. For instance, Ṣaḥīḥ Bukhārī narrates that the prophet Muḥammad said: "If anyone cuts the lote-tree, Allah brings him headlong into Hell." Sunan Abī Dāwūd, *Kitāb al-Adab*, *ḥadīth* no. 5239, accessible at <https://sunnah.com/abudawud:5239>. "There is none amongst the Muslims who plants a tree or sows seeds, and then a bird, or a person or an animal eats from it, but is regarded as a charitable gift for him." Ṣaḥīḥ Bukhārī, *Kitāb al-Muzāra'*, *ḥadīth* no. 2320, accessible at <https://sunnah.com/bukhari:2320>. Further, the Qur'an states that "He is the One Who produces gardens—both cultivated and wild—and palm trees, crops of different flavours, olives, and pomegranates—similar 'in shape', but dissimilar 'in taste'. Eat of the fruit they bear and pay the dues at harvest, but do not waste. Surely He does not like the wasteful." Qur'an, 6:141.

103 For instance, for the traditional Ash'arī theology, the absolute transcendence of God merges *khalq* as creation with *ḥaqq* as (ultimate) reality, whereby "all the stages of the cosmic hierarchy above the 'physical world,' being absorbed, in their view, in the Divine Principle." This indicates that all immediate causes are absorbed by the Divine. Seyyed Hossein Nasr, *An Introduction to Islamic Cosmological Doctrines* (Albany: SUNY Press, 1993), 10.

104 See al-Rāghib al-Iṣfahānī, *Kitāb al-Dharī'a ilā Makārim al-Sharī'a* (Cairo: Dār al-Salām, 2007), 81; Yasien Mohamed, *The Path to Virtue*, 456, 458.

105 Yasien Mohamed, *The Path to Virtue*, 124.

an integral part of the natural processes.¹⁰⁶ This view is encapsulated in a cosmological context of knowing one's material reality and metaphysical truths, whose ultimate objective is the knowledge of the Divine.¹⁰⁷ In other words, the ultimate aim of human being is to obtain understanding of the Divine through the inner (*bāṭin*) processes of the soul (*naḥs*) and also by interacting with the natural environment.¹⁰⁸ For al-Ghazālī,¹⁰⁹ who shares many views on economic and environmental thought with al-Iṣfahānī, human being is a microcosm that by necessity contemplates about the creation of the world and the natural environment, which brings him closer to knowing himself and the Divine.¹¹⁰ In this regard, pondering about the created environment correlates with the existence of the soul. Al-Ghazālī believed that the created universe—both the celestial realm and the natural environment—undergoes a harmonious process geared toward the Hereafter, since one's action are ultimately determined in the after-life.¹¹¹

Other scholars, such as Abū Rayḥān Muḥammad ibn Aḥmad al-Bīrūnī (d. 1050), a polymath from Khāwarzm, known for his works on astronomy and geography, bases his views on the nature on the Divine, whereby nature is not eternal but was created ex nihilo.¹¹² There is a strong correlation between contemplation (about nature) and action, in that contemplation precedes action (*ʿamal*) in order to bring about true knowledge (*maʿrifa*), and human being's position in the Hereafter. Contemplating nature—as an object of study in order to obtain higher truths—then, involves thinking about nature's Divine prototypes. Nature is a witness to Divine presence and a manifestation of continuous will of the Divine. The very affinity between creation, nature, and God point to the fact that laws in nature are laws of the Divine.

The cosmic environment and the human civilization, which is subsumed by it, are products of their time, which indicates that for al-Bīrūnī time and

106 al-Rāghib al-Iṣfahānī, *Kitāb al-Dharīʿa ilā Makārim al-Sharīʿa*, 73–78.

107 al-Rāghib al-Iṣfahānī, *Kitāb al-Dharīʿa ilā Makārim al-Sharīʿa*, 73.

108 Yasien Mohamed, "Creation," *The Qur'an: An Encyclopedia*, ed. Oliver Leaman (London: Routledge, 2006), 158–159; Yasien Mohamed, *The Path to Virtue*, 132.

109 For more on al-Ghazālī's account on creation and nature, see my forthcoming paper "On Creation, Nature, and the Ethical Self: A Comparative Analysis of Ikhwān al-Ṣafā, al-Rāghib al-Iṣfahānī, and Abū Ḥamid al-Ghazālī," draft.

110 al-Ghazālī, *Kimīyā-i-Saʿādat (The Alchemy of Happiness)*, trans. Muhammad Asim Bilal (Lahore: Kazi Publications, 2001), 91f.; see also al-Ghazālī, *Mizān al-ʿAmal*, ed. Sulaymān Dunyā (Cairo: Dār al-Maʿārif, 1964).

111 See al-Ghazālī, *Iḥyāʾ*, Vol. 4, book 2, *Kitāb al-Ṣabr wa Shukr*, 60f.

112 al-Bīrūnī, *The Determination of the Coordinates of Positions for the Correction of Distances between Cities*, trans. J. Ali (Beirut: The American University of Beirut, 1967), 14.

natural progression are subject to change and hence particular.¹¹³ While al-Bīrūnī does not define nature in particular terms, neither as a technical term nor through its universal operation, he does stipulate that nature is bound to change through time and brings about creative power.¹¹⁴ Nature also encompasses economy as related to the Divine plan and is teleological, since environmental concerns are closely associated with economic engagement, including the notion of “utility”, which was by classical Muslim scholars invoked rather as *maṣlaḥa* or common good as part of the objectives of *sharīʿa*. For al-Bīrūnī, economy of and in nature is “in conjunction with that of the purposefulness of all things in the Universe,”¹¹⁵ implying that there is no waste in natural processes.

Ibn Ṭufayl’s (d. 1185) philosophical novel *Ḥayy ibn Yaqẓān*¹¹⁶ is another example of the intricate relation between faith, science, and natural phenomena. While *Ḥayy ibn Yaqẓān* tells a story of a young man who was born alone on an isolated island, raised by a doe, through his own experience, reasoning, and observation, he gains knowledge about the earth, nature, the animal kingdom, the superlunary world, theology, and eventually the Divine dimension and its cosmology, which leads him to mystical union with the Divine. Ibn Ṭufayl’s description of nature’s economy and *Ḥayy*’s story is remarkable in many aspects. It teaches that a person could attain a genuine and profound union with the Divine through ontological solitude and without being exposed to scriptural sources or a particular religious tradition. Ibn Ṭufayl brought many of the Ikhwān al-Ṣafā’s (d. circa 9th century) and Ibn Sīnā’s (d. 1037) concepts of nature and natural phenomena into conversation that pertain to both philosophical discourse and natural history.¹¹⁷ While he classified general patterns in nature and natural phenomena—from lower to higher, including soil, plants, animal species, stars, and celestial bodies, formed and unformed substances, and simple and compound substances—he also puts forward an idea that human reason is sufficient to achieve awareness and understand the

113 For more, see e.g. Muḥammad ibn Aḥmad Bīrūnī, *Kitāb al-taḥfīm li-awāʾil ṣināʿat al-tanjīm—Book of Instruction in the Elements of the Art of Astrology* (London: Luzac & Co., 1934; electronic edition, Antioch Gate, 2007).

114 See Muḥammad ibn Aḥmad al-Bīrūnī, *al-Athār al-Bāqiya ‘an al-Qurūn al-Khāliya, Chronologie orientalischer Völker*, ed. C.E. Schau (Lepizig, 1923).

115 Seyyed Hossein Nasr, *An Introduction to Islamic Cosmological Doctrines*, 123.

116 See Ibn Ṭufayl, *Ḥayy Ibn Yaqẓān* (Qatar: Kitāb al-Dūḥa, 2014).

117 Remke Kruk, “Ibn Ṭufayl: A Medieval Scholar’s Views on Nature,” in *The World of Ibn Ṭufayl: Interdisciplinary Perspectives on Ḥayy ibn Yaqẓān*, ed. Lawrence Conrad (Leiden: Brill, 1996), 69–89.

fragility of the natural environment, as well as the importance of its protection, whilst simultaneously critiquing blind imitation of traditional beliefs.¹¹⁸ After examining various natural phenomena, such as life, death, and various conditions of change, he comes to understand that the origin of life must be of a transcendent nature. And yet the cause of all of them he cannot see or imagine. Even the relative permanence of the heavenly bodies and their consistency of movement implies a cause anterior to their existence. Their orderliness is an obedience to a high, invisible power. The natural world indeed sustains *Ḥayy*, but much more importantly, it is also the means to know the Divine.

I now turn toward examples of decolonization of modern economic and environmental discourses that have permeated the very construction of how we treat “economy” and “environment/nature” as self-standing categories that are often devoid of broader ethical and cosmological conceptualizations.

3 Decolonizing Knowledge Production of Economic and Environmental Theories

The role of knowledge in societies is one of power. Muslim culture borrowed from numerous other cultures throughout its history from a relative position of strength. With the onslaught of modernity, however, the Muslim world has been borrowing from a rather subordinate position in that it assimilated much of the political, economic, and social capital, including the very construction of knowledge production about economy and nature.

Walter Dignolo¹¹⁹ holds that modernity's history is linear and singular, in that it pursues a single line of narrative. For Dignolo, coloniality “names the underlying logic of the foundation and unfolding of Western civilization from the Renaissance to today of which historical colonialisms have been a con-

118 Moreover, Ibn ‘Arabī (d. 1240) emphasized the continuity between the Infinite and the finite, the manifested world is nothing but the shadow and symbol of the spiritual world and that the whole cosmic manifestation is connected to its Divine Principle through its very existence. For more on Ibn ‘Arabī, see e.g. Munjed M. Murad, “Vicegerency and Nature: Ibn ‘Arabī on Humanity's Existential Protection of the World,” *Voices of Three Generations: Essays in Honor of Seyyed Hossein Nasr*, eds. Mohammad H. Faghfoory and Katherine O'Brien (Chicago: Kazi Publications, 2019), 299–314.

119 See e.g. Walter Dignolo, “Delinking,” *Cultural Studies*, Vol. 21, No. 2/3 (2007): 449–514; Walter Dignolo, “Coloniality Is Far from Over, and So Must Be Decoloniality,” *Afterall: A Journal of Art, Context and Enquiry*, Vol. 43 (2017): 38–45.

stitutive, although downplayed, dimension.”¹²⁰ And since there is no modernity without coloniality,¹²¹ the radical shift first occurred in the economy that allowed Western empires to take over the resources associated with colonialism. The second epistemological transformation encompasses the production of knowledge and science, associated with the scientific revolution. Mignolo warns, however, that hidden in these transformations is a particular disregard (“dispensability”) of human life: “... hidden behind the rhetoric of modernity, economic practices dispensed with human lives, and knowledge justified racism and the inferiority of human lives that were naturally considered dispensable.”¹²² The epistemic delinking,¹²³ then, is a necessary operation in opening up the space for vastly different yet no less scientific theories on economics and environment from other than Western, that is Islamic, origins that challenge the prevalent discourse on knowledge production. The process of decolonial epistemology brings to the surface other (“non-Western”) principles of knowledge production that entail redefinitions of categories of economy, politics, ethics, nature, and others.

Instead of subduing economic and environmental undertakings by structures of the nation states anchored in the Enlightenment reason and its mechanical separation of the subject that studies and the studied object—a contentious narrative that is ethically and culturally embedded in the theory of progress and linear history—new categories of and venues to acquiring knowledge are needed to decolonize prevalent concepts, programs, and worldviews. The methodological advancements of philosophers and economists of 18th- and 19th-century Europe, such as Jeremy Bentham (d. 1832), August Comte (d. 1857), John Stewart Mill (d. 1873),¹²⁴ and others, fundamentally influenced the development of divisions in social and natural sciences in the following decades and centuries. The construction of scientific truth and the absence

120 Walter Mignolo, *The Darker Side of Western Modernity: Global Futures, Decolonial Options* (Durham & London: Duke University Press, 2011), 2.

121 Walter Mignolo, *The Darker Side of Western Modernity*, 3.

122 Walter Mignolo, *The Darker Side of Western Modernity*, 6.

123 “The de-colonial shift, in other words, is a project of de-linking while post-colonial criticism and theory is a project of scholarly transformation within the academy.” Walter Mignolo, “Delinking,” *Cultural Studies*, Vol. 21, No. 2 (2007): 452.

124 See Jeremy Bentham, *An Introduction to the Principles of Moral Legislation* (Kitchener, Ontario: Batoche Books, 2001); John Stuart Mill, *The Collected Works of John Stuart Mill*, volume IV: *Essays on Economics and Society*, part I, ed. John M. Robson (Toronto: University of Toronto Press, 1967); John Stuart Mill, “On the Definition and Method of Political Economy,” in *The Philosophy of Economics: An Anthology*, ed. Daniel Hausman (Cambridge: Cambridge University Press, 2007), 41–58.

of pluralistic epistemology means a monolithic understanding of the physical realm, which does not accommodate qualitatively different ends and regards ethical categories as “unscientific”.¹²⁵

Human moral agency is encapsulated in the understanding of the very sciences of nature, in that the economic efficiency opposes single-level utility function and introduces economic operations based on moral and metaphysical qualities. As per classical scholars highlighted above, an economic theory of market transactions through material and non-material sources is premised on the idea of human virtue. While neoclassical economics reduces values to a utility-based object of desire and denies metaphysical qualities as well as spiritual considerations, as shown by Schumacher,¹²⁶ the modern economy is unsustainable, in part because of the unrestricted usage of non-renewable natural resources. A mechanical vision of the universe coincides with the mainstream understanding of science, which further denies qualitative aspects of nature, as it does not require multidimensional theories of ethics oriented toward achieving higher ends.¹²⁷ Max Scheler’s theory of phenomenology based on sympathy and fundamental connection between human and non-human habitat might assist us in this project, since it points to a cosmological sensitivity to the lived environment. His philosophical anthropology investigates the worldview of what it means to be human, displaying a three-fold perspective: a human is a *homo faber*; a rational animal (based on ancient philosophy); and has the capacity of religious belief.¹²⁸

The question however remains, how can teachings from Islamic intellectual history contribute to modern debates on environmental crisis and ecological exhaustion in light of the established academic divisions and programs, since the modern worldview harbors a rather narrow definition of what counts as a scientific (and hence valid) reasoning in economics and environmental sciences based on observables. I have been fairly critical of the Islamiza-

125 El-Ansary, “Recovering the Islamic Economic Intellectual Heritage,” in *Proceedings of the Third Harvard University Forum on Islamic Finance: Local Challenges, Global Opportunities* (Cambridge: Cambridge University Press, 1999) 9.

126 Ernst F. Schumacher, *Small Is Beautiful* (London: Perennial Library, 1973).

127 See e.g. the works of al-Muḥāsibī, al-Rāghib al-Iṣfahānī, and Abū Ḥamid al-Ghazālī. See also Sami Al-Daghistani, *Economics of Happiness*, 122.

128 Max Scheler, *Vom Ewigen im Menschen* (Leipzig, Verlag der Neue Geist, 1921); Max Scheler, *Die Stellung des Menschen im Kosmos* (Hamburg: Felix Meiner Verlag, 2018). For some of the works in English, see Max Scheler, *Man’s Place in Nature*, tr. Hans Meyerhoff (New York: Noonday, 1961); Max Scheler, *On the Eternal in Man*, tr. Bernard Noble (London: SCM Press, 1960); Max Scheler, *The Human’s Place in the Cosmos*, tr. Manfred S. Frings (Evanston, IL: Northwestern University Press, 2009).

tion of knowledge of modern Islamic economics and finance, and its operational structures that are largely rooted in preestablished understanding of economic science and its ontology,¹²⁹ yet revitalizing (pre-modern) Muslim thinkers means critically engaging with the very discipline of economics, in that the pre-modern Muslim ontology of *economy* entails both material and non-material features. Modern Islamic economics and finance is largely dissociated from the pre-modern conceptualizations of the ethical self, since it is encapsulated within the existing market transactions and operates with the prevalent terms, concepts, and imaginaries of *economy*. Its purpose seems not to be to improve living conditions and establish social equity goals that coincide with the idea of sustainability. Conversely, a holistic accountability of *tazkiya* is based on ethical subjectivity and combines individual utility with broader socio-ecological concerns. It is predicated upon self-examination, and it rejects the positivistic assumption that welfare or happiness have a direct positive and linear relation with material accumulation. It emphasizes the need for a far more intensive analysis of means and ends and calls for fundamental re-examination of obtaining livelihood. This is a sharp contrast to neoclassical economic postulates and their economic agent as divorced from moral deliberations.

In considerations of the metaphysical viewpoints laid down by the aforementioned Muslim scholars, the idea of wholesome accountability manifests itself in practical, social, economic, and cosmological aspects. The modern understanding of the concept of environment is for some scholars the outcome of “modern man’s attempt to view the natural environment as an ontologically independent order of reality, divorced from the Divine Environment.”¹³⁰ For instance, Nasr claims that the traditional Islamic view of the natural habitat “is based on this inextricable and permanent relation between what is today called the human and natural environments and the Divine Environment which sustains and permeates them.”¹³¹ While one could claim that Nasr endorses Islamization of knowledge, some of the concerns he raises are still looming large. Traditions that foster cosmological vision of environment and economy perceive natural phenomena not only conceptually or scientifically

129 See Sami Al-Daghistani, *The Making of Islamic Economic Thought* (New York: Cambridge University Press, 2022).

130 Seyyed Hossein Nasr, “Sacred Science and the Environmental Crisis: An Islamic Perspective”, 121.

131 Seyyed Hossein Nasr, “Sacred Science and the Environmental Crisis: An Islamic Perspective”, 121.

but through applied ethics based on the scholarly tradition.¹³² Thinking of environmental and economic ethics as rational systems that emphasize not only personal but wider communal responsibilities toward nature in modern societies, offers vistas to go beyond the current definitions of environmental and economic ontologies. While it seems that classical Islamic sciences pay attention to the individual approach to economic and environmental engagement based on faith, ultimately, the individual is often addressed within a collective entity through societal functions. In this sense, while legal injunctions and policies for environmental and climate protection are crucial, they simultaneously also carry spiritual significance. Methods of studying environment and economy are then multifold and polyvalent.

Muhammad Iqbal in the *Reconstruction of Islamic Thought* came close to ecological theology. Iqbal engaged with Qur'anic metaphysics to develop an Islamic ethics of care for the environment,¹³³ by introducing a new relation between human being and nature. Through the concept of *khudi* (self or Ultimate Reality), he established a spiritual link between humanity and nature.¹³⁴ Since nature exhibits change,¹³⁵ it is not what it appears to be: "Nature is not what we know her to be; our perceptions are illusions and cannot be regarded as genuine disclosures of Nature, which, according to the theory, is bifurcated into mental impressions, on the one hand, and the unverifiable, imperceptible entities producing these impressions, on the other."¹³⁶ Nature is always dynamic in a perpetual flow, which is unthinkable without time, similarly to the movement of the self in its efficiency, since it knows only the present.¹³⁷ Unlike Iqbal, many Muslim scholars from the second half of the 20th century perceived nature rather through anthropocentric lenses without addressing the classical tradition. They appear to focus more on the cultural, sociological, and political entanglements and not so much on the cosmological consid-

¹³² Seyyed Hossein Nasr, Nasr, *An Introduction to Islamic Cosmological Doctrines*, 1.

¹³³ Ibrahim Özdemir, "Muhammad Iqbal and Environmental Ethics," *Acta Via Serica*, Vol. 2, No. 2, December 2017, 92.

¹³⁴ Muhammed Iqbal, *The Reconstruction of Religious Thought in Islam* (Stanford: Stanford University Press, 2013), 1.

¹³⁵ Muhammed Iqbal, *The Reconstruction of Religious Thought in Islam*, 24.

¹³⁶ Muhammed Iqbal, *The Reconstruction of Religious Thought in Islam*, 27.

¹³⁷ Also, Ali Shariati compared societal functions with natural processes and argued that there are preexisting laws that govern nature, whereby man can make use of those laws. "Man is free in his deeds and actions not determined but obliged to follow the pre-existent laws of nature in order to realize his freedom." See Ali Shariati, *On the Sociology of Islam* (Berkeley: Mizan Press, 1979), 52.

erations of production processes. In this context, modern Islamic economics and “Green-Islam” movements that sprung out in the second half of the 20th century perhaps present only a temporary solution to current economic and environmental issues, since Islamizing disciplines presumes that Islam offers a fix to structural problems of modern Muslim societies. Economic and environmental issues, however, cannot be divorced from one another and are epistemically interrelated. Since economic and environmental questions were in selected classical texts conceptualized within a metaphysical framework that was often based on an ethical-psychological premise, economics and environmental science cannot be studied on their own terms.¹³⁸ Such a framework projects a humanistic outlook toward economy, environment, and their inner structures, permeating the acquisition of wealth, production processes, and utilization of natural resources geared toward higher order that addresses both material and spiritual reverberations, based on the conceptualization of *kasb*, *zuhd*, *faqr*, *maşlaḥa*, and related terms.

Such an epistemology necessitates a rejection of the positivistic universality of social sciences and economics’ methodological individualism.¹³⁹ The process of decolonizing epistemes, terms, concepts, and methods assumes accounting for discarded, neglected, or generally understood as unscientific historical processes of epistemological reasoning found in various non-European traditions. Decolonizing dominant economic and environmental theories considers past knowledge production rooted in different localities and cultures that operate also within metaphysical or ethical discourses. This means accounting for multiple (and different) sources of knowledge, based on a pluralistic premise that also considers the ethical foundation of production processes.¹⁴⁰

138 Tony Lawson, *Economics and Reality* (London: Routledge, 1997), 32, 121, 296.

139 Alatas proposes the term indigenization of knowledge, which critiques the modernist discourses and rejects universality of social scientific concepts. See Alatas, “Sacralization of the Social Sciences,” *Archives de sciences sociales des religions 40e Année*, No. 91 (1995), 89; Syed Farid Alatas, “Reflections on the Idea of Islamic Social Science,” *Comparative Civilizations Review*, vol. 17, no. 17 (1987): 60–86.

140 Elsewhere, I have discussed the need for plural epistemology as a way of introducing ethical reasoning in economics. See Sami Al-Daghistani, “Decolonizing Economics: On Knowledge, Power, and Polyvalent Economic Thought in Islam,” *Maydan*, July 21, 2022, accessible at, https://themaydan.com/2022/07/decolonizing-economics-on-knowledge-power-and-polyvalent-economic-thought-in-islam/?fbclid=IwAR1W1885x8YN_rJ8FHUUg_TzKy-4NsBbgt6AAOtUicV2FD_zrbv_NKGVdks; Sami Al-Daghistani, *The Making of Islamic Economic Thought*, chapter 5.

Conclusion

If one way to communicate about environmental problems is to introduce possible interdisciplinary methods and analysis, then one ought to consider non-Western, non-European, that is, also Islamic, pre-modern sources of knowledge production. In this vein, the paper interrogated classical economic and environmental teachings based on a multiple-angled epistemology centered on the purification of the self through *tazkiya* and *zakāt al-nafs*.

The alienation of human labor is on a cosmological scale connected with the alienation of human locale in nature. The economic mechanisms, such as *ribā*, *zakāt*, *maṣlaḥa*, in classical legal, theological, philosophical, and Sufi sources were not considered only under the category of *fiqh* as legal injunctions,¹⁴¹ but within the scope of an overall human development based on ethical premise. Such a multifold epistemology provides a hermeneutical field wherein human well-being is studied from multiple angles and perspectives, unlike the linear, unidimensional hermeneutics that is primarily centered on essentialized views of economics and environment/nature. Instead of focusing on anti-consumerist ecology alone, which seems to be a form of attaining an “authentic” buying experience, or “Islamizing” environmental and economic science, interrogating an epistemology that intricately merged the fields of environment and economics based on their cosmological significance, can be restored in contemporary societies by implementing pre-modern ethical theories of the self.

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141 “The essence of *fiqh* discussions has always been theological; it is only of late that jurists tend to focus attention on economic matters in two directions.” Waleed A.J. Addas, *Methodology of Economics: Secular vs. Islamic* (Kuala Lumpur: International Islamic University Malaysia Press, 2008), 98.

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Islamic Environmental Economics and Sciences of Nature

Waleed El-Ansary

Introduction

The island of Misali, part of the Zanzibar archipelago in the Indian Ocean, is a wonderful example of the remarkable role that religious values can play in confronting the crises facing our natural world.¹ The coral reef surrounding the largely uninhabited island is home to a rich variety of fish and turtles that provide direct livelihood to people in neighboring Pemba, whose population is over 95 percent Muslim. But rising population and depleting fish stocks led fishermen to adopt desperate and unsustainable fishing methods to maintain their catch, including dynamite fishing and the use of guns. Although such destructive methods damaged the corals and harmed local species, government bans on the practices had practically no impact. In the end, it was local religious leaders who helped restore sustainable fishing and a rich underwater life to the island, by educating the public on Islamic teachings about conservation.

The fishermen had clearly failed to understand and apply Qur'anic lessons about one's stewardship of nature to their fishing methods, but when these lessons were made clear to them, they were able to correct their self-destructive practices. As faithful Muslims, their hearts and minds already contained a consciousness about nature rooted in spirituality that religious leaders could actualize through advice drawn from Qur'anic teachings, thus bringing the local aquatic habitat back into equilibrium. One local fisherman aptly summarized why the religious message succeeded, whereas government decrees had failed. "It is easy to ignore the government," he said, "but no-one can break God's law."²

Analogous examples of the importance of religion in protecting nature are found in all the world's major religious traditions.³ Here, it is important to rec-

1 See Daniel Dickinson, "Eco-Islam hits Zanzibar fishermen," *BBC News*, February 17, 2005, <http://news.bbc.co.uk/go/pr/fr/-/2/hi/africa/4271519.stm>.

2 Ibid.

3 See for instance the Parent Collection, Center for the Study of World Religions on Religions of the World and Ecology at: <http://www.hup.harvard.edu/collection.php?cpk=1057>.

ognize that most people in the world will only heed religious as opposed to secular ethics about nature.⁴ Approximately one-quarter of the world's population is Muslim, nearly one-third is Christian, and approximately another third belongs to all other major world religions combined.⁵ Scientists therefore increasingly recognize the need for religion and science to join forces to address the environmental crisis. In 1991, for example, Carl Sagan, Stephen Jay Gould, and other renowned scientists issued a joint statement entitled "Preserving and Cherishing the Earth: An Appeal for Joint Commitment in Science and Religion," which declared:

[Our current environmental] problems of such magnitude, and solutions demanding so broad a perspective must be recognized from the outset as having a religious as well as a scientific dimension. Mindful of our common responsibility, we scientists—many of us long engaged in combating the environmental crisis—urgently appeal to the world religious community to commit, in word and deed, and as boldly as is required, to preserve the environment of the Earth.⁶

Yet the agnosticism of many scientific thinkers raises the question of how religious ethics can "cohabit with a view of the order of nature that radically denies the very premises of religion and that claims for itself a monopoly of the knowledge of the order of nature, at least any knowledge that is significant and is accepted by society as 'science'."⁷ It is one thing for religious leaders to protect nature by emphasizing the sanctity of God's creation, and quite another thing to defend the environment from exploitation by relying on a secular worldview that arguably conflates values and tastes as "preferences" that have no moral import, thus compromising the ability to make morally meaningful statements.⁸ As Seyyed Hossein Nasr asserts, "In a world

4 On religion and ecology, see for instance the Parent Collection, Center for the Study of World Religions on "Religions of the World and Ecology" at: <https://www.hup.harvard.edu/collection.php?cpk=1057>.

5 Pew Forum on Religion & Public Life, "The Global Religious Landscape: A Report on the Size and Distribution of the World's Major Religious Groups as of 2010." Published December 2012. Available online at: <https://assets.pewresearch.org/wp-content/uploads/sites/11/2014/01/global-religion-full.pdf>.

6 Available online at: <http://fore.yale.edu/publications/statements/preserve/>.

7 Seyyed Hossein Nasr, *Religion and the Order of Nature* (New York: Oxford University Press, 1996), p. 273.

8 See for instance Alasdair MacIntyre, *After Virtue: A Study in Moral Theory* (Notre Dame, Ind.:

in which the very category of ‘sacredness’ as applied to nature is meaningless, to speak of the sacredness of life is little more than sentimental thinking or hypocrisy.”⁹

As we have argued elsewhere, it is therefore necessary to highlight the radical difference between science as organized knowledge, which can refer to any level of reality including those beyond the material realm, and *scientism*, which claims that modern science, defined as a strictly empirical or sensory means of knowing the material world, has a *monopoly* on knowledge—that is, that anything beyond the sensory world is unreal, impossible to prove, or purely fanciful. Accordingly, scientism is an ideological construct that effectively supplants a metaphysical view of the universe, eliminating any basis for religious ethics about the environment through its reductionism. It ignores any higher, divine or celestial, levels of reality, and qualities such as beauty, justice, and virtue, which are above sensory, empirically observable phenomena.

If there is to be lasting cooperation about nature between religion and science, scientism, which is inherently hostile to religion, cannot be allowed to usurp the role of science. In fact, scientism is “bad philosophy,” not “good science.” It is self-refuting—because it is impossible to prove that “the only way to know anything truly is by using your physical senses” *by using your physical senses*. Moreover, contemporary “hard science” itself has now brought to light a number of “limit theorems,” a phrase the philosopher-scientist Wolfgang Smith introduces to describe various ways modern science discloses its own boundaries.¹⁰

It is then a scientistic (not a scientific) worldview which, through confining itself to technological, political, economic, and other purely materialistic structures, does injustice to man and threatens nature by treating both as resources rather than as the sacred creations they are. Specific crisis events, such as the melting ice sheets of the Antarctic¹¹ and Greenland,¹² or the acidification of

University of Notre Dame Press, 1984), and Henry Veatch, *For an Ontology of Morals: A Critique of Contemporary Ethical Theory* (Evanston: Northwestern University Press, 1971).

9 Seyyed Hossein Nasr, *Religion and the Order of Nature*, p. 6.

10 Wolfgang Smith, *The Wisdom of Ancient Cosmology: Contemporary Science in Light of Tradition* (Oakton, VA: Foundation for Traditional Studies, 2004), p. 213.

11 See Christopher Joyce, “Antarctica’s Ice Sheets Are Melting Faster—And From Beneath,” on NPR’s *All Things Considered*, October 25, 2016. Available online at: <http://www.npr.org/sections/thetwo-way/2016/10/25/499206005/antarcticas-ice-sheets-are-melting-faster-and-from-beneath>.

12 See John Abraham, “Global Warming Is Melting the Greenland Ice Sheet, Fast,” *The Guardian*, August 25, 2016. Available online at: <https://www.theguardian.com/environment/>

the oceans and destruction of the Great Barrier Reef,¹³ and climate collapse are merely the “tip of the iceberg,” to employ an analogy in systems theory,¹⁴ because they are manifestations of unnoticed larger problems generated by an underlying dysfunction: our worldview.

Accordingly, addressing this root cause requires that we change how we look at the world, at ourselves—and ultimately, at Reality.¹⁵ Islam (and religion as such) asserts that only a holistic approach to the sciences of man and nature can solve the crises we face, and it does so by showing us how to change the way we live. I shall argue that holistic (and therefore “whole” and “holy”) work, or work that is “spiritually, psychologically, and materially efficacious” is essential to address the crises we face.¹⁶

Modern economic thought runs counter to this solution, however. First emerging in an industrializing 18th century context marked by surging materialism, it is based on a mechanistic approach to the sciences of man and nature that is the root cause of the current environmental crisis. As we shall see, this mechanistic approach results in “deformed work” that can only serve material needs in the relatively short run given its connection to the environmental crisis. Deformed work only partly fulfills one’s spiritual needs in the sense that we are obligated to provide for our families, but such work cannot serve as a source of spiritual support, nor should Muslims attempt to do so.

However, it is important to note that the foregoing arguments do not deny that much of the Muslim world is participating in the destruction of the environment despite Islamic teachings. As Seyyed Hossein Nasr observes:

climate-consensus-97-per-cent/2016/aug/25/global-warming-is-melting-the-greenland-ice-sheet-fast.

13 Hywel Griffith, “Great Barrier Reef Suffered Worst Bleaching on Record in 2016, Report Finds,” *BBC News, Sydney*, November 28, 2016. Available online at: <http://www.bbc.com/news/world-australia-38127320>.

14 We thank James P. Buchanan for his comments and recommendations on “systems theory” in relation to Islamic economics. For an overview of this “systems theory” approach connecting events to underlying patterns, structures, and worldviews, see David Peter Stroh, *Systems Thinking for Social Change: A Practical Guide to Solving Complex Problems, Avoiding Unintended Consequences, and Achieving Lasting Results* (White River Junction, VT: Chelsea Green Publishing, 2015).

15 See for instance Seyyed Hossein Nasr, “Islam and the Preservation of the Natural Environment,” lecture at Georgetown University, Qatar, Center for International and Regional Studies, January 6, 2009, available online at <https://www.youtube.com/watch?v=ITHGZpu1rP4>.

16 Christian Schumacher, *To Live and Work: A Theological Interpretation* (Bromley, Kent: MARC Europe, 1987), p. 10.

... all of us on the globe share in destroying our natural environment, although the reasons for this are different in different parts of the globe. In the modern world the environment is destroyed by following the dominant [mechanistic and materialistic] philosophy, while in what remains of the traditional [Islamic and other major religious] world[s] it is done in spite of the prevailing [holistic] worldview and most often as the result of external coercion as well as temptation, whether it be direct or indirect. ... Obviously, for those for whom religion is still a reality, it is much easier to appeal to religion and the religious view of nature to discover the means through which a solution would be found for the crisis from which we all suffer.¹⁷

And yet, despite the current failure of Muslims alongside other communities to confront the environmental crisis, Islamic ethics and its holistic prescriptions for the economy, individual, and society deserve be known and studied, since they can still be found in various segments and areas of the Islamic world and remain the ideal that many Muslims seek to realize today. This article seeks to help restore this ideal, which may also help restore it in the heritage of other civilizations and our global society more broadly.

Before proceeding, it is important to address the question “is Islam simply what Muslims say it is?” or is there “one Islam, many Islams, or no Islam?”¹⁸ In this regard, Caner Dagli critiques Marshall Hodgson’s conflicting claims that Islam is simply what Muslims say it is in some parts of his work while also maintaining that Islam is *not* simply what Muslims say it is in other parts of his work, Talal Asad’s view that Islam is “a discourse” in the technical sense established by Foucault, Shahab Ahmed’s assertion that “contradiction is inherent” to Islam, and Kevin Reinhart’s view that “Islam” “simply does not exist.”¹⁹ Dagli points out the inherent problems and internal inconsistencies of all these positions and sets the conditions for any possible theorization of what is “Islamic” by using the concept of “metaphysical institution” as a way of understanding the vantage point of academics’ conceptualizing Islam and in order to bring out their often hidden presuppositions about what is real, rational, and good. In

17 Seyyed Hossein Nasr, “The Spiritual and Religious Dimensions of the Environmental Crisis,” in *Seeing God Everywhere: Essays on Nature and the Sacred*, Barry McDonald (ed.) (Bloomington, IN: World Wisdom, Inc, 2003), pp. 75–76.

18 Caner Dagli, *Metaphysical Institutions: Islam and the Modern Project* (New York: Suny Press, forthcoming), ch. 8.

19 Ibid.

this paper, I maintain that what makes something “Islamic” is its consistency with the consequences of the cardinal Islamic doctrine of the Unity of God, or *tawḥīd*, which in Arabic means both “oneness” and “making one” (or “integration”). Of course, these consequences must be understood in light of the Qur’an and *sunna*, or wonts of the Prophet of Islam, including his sayings. Although the consequences of *tawḥīd* are a subject of debate in many disciplines, I maintain that Muslim economists have drawn out some of its consequences for economics, but not some of the most crucial ones outlined in this paper.

This paper therefore clarifies the intimate but currently neglected connection between traditional Islamic cosmological sciences and environmental economics. The first section of the paper examines the application these principles to Islamic production processes in terms of holistic work and their implications for vocational occupations and exchange processes. The second section applies these principles to critique industrial (and post-industrial) capitalism and communism in terms of deformed work and the environmental crisis. And the third section draws the implications of this for understanding the differences between modern mainstream, or “neoclassical,” economic and Islamic environmental economic theories.

1 Islamic Cosmology and Holistic Work

In this section, I argue that the cosmos, or God’s “art,” simultaneously fulfills a hierarchy of spiritual and other needs and is a necessary condition for human arts and crafts to fulfill the same hierarchy of needs for both maker and patron. The connections between the spiritual significance of the cosmos and holistic work fulfilling this comprehensive hierarchy of needs are arguably more apparent in *Sūra al-Iqtīṣād*, the “Chapter of Moderation in Spending,” or *sūra* 16 more commonly known as *Sūra al-Naḥl*, or “Chapter of the Bee,” than any other chapter of the Qur’an. This *sūra* emphasizes the beauty and wonder of the natural world as signs of God, or *āyāt Allāh*, reflecting His Names and Qualities and fulfilling our spiritual needs while simultaneously pointing out its material benefits as fulfilling our corporeal needs. For example, verses 5–7 state:

And cattle has He created for you, in which there is warmth and [other] uses, and whereof you eat.

And in them there is beauty for you, when you bring them home, and when you take them out to pasture.

*And they bear your burdens to a land you would never reach, save with great hardship to yourselves. Truly your Lord is Kind, Merciful.*²⁰

Maria Massi-Dakake comments on these verses as follows:

In the Qur'an cattle is used to designate four types of grazing animals: sheep, goats, camels, and oxen. ... The manifold benefits of cattle for human beings ... include their service as riding animals and beasts of burden, their provision of milk and meat, and the use of their skin and wool for making dwellings and furnishings. ... [and] their beauty (*jamāl*) is invoked ... as one of their benefits for humanity, indicating that the natural world should be seen as a source of beauty and wonder, not just of material benefits.²¹

The same applies to horses and other riding animals in the next verse, which describes them as “adornment” in addition to highlighting the many other essential services they render to us.²² The Qur'anic emphasis on the beauty of nature as conveying signs “for people who understand” and “who reflect” clearly demonstrates that nature reveals a spiritual truth and presence from the Islamic point of view.²³ Subsequent verses express similar principles regarding a hierarchy of spiritual and other needs in different contexts such as the sea, streams, and stars, which are dazzling in beauty while making it possible for human beings to seek God's Bounty by acquiring goods through distant trade by land or sea.²⁴ The rational response to such bounties is gratitude (*shukr*), which in turn results in contentment and fulfillment (*qanā'ah*).²⁵

From this perspective, the cosmos itself is there to be read as if it were a boundless book revealing multi-faceted meanings and purpose placed therein by its Author. It is the relation between the cosmos, the Qur'an, and humankind that is central in Islamic cosmology. In a sense, it can be said that there are

20 Unless otherwise specified, all translations of the Qur'an are from *The Study Quran: A New Translation and Commentary* by Seyyed Hossein Nasr, Editor-in-Chief; Caner K. Dagli, Maria Massi Dakake, and Joseph E.B. Lumbard, General Editors; and Mohammed Rustom, Assistant Editor (New York: HarperOne, 2015).

21 Ibid, p. 657.

22 Ibid.

23 Ibid, p. 660.

24 See for instance 16:14–16.

25 For an extended discussion of this, see Adi Satia, “The Islamic Gift Economy: A Brief Conceptual Outline” at: <https://islamicgifteconomy.org/index.php/easyblog/entry/the-islamic-gift-economy>.

two Qur'ans: the written Qur'an, *al-qur'ān al-tadwīnī*, and the cosmic Qur'an, *al-qur'ān al-takwīnī*, the second of which speaks to us in *āyāt* or the signs and symbols that abound throughout the natural world. The Qur'an itself refers to these signs in the verse, "We shall show them our portents upon the horizon [*āfāq*] and within themselves [*anfusihi*], until it be manifest unto them that it is the truth" (41:53). The words and letters of the Qur'an, the elements of the macrocosmic creation surrounding us, and the microcosmic world within us, that is, our faculties of intelligence and of the heart—all these signs and symbols exist that we may perceive within them the Divine message they reveal.

Titus Burckhardt explains the interconnections between art, beauty, and holistic work as follows:

God is beautiful and he loves beauty (*Allāhu jamīlun yuḥibbu'l-jamāl*): this saying of the Prophet opens up limitless perspectives, not only for the inner life, where the beauty loved by God is above all that of the soul, but also for art, whose real purpose, understood in light of this prophetic teaching, is to support the contemplation of God. For beauty is God's radiance in the universe, and every beautiful work is a reflection of it. ...

According to (another) saying from the Prophet, "God prescribes perfection in everything" (*Inna-Llāha kataba-l iḥsāna 'alā kulli shay'*); the word *iḥsān* which we translate as "perfection" also has the meanings of "beauty" and "virtue." It is thus a duty of the Muslim to seek perfection in every work, this perfection implying beauty in its turn. The traditional practice of the arts refers to this maxim, and one will immediately understand that on this basis there could be no schism between craftsmanship and art.²⁶

Thus, the production process is conceived as a spiritual discipline in which what one makes is not only a means of livelihood but also a product of devotion. As Coomaraswamy asserts, "Every man is a special kind of artist" in this perspective; the artist is not "a special kind of man."²⁷ And as Burckhardt points out: "One of the fundamental conditions of happiness is to know that everything that one does has a meaning in eternity ... In a theocentric society the

26 Titus Burckhardt as cited in Jean-Louis Michon, "Titus Burckhardt and the Sense of Beauty: Why and How He Loved and Served Morocco," *Sophia: A Journal of Traditional Studies* 5/2 (Winter, 1999), pp. 113–140; pp. 117–119.

27 See Rama Coomaraswamy (ed.), *The Essential Ananda K. Coomaraswamy* (Bloomington, Indiana: World Wisdom, 2004), p. 124.

humblest activity participates in this heavenly benediction.”²⁸ Accordingly, all members of society ideally engage in a vocational occupation corresponding to their spiritual and psychological needs which include the protection of nature. This would not only allow all individuals to best serve the society to which they belong, but also to best realize their perfections. As the Qur’an states, “To each is a goal to which God turns him. Then strive as in a race towards all that is good, and wherever you are, God will bring you together” (2:148)²⁹ In this perspective, the arts and crafts have “never been regarded as different forms of activity ...”³⁰

Furthermore, it can be said that there is a necessary connection between beauty and spiritual realization in holistic work. According to such a view, beauty has its source in the Ultimate Reality and as such it radiates throughout all levels of existence. As human beings we find an inner resonance with beauty, for it reminds us of our celestial origin, that origin whose memory we carry deep within our being and in which we recognize our true nature. By reading the signs and symbols, the *āyāt Allāh*, throughout creation, we gain in spiritual wisdom, ultimately realizing our potential as beings made in God’s image.

This holistic approach to the making of things has always been closely wed to the spiritual practices of Islam, because the necessary condition for this approach is consciousness of one’s mortality and complete dependence on the Absolute, or “spiritual poverty” (*faqr*).³¹ Significant spiritual preparation involving prayers, meditation, and spiritual contemplation were an integral part of the creative process for traditional Muslim craftsmen and craftswomen,

28 William Stoddart (ed.), *The Essential Titus Burckhardt: Reflections on Sacred Art, Faiths, and Civilizations* (Bloomington, IN: World Wisdom, 2005), p. 88.

29 This verse has multiple interpretations, the most common of which concerns the direction of prayer. But the verse also bears a vocational meaning, since every verse in the Qur’an has multiple levels of meaning that are legitimate so long as they do not violate the literal meaning of the text. Henri Corbin summarizes this Islamic doctrine by noting that, “The Quran possesses an external appearance and a hidden depth, an exoteric meaning and an esoteric meaning. This esoteric meaning in turn conceals an esoteric meaning so it goes on for seven esoteric meanings (seven depths of hidden depth).” Henry Corbin, *History of Islamic Philosophy* (New York: Kegan Paul, 1993), p. 7.

30 Seyyed Hossein Nasr, *Islam in the Modern World: Challenged by the West, Threatened by Fundamentalism, Keeping Faith with Tradition* (New York: Harper Collins Publishers, 2010), p. 58.

31 For the man who has acquired *faqr*, its immediate consequence is “detachment with regard to all manifested things, for the being knows from then on that these things, like himself, are nothing, and that they have no importance whatsoever compared with the absolute Reality.” This detachment implies “indifference with regard to the fruits of action ... which enables the being to escape from the unending chain of consequence which follows from this action.” René Guénon, “*Al-Faqr* or ‘Spiritual Poverty,’” *Studies in Comparative Religion* 7/1 (Winter 1973), pp. 16–20.

at the end of which a beautiful design would emerge combining utility with spiritual truth and presence.³² Purity of soul and nobility of character were obviously indispensable for such works.

While it reflects principal knowledge and grace, traditional Islamic art can be functional and fulfill the spiritual and material needs of both maker and user in its interweaving of beauty and utility. Living traditional civilizations generate art at all levels, including the utilitarian, in the knowledge that to create something for people's use is ultimately to create that object for God since each person is capable of being God's vicegerent on earth.

The aesthetic aspect of work is fundamentally linked to the ethical production of products. From an Islamic point of view, there is no aesthetics without ethics. In traditional civilizations, high quality and beautiful products reflected the love the maker had for his or her work and the fact that its production filled not only a practical need but a spiritual one. The product made with such awareness enhanced the life of its owner through its beauty and significance as a manifestation of devoted artistry. One need only think of the harmonious patterns and colors of a Persian carpet to understand that its makers put much more than the goal of economic gain into its weaving; its production elevated the soul of both maker and user.

The human being is created in God's image (*'alā ṣurātihi*) and i[s, therefore, a work of art par excellence as a reflection of His Divine Names and Qualities. When the spiritually realized individual participates consciously in the act of creating any object or art form such as music or poetry, that person is fulfilling his or her potential as God's vicegerent by imitating His aspect of Creator. Through the individual's creative act, provided it is carried out in harmony with the laws of the cosmos and draws upon the cosmic archetypes, he or she expresses his or her essence as a being whose existence is itself a work of Divine art. By creating a work that has meaning across a hierarchy of levels, the maker finds equilibrium with his or her true nature. However, when art is not intended to express the rightful place of theomorphic man in the cosmos, but is meant instead to express the artist's base ego separated from God, the end result is a march toward forgetfulness of the human being's true nature as one capable of knowing and making in God's image.

There is a profound resonance between knowledge and the creative act in the traditional Islamic perspective, and this is rooted both in man's role as a reflection of Divine Attributes as well as in the inverse relation that exists

32 Yusuf Ibish, "Traditional Guilds in the Ottoman Empire: An Evaluation of their Spiritual Role and Social Function," *Islamic World Report* (1999), p. 6.

between the creative act of God and that of man. God's creative act or "art" results in the manifested order; it is an externalization whereas the art of man is an internalization. The act of Divine creation brings into existence that which is made by God. The creative act of the human is in a sense a process that returns the maker to his or her inner essence wherein spiritual knowledge is realized.

Moreover, Islamic law gives the social division of labor *itself* spiritual significance based on the principle of *farḍ kifāya*. This principle requires that some members of the community must practice each profession so as to discharge collective obligations to provide private and public goods for the rest of the community, including the building of orphanages and hospitals.³³ If no members in the community fulfill such needs, each member of the community is held spiritually accountable. Similarly, if *some* members of the community practice *each* profession that fulfill everyone else's needs, then each individual is absolved of that spiritual obligation. Accordingly, the social division of labor is *itself* a spiritual duty, not simply a right. The principle of *farḍ kifāya* therefore has tremendous implications for mutual respect, appreciation, the spirit of reciprocity, and economic justice, since each Muslim should thereby recognize that everyone is involved in freeing the community from a particular responsibility before God, thereby reinforcing the holistic nature of work.

A living religious *intellectual* heritage is necessary to realize such an economy. Only a functioning and intact orthodox tradition can produce enduring works of art, science, and metaphysics that contain within themselves the dimension of knowledge that is intrinsic to that tradition. In traditional Islamic society, the guilds transmitted the Islamic doctrines and practices on the division of labor, production, and market exchange that allowed man to live in harmony with himself, his community, and nature. We are not suggesting a restoration of the specific practices of historic Islamic economic models. However, this history can serve as a source of inspiration for understanding how Islamic economic principles were previously applied, and how we can apply them today to strengthen the ethics of contemporary economic practices and how such a strengthening will in turn address the environmental crisis. Although the values resulting from the application of these traditional economic principles are no longer as pervasive or strictly manifested in many parts of the Islamic world, that is due for the most part to the penetration of Western secular modes of

33 Seyyed Hossein Nasr, *The Heart of Islam: Enduring Values for Humanity* (New York: HarperOne, 2004), p. 126. *Farḍ kifāyī* is in contrast to *farḍ 'aynī*, an individual duty such as prayer, rather than a collective duty.

thought and practice in these lands.³⁴ For example, prior to the late 19th century, nearly the entire gainfully occupied population of Muslim society were members of the guilds.³⁵ The guilds themselves highlighted their religious origins with important implications for interreligious cooperation and holistic work:

... practically every guild identified a particular Prophet or saint as being the patron of its particular craft, thus endowing the craft with something of the sacred character of the personage For example, the carpenters took as their patron the Prophet Noah: having built the ark, he stands forth as the exemplary master carpenter. The Virgin Mary was adopted by the weavers as their patroness: it was she who wove the swaddling clothes for the child Jesus. The Persian companion of the Prophet, Salman al-Farsi, having been the Prophet's barber, was the patron of the barbers' guild The Caliph 'Umar was reputed to have said that he would have adopted perfume-making as his profession: if he made no profit, he would at least have with him always a beautiful scent—hence his adoption by the perfumiers as their patron.³⁶

In fact, the common recognition of many of the monotheistic prophets of the Abrahamic family of religions encouraged the existence of inter-faith guilds (with Muslim, Christian and Jewish members) and fostered harmony among

34 Seyyed Hossein Nasr, *Islam in the Modern World: Challenged by the West, Threatened by Fundamentalism, Keeping Faith with Tradition*, (New York: HarperCollins Publishers, 2010), ch. 3.

35 Gabriel Baer, *Egyptian Guilds in Modern Times* (Jerusalem: Israel Oriental Society, 1964). In the case of Cairo, Baer explains: "Not only were all the artisans and merchants organized in guilds according to their crafts and trades, but also people engaged in transport (such as donkey-drivers) and in services (such as story-tellers and other types of entertainers). The guild system embraced owners of shops ..., owners of workshops such as starchworkers, makers of wax and candles, makers of dyes, bottles, carpets, etc.; owners of large stores such as salt-merchants, corn-merchants, iron-merchants, etc. There were also guilds of people who worked in their own houses, such as painters and those who worked with sulphur ('because of the bad smell'), as well as of salaried workers (e.g. in the building trade) and government employees, such as employees of the mint Both rich and poor had their guilds: corn-merchants as well as sewermen, saddlers as well as makers of rope." (pp. 5–6) Even the *'ulamā'*, or religious scholars, had their own organization that was not dissimilar to the guilds. (p. 47).

36 Yusuf Ibish, "Traditional Guilds in the Ottoman Empire," pp. 6–7. He adds that, "material work and holy significance were in this manner never allowed to diverge, the sacred was manifested outwardly in the work, and the work was ennobled by the inward presence of the sacred."

many different intra-faith guilds in traditional Islamic civilization.³⁷ There were thus links and cooperative arrangements among members within a particular guild as well as among various guilds, where they all shared a common interest in the work they did, as well as the spiritual and economic benefits of performing such work with excellence.

This approach to production and social organization entailed a system of personal exchange in which coordination between members was quite manageable. In fact, traditional craftsmen accepted the duty to supply their goods at just and stable prices, since the division of labor was a duty, not just a right.³⁸ To avoid over- or under-supply of the market at a particular time, for example, a master craftsman could postpone or accelerate taking on extra apprentices while another qualified craftsman had insufficient or excess work, respectively. In short, equilibrium based on holistic work was critical not only for meeting physical needs through reliable employment and steady income but also for satisfying the guildsmen's spiritual needs by making possible the fulfillment that came from their participation in the deeper dimensions of work.

Honorable and noble intentions, in addition to making a living, were clearly important in the traditional Islamic economic system, tightly integrating ethics and economics. The implications of this for economic theory and practice are addressed below.

2 Understanding the Root Causes of the Environmental Crisis and Economic Instability through Deformed Work and a Mechanistic Worldview

Economists generally view the environmental crisis in terms of “market failures,” that is, as results of the overuse (or underuse) of goods relative to their “true” costs—and most particularly of the fact that natural resources (clean air, water, and a stable climate) that should have a “price” are considered “free,” or are drastically underpriced. (We shall return to industrial communism in which prices are allegedly “correct” shortly.) A classic example illustrating this price discrepancy is that of a factory polluting a nearby neighborhood, imposing costs on its neighbors that are “external” to the polluter who ignores its

37 See for instance Bernard Lewis, “The Islamic Guilds,” *Economic History Review* A8/1 (1937), pp. 20–37.

38 See for instance Volumes 17 to 19 on prices (*al-as'ār*; sing. *sī'r*) in Ali Goma'a (ed.), *Revealing the Islamic Economic Heritage (Takshif al-Turāth al-Islāmī al-Iqtisādī)* (Cairo: International Institute of Islamic Thought, 1997).

social and environmental responsibilities. In situations involving such “negative” externalities, economists maintain that goods such as clean air are “under-priced.” The cumulative effect of this is “market failure”—the pollution of clean air without paying the cost of that pollution’s harm to others. According to Gus Speth:

We live in a market economy where prices are a principal signal for guiding economic activity. When prices reflect environmental values as poorly as today’s prices do, the system is running without essential controls ... Today’s market is a strange place indeed. At the core of the economy is a mechanism that does not recognize the most fundamental thing of all, the living, evolving, sustaining natural world in which the economy is operating. Unaided, the market lacks the sensory organs that would allow it to understand and adjust to this natural world. It’s flying blind.³⁹

Accordingly, markets can fail to account for myriad environmental threats, including marine losses, deforestation, desertification, freshwater system decline, loss of biodiversity, proliferation of toxic pollutants, acid rain, nitrogen excess in fertilization, climate collapse, and so forth.⁴⁰ The increasing scarcity of unpolluted natural resources, most of which have been used or damaged by their use in production processes without costs to the exploiting enterprise, reverses Adam Smith’s well-known claim that an individual pursuing his own interest might be:

... led by an *invisible hand* to promote an end which was no part of his intention. Nor is it always the worse for the society that it was not part of it. By pursuing his own interest, he frequently promotes that of the society more effectually than when he really intends to promote it.⁴¹

However, this “free” exploitation of unspoiled nature converts the benign “invisible hand” into a malevolent “invisible foot,” in which each person pursuing only their own good:

39 James Gustave Speth, *The Bridge at the End of the World: Capitalism, the Environment, and Crossing from Crisis to Sustainability* (New Haven: Yale University Press, 2008), p. 54.

40 See for example Charles HRH The Prince of Wales, *Harmony: A New Way of Looking at Our World* (New York: HarperCollins, 2010), ch. 2.

41 Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1812), IV.2.9. Emphasis mine.

... will automatically, and most efficiently, do his part in maximizing the general public misery ... To paraphrase [Adam Smith's] well-known precursor of this theory: Every individual necessarily labors to render the annual external costs of the society as great as he can. He generally, indeed, neither intends to promote the public misery nor knows how much he is promoting it. He intends only his own gain, and he is in this, as in many other cases, led by an invisible foot to promote an end which was no part of his intention. Nor is it any better for society that it was no part of it. By pursuing his own interest, he frequently promotes social misery more effectually than when he really intends to promote it.⁴²

Market failure and the invisible foot put a blinding spotlight on the need for reasonable regulation of markets and commerce, particularly in response to the heedlessness that treats environmental and “social” capital (the latter including social networks marked by reciprocity, trust, and cooperation) as though they were disposable income. But the political process necessary for proper regulation can also fail due to the corrupting influence of special interests. From this perspective, the indispensability of effective regulation in the public interest, and the integrity and impartiality of its administration depends on lawyers, judges, policymakers and public servants at all levels of government being trained to truly and impartially administer justice, and to maintain their integrity in carrying out those duties. This is a particularly daunting challenge for politicians and regulators facing powerful, well-financed special interests.

Such special interests arise because small groups with mutual interests have a greater incentive to organize and lobby than larger groups do, since one's share in the goods thereby procured diminishes as the number of stakeholders increases.⁴³ And if these narrowly defined and unregulated interests are allowed to proliferate willy-nilly, the danger increases of the “death of our *just* economy by a thousand cuts.” As Speth explains:

Political failure perpetuates, indeed magnifies, this market failure. Government policies could be implemented to correct market failure and make the market work for the environment rather than against it. But

42 E.K. Hunt and Mark Lautzenheiser, *History of Economic Thought: A Critical Perspective* (London: M.E. Sharpe, 2011), p. xiii.

43 See for instance James M. Buchanan and Robert D. Tollison, eds., *The Theory of Public Choice* (Ann Arbor, Michigan: University of Michigan Press, 1984). Public choice theory refers to the application of economic theory to the problems of political science, particularly collective choice processes.

powerful economic and political interests typically stand to gain by not making those corrections, so they are not made or the correction is only partial.⁴⁴

Furthermore, the problem of special interests tends to worsen over time, since the longer economic disorders remain unremedied, the more special interests amass wealth and organize more effectively to protect their advantages.⁴⁵

In short, the ethical orientation and commitment necessary to prevent the degradation of both people and the environment is generally *absent* from both the economic and political domains in modern industrial countries where work is depleted of spiritual meaning; and efforts to remedy economic and environmental disorders are usually “too little, too late.” This is because modern science and technology generate production processes that ignore the spiritual need of laborers, craftsmen, and professionals for work that is ennobling, thereby promoting deformed work. Even Adam Smith, the 18th-century figure widely regarded as the “founding father” of modern economics, recognized that deformed work was fundamental in industrial economies but not without serious social costs:

The understandings of the greater part of men are necessarily formed by their ordinary employments. The man whose life is spent in performing a few simple operations ... has no occasion to exert his understanding ... He naturally loses, therefore, the habit of such exertion and generally becomes as stupid and ignorant as it is possible for a human creature to become ... but in every improved and civilised society this is the state into which the labouring poor, that is, the great body of the people, must necessarily fall, unless government takes some pains to prevent it.⁴⁶

Whereas the holistic worldview discussed in the first section of this article studies nature in the light of metaphysical principles, a mechanistic worldview studies nature as an independent or autonomous reality in which qualitative differences are reducible to quantitative ones and there is an irreducible gulf between the subject that knows and the object that is known. Accord-

44 James Gustave Speth, *The Bridge at the End of the World*, p. 53.

45 See for example Todd Sandler, *Collective Action: Theory and Applications* (Ann Arbor: University of Michigan Press, 1992).

46 Adam Smith as cited in E.F. Schumacher, *This I Believe* (Foxhole, Dartington: Green Books, Ltd, 1997), pp. 99–100.

ingly, scientism as an ideological construct effectively supplants a metaphysical view of the universe, eliminating any possibility for a theology of work, vocational occupation, and religious ethics as regards the environment through its reductionism. As noted in the introduction, if religion and science are to join together in a lasting recognition of the role of the human being vis-à-vis the natural world, with a consequential cooperation that results in the protection of nature, then scientism, which is inherently hostile to religion, must not be allowed to usurp the role of science. In fact, as stated earlier, scientism is self-refuting—because it is impossible to prove that “the only way to know anything truly is by using your physical senses” by using your physical senses.⁴⁷ Moreover, the discoveries of physics over the course of the last century have proven beyond a shadow of a doubt that a strictly mechanistic conception of the universe is false, a crucial point we shall return to in the final section of this article. It is then a scientistic (not a scientific) worldview that generates materialistic technological, political, economic, and other social structures that do injustice to man and threatens nature by treating both as resources rather than as the sacred creations they are.

Moreover, if it is true that complete fulfillment is found only in the unlimited reality of God (whether approached in personal or supra-personal terms), as all the world’s major religions assert, then it follows that to seek the *Infinite* in finite goods can only result in profound disappointment, pain, and even despair. Accumulating wealth for its own sake converts the joy and blessings of wealth into a sort of envious misery, because somebody else will always have more. Indeed, a misdirected search for the Infinite has stoked appetites that now insatiably devour the beauty of the natural world. But since sensible beauties are situated outside the soul, their meeting with it is generally accidental. Thus, the only way for the soul to be happy in an unconditional and permanent manner is to carry the beautiful within itself. To fill the void created by the absence of inward beauty with heedless consumption can therefore be likened to drinking saltwater—it will only make us thirstier. Schumacher describes this cycle in the context of modern economies:

The basic aim of modern industrialism is not to make work satisfying but to raise productivity; its proudest achievement is labor saving, whereby labor is stamped with the mark of undesirability. But what is undesirable cannot confer dignity; so the working life of a laborer is a life without dig-

47 See James Cutsinger in “Paths of Return,” ch. 1, available online at: http://www.cutsinger.net/pdf/paths_of_return.pdf.

nity. The result, not surprisingly, is a spirit of sullen irresponsibility which refuses to be mollified by higher wage awards but is often only stimulated by them.⁴⁸

It is precisely such a cycle—the endless need for more because of deformed work—that is destroying our natural world.

One might think that a socioeconomic system based on central command explicitly appealing to cooperative ideals, or the “visible hand” of the state rather than the “invisible” hand of the market, would be better equipped to neutralize the negative externalities than systems lacking these characteristics. But, in fact, the opposite is true, as evidenced by the dismal environmental record of communist countries—in addition to communism’s many other life and freedom-crushing effects. Joseph Dellapenna, in fact, goes so far as to argue that the ultimate cause of the collapse of communism was not the commonly cited yearning for democracy, human rights, and a higher standard of living—all of which existed before—rather it was communism’s dismal record on the environment that was the final catalyst of the public consensus that the Soviet Union had to be dismantled and purged of communism.⁴⁹ Regardless of how accurate this account may be, communism did attempt to achieve economy-wide cooperation through central planning, but undermined the basis for such cooperation by its approach to deformed work based on its atheistic, mechanistic worldview that ignored the intrinsic connections between meaningful holistic work and spiritually productive cooperation. Moreover, special interests can take on even more corrupt and dysfunctional forms in industrial communism than in capitalism, since “bureaucrats tend to confuse their own interests, and the interests of their bureaucracy, with the interests of society as a whole.”⁵⁰ From this point of view, the complete lack of any spiritual dimension in communist political theory is bound to result in both massive market and political failure when put into practice. It is as though communism purports to achieve a sort of “Christian” charity without reliance on the inspiration of Christ, or any other revelation.⁵¹ As Schumacher explains:

48 E.F. Schumacher, *Good Work* (New York: Harper & Row Publishers, 1979), pp. 27–28.

49 See for instance Joseph W. Dellapenna “Behind the Red Curtain: Environmental Concerns and the End of Communism,” Villanova University School of Law Working Paper Series, 2010, no. 152. Available online at: <http://digitalcommons.law.villanova.edu/wps/art152/>. And as Speth avers, “Its [communism’s] authoritarian political system and highly centralized economic planning produced one environmental disaster after another.” *The Bridge at the End of the World*, p. 58.

50 John Medaille, private correspondence, August 20, 2014.

51 For a brilliant analysis of how Marx’s anti-theological critique of industrial capitalism

[E]ither you believe in God, then you will pursue politics ‘mindful of the eternal destiny of man and of the truths of the Gospel’; or you believe that there are no higher obligations, then you cannot resist the appeal of Machiavellianism—politics as the art of gaining and maintaining power so that you and your friends can order the world as *they like it*. There is no supportable middle position. Those who want the Good Society, without believing in God, cannot face the temptations of Machiavellianism; they become either disheartened or muddleheaded, fabulating about the goodness of human nature and the vileness of one or another adversary. (Everything is the fault of Khrushchev, Nasser or Gaitskell.) Optimistic ‘Humanism’ by ‘concentrating sin on a few people’ instead of admitting its universal presence throughout the human race, leads to the utmost cruelty.⁵²

Communism and industrial capitalism therefore have *much* more in common than their proponents admit: both neglect the loss of intrinsic meaning in production and exchange processes, thereby promoting *conflict* rather than *cooperation* between workers, owners (whether individuals, corporations, or the state), and consumers.⁵³ Although communism opposes spiritual values much more directly than industrial capitalism, they both undermine spiritual values

actually depends upon a theological critique despite his disavowal of it, see John Hughes, *The End of Work: Theological Critiques of Capitalism* (Oxford: Blackwell Publishing, 2007). With regard to economic cooperation, Alistair MacIntyre maintains that philosophical ethics is ultimately reducible to one of two options: the “way of Aristotle” involving objective values based on the nature of things, which is consistent with a religious approach to law and ethics, and the “way of Nietzsche” involving a subjective “will to power” that denies any nature to things. MacIntyre argues that no middle position is intellectually sustainable (see his *After Virtue: A Study in Moral Theory* (Notre Dame, IN: University of Notre Dame Press, 1984), especially ch. 9). Although some commentators have argued that Marx refrained from discussing political realities in the light of ethical ideals because of his materialist reading of history, others have disputed this position (see the entry for Marx in the *Stanford Encyclopedia of Philosophy*). As Bertell Ollman has written, “Another major characteristic of communist society is the high degree of cooperation and mutual concern which is discernable in most human activities” (in “Marx’s Vision of Communism,” http://www.nyu.edu/projects/ollman/docs/vision_of_communism.php). Such cooperation and mutual concern are intellectually and practically unsustainable in communist society according to Hughes and MacIntyre.

52 E.F. Schumacher lecture notes for his course “Crucial Problems of Modern Living” at London University in 1959–1960, quoted in Barbara Wood, *E.F. Schumacher: His Life and Thought* (New York: Harper & Row, 1984), p. 264.

53 See for instance Louis Putterman, *Division of Labor and Welfare: An Introduction to Economic Systems* (Oxford: Oxford University Press, 1990).

through deformed work. Personal reform *within* a system is then rendered powerless to reform the system itself:

This is of decisive importance. It shows that appeals for good behavior and the teaching of ethical or spiritual principles, necessary as they always are, invariably stay, as it were, *inside* the system and are powerless to alter it: unless and until the preaching leads to significant new types of work in the physical world.⁵⁴

If competing forms of modern social organization cannot address the root causes of the crises related to the environment, the depletion of non-renewable resources, and social escapism, can new technologies provide the necessary solutions? Indeed, there is no question that current technologies must change. The only question is whether or not the scientific paradigm within which the technology is developed must also change.⁵⁵ According to the Islamic intellectual heritage, any new paradigm must be able to integrate the findings of modern science into higher orders of knowledge if it is to develop spiritually meaningful holistic production and exchange processes for environmental and socio-economic stability, prompting Muslim scholars such as Nasr to insist on “the need for a sacred science.”⁵⁶ From this point of view, modern science can at best postpone crises and at worst lead to a vicious downward cycle of technologies, with each “cure” leading to more and more adverse (and even catastrophic) “side effects.”⁵⁷

54 E.F. Schumacher, *Age of Plenty: A Christian View* (Edinburgh: St. Andrew Press, 1974), p. 12.

55 See for example Seyyed Hossein Nasr, *Religion and the Order of Nature*. Also, Osman Bakar, *Tawhid and Science: Essays on the History and Philosophy of Islamic Science* (Penang, Malaysia: Secretariat for Islamic Philosophy and Science, 1991), and his *Islamic Civilization and the Modern World* (Bandar Seri Begawan: UBD Press, 2014).

56 See Seyyed Hossein Nasr, *The Need for a Sacred Science* (Albany, NY: State University of New York Press, 1994).

57 This point can be illustrated with the *true* story of a man who, having a spot of arthritis in his finger joints, was given tablets by his doctor that resulted in a stomach ulcer. A subsequent operation for the ulcer in conjunction with strong antibiotics interfered with his cardiovascular system to the extent that the doctor felt an obligation to carry out two more minor operations. Complications from these operations then required treatment by a heart specialist; but in the patient's weakened condition, he contracted a lung infection. The patient died within two weeks of the operations despite the continuous care of three doctors and the hospital staff. See Ezra J. Mishan, *Economic Myths and the Mythology of Economics* (Atlantic Highlands, NJ: Humanities Press International, 1986), pp. 174–175. It is interesting to note the recent growth of “integrative” medicine, which combines what is efficacious in allopathic medicine with traditional and “alternative” methods in this man-

Finally, even from a purely reductionist point of view, nature is an open, complex system that modern science is incapable of modeling in a comprehensive way. For example, while it is easy to calculate the force of gravitation between two objects in isolation in a hypothetical world, it is immensely complicated to do so with three objects, and is practically impossible with four objects. Tarik Quadir concludes that, "If modern science cannot identify the actual interrelationships among the innumerable variables in nature, we have no reason to believe that there could be a technological solution [for our technologically ravished environment] even in the remote future."⁵⁸

In short, because the reductionist paradigm of modern science excludes the integration of the findings of modern science into higher orders of knowledge, both man and nature have suffered a plethora of unintended adverse consequences. The solution is to recognize the erroneous presuppositions in this distorted and fragmented view of man and nature, correct them, and begin drawing the correct conclusions about a path to a healthy society.⁵⁹

From this point of view, those who hope for a technological fix within the current reductionist paradigm are substituting a *secular* faith for a traditional (*real*) faith. The history of the notion of progress is grounded in the secular belief that modern science is leading humanity, step by step, to some future utopia, where mankind will live in a virtual paradise.⁶⁰ The point here is that these issues involve questions that economists *cannot* answer *qua* economists.

ner. In any regard, the reductionism and hyper-specialization in the medical profession are known to cause unforeseen and detrimental effects on our immediate and long-term physical health; this reductionism and hyper-specialization also prevail in the agricultural methods and dietary habits of modern secular societies, which in fact are largely responsible for many of the health-related issues that modern society faces. T. Colin Campbell, *Whole: Rethinking the Science of Nutrition* (Dallas, Texas: BenBella Books, Inc., 2013), p. 17.

58 Tarik Quadir, *Traditional Islamic Environmentalism* (New York: University Press of America, 2013), p. 16.

59 Seyyed Hossein Nasr, *Islam and the Plight of Modern Man* (Chicago: Kazi Publications, 2001), p. 4.

60 For example, the positivist cult of Saint-Simon, who "envisaged an assembly of 'the twenty-one elect of humanity' to be called the Council of Newton," acquired "all the paraphernalia of the Church—hymns, altars, priests in their vestments and its own calendar, with the months named after Archimedes, Gutenberg, Descartes, and other rationalist saints." John Gray, *Al Qaeda and What It Means to Be Modern* (New York: The New Press, 2003), pp. 30–34. Contemporary writers and filmmakers, however, seem to envision, almost unanimously, a dystopic future, where the most inferior possibilities are frighteningly realized, with "happy endings," where such endings can be imagined, only provided by "superheroes" who somehow transcend the limitations of ordinary human beings. Even some contemporary politicians take this view: Only a super-heroic "strong man" can save humanity from the catastrophic future that looms before us.

Any possibility of dealing effectively with these perilous issues requires economists to elevate this debate to the philosophical and theological level where it belongs.

Here, it is important to respond to environmentalists who criticize the Abrahamic traditions for elevating humanity to the crown of creation, thereby promoting an “anthropocentric” approach to the environment similar to that of industrial capitalism and communism, and hence blame both for the current environmental crisis. Deep ecology, for example, espouses the equality of man and other creatures, or an “eco-centric” or “bio-centric” approach in place of an “anthropocentric” one.⁶¹ But such a critique misunderstands Abrahamic teachings, which instill a theocentric, rather than purely anthropocentric, approach. Indeed, the Abrahamic traditions conceive of humans not as owners of the earth, but in the dual role of God’s servants and vicegerents on earth. As Nasr explains:

The danger of anthropomorphism lies, however, in the fact that it is false not because it is substituted for bio-centrism but because it takes the place of theocentrism, which accords with the true nature of things and which is also found in traditional Christianity as in other theistic religions with corresponding doctrines to be found in nontheistic religions. God is the center of our being as well as the Origin and End of all Creation. Our center is not in the biological world, certainly not if we view man from a spiritual and theological point of view. To introduce simply the prevalent and fashionable idea of democracy into the whole of Creation is to overlook both biological and cosmological realities and the hierarchy of existence. If we were equal to other creatures, there would in fact be no environmental crisis. Moreover, to propose such a view of equating man with the biological world in a quantitative sense and of seeking our center in a world perceived solely through the external senses is to remove from man his great responsibility as not only the custodian of the Earth but also the channel of grace for all beings. Moreover, it is to destroy further man’s true center within himself, the center that is ultimately the Center, the Center of us and of all beings. It would thus bring about even further disequilibrium in a chaotic world already suffering from the loss of the Center.⁶²

61 Seyyed Hossein Nasr, *Religion and the Order of Nature*, p. 218.

62 Ibid.

Rather than blindly following Western models of economic development that are increasingly speeding toward the edge of a cliff, the Islamic world must recover its own intellectual heritage and, on the basis of that heritage, integrate the findings of modern science into higher orders of knowledge. Such recovery and integration is necessary to provide a new paradigm within which to develop new, holistic technologies that will inform Islamic environmental economic practice.

3 Implications for the Critique of Neoclassical Environmental Economic Theory

Modern mainstream, or “neoclassical,” economic theory erroneously claims to accommodate any instrumentally rational, or internally consistent, set of values or tastes, making the theory of choice spiritually neutral. For example, economists routinely claim that:

The desires (of *Homo economicus*) can be ‘good,’ ‘bad,’ ‘selfish,’ ‘altruistic’—anything you like. The only proviso is that those desires generate a preference ordering; that is, the person can always say whether he or she prefers one bundle to another or is indifferent between them, and that the ordering satisfies the following conditions ... (of reflexivity, completeness, consistency, and continuity).⁶³

To clarify this passage, preferences are “complete” if one can rank bundles A, B, and C in terms of which is best, worst, and intermediate, and preferences are “consistent” if one prefers A to B, B to C, and A to C. This is unproblematic from an Islamic (or any other religious) perspective. The problem comes with the “continuity” axiom, as the following example suggests. Imagine that we have the authority to prevent an evil act, and someone is trying to bribe us to permit it. Although we may be unwilling to accept any amount of money to permit the evil act, we may also have a limit on how much we would be willing to pay to stop the same event that others have the authority to prevent. The two situations are qualitatively different in the sense that the former is an “act” in which we are asked to participate (through accepting the bribe) to accomplish an evil, whereas the latter is an “event” that others perform which

63 Shaun Hargreaves Heap, Martin Hollis, Bruce Lyons, Robert Sugden, and Albert Weale, *The Theory of Choice: A Critical Guide* (Oxford: Blackwell Publishers, 1994), p. 5.

perhaps we cannot afford to stop. The continuity axiom, however, requires that the amount of our willingness to accept (WTA) be equal to the amount of our willingness to pay (WTP), reducing qualitative differences to quantitative ones. This excludes the ethical values of one who “cannot be bought at any price,” although it can accommodate the unethical preferences of a miser or a hedonist. In fact, if we constrain choice to alternatives that equate WTA and WTP, there is no intrinsic good or evil, there is only “more” or “less” (in the absence of special assumptions that the cost of eliminating the damage equals WTA, the only basis on which it *might* be morally justifiable to accept a particular sum of money to compensate for the damage in permitting an otherwise evil act⁶⁴). Unconditionally equating WTA and WTP therefore implies arbitrary choice from a normative point of view and denies a rational basis for ethics, reducing values to tastes. In the latter, there is a “pre-existent motivation, not subject to criticism, unaffected by understanding.”⁶⁵ This is very different from choices involving values in which judgments about what preferences *ought* to be require the possibility that WTA *not* equal WTP. Indeed, values entail “second-order preferences,” or “preferences about preferences,” since “the desire by which ... [a man] is moved is either the will he wants or a will he wants to be without.”⁶⁶

This has massive implications for environmental economic policy, because cost-benefit analysis only applies if costs and benefits are qualitatively similar so that they can be aggregated. To clarify this, imagine a miserly manufacturer polluting to maximize profits and a hedonist who derives pleasure from viewing a pollution-free landscape as well as pleasure from money. For the hedonist, these pleasures are qualitatively the same but quantitatively different and can be aggregated into a purely quantitative “utility function” in which WTA equals WTP based on the qualitative similarity between costs and benefits. Moreover, if the WTA/WTP of the manufacturer is greater than the WTA/WTP of the hedonist, then the benefits of pollution exceed its costs, since the manufacturer is willing to pay more to pollute than the hedonist is willing to accept on the one hand, and the manufacturer demands more money than the hedonist is willing to pay to stop pollution on the other hand. However, if qualitative differences are not reducible to quantitative ones, costs and benefits are qualitatively dif-

64 Here Michael Sandel might object that even if WTA is sufficient to undo the damage, this is a “degrading market” that should not be permitted. See his *What Money Can't Buy: The Moral Limits of Markets* (New York: Farrar, Straus, and Giroux, 2013).

65 James Griffin, *Well-Being* (Oxford: Oxford University Press, 1986), p. 28.

66 Harry Frankfurt, *The Importance of What We Care About* (Cambridge: Cambridge University Press, 1988), p. 19.

ferent and cannot be aggregated into a utility function. Cost-benefit analysis does not apply, and WTA diverges from WTP based on the qualitative differences between costs and benefits.

The only way to adjudicate the impasse between those who equate WTA and WTP and those who do not is to determine whether WTA *should* equal WTP (which also raises the question as to how much they should diverge). In other words, policymakers must take a substantive philosophical position on the spiritual significance of nature and thereby exclude the preferences of one of these groups. One cannot evade such questions and avoid or suppress such debate by claiming that cost-benefit analysis accommodates both sets of preferences. It is therefore important for economists to acknowledge that the continuity axiom is limited to a particular domain of preferences rather than being merely a heuristic, “simplifying” device. This admission allows for critical examination of the substantive philosophical presuppositions that cost-benefit analysis makes. The same criticism applies to other technical environmental economic solutions such as the Coase theorem, which asserts that the government’s allocation of property rights over the environment only affects the distribution of income rather than levels of pollution, *mutatis mutandis*.⁶⁷ Unfortunately, many economists appear to believe it is possible to add moral “constraints” to a utility function to address these concerns, but this is internally inconsistent, because a moral constraint requires that WTA and WTP diverge, whereas a utility function equates them.⁶⁸

Although it is true that not every secular approach to economic theory would necessarily equate WTA and WTP, one cannot propose technical market solutions to externalities without it. Here, the question arises whether the values so sorely needed to save ourselves and the planet can be provided by secular philosophical ethics. Alisdair MacIntyre’s claims that philosophical ethics is ultimately reducible to one of two options. The first is virtue ethics, which he labels the “way of Aristotle.” It involves objective values based on the nature of things, which is consistent with a religious approach to law, ethics, and holistic work. The second is the “way of Nietzsche.” It entails no ethics based on a subjective “will to power” that denies any nature to things that can also rationalize deformed work.⁶⁹ MacIntyre maintains that there is no intellectually sustain-

67 Waleed El-Ansary, *The Spiritual Significance of Jihad in Islamic Markets*, Ph.D Dissertation, George Washington University, 2006, ch. 3.

68 For instance, see Jason Brennan and Peter M. Jaworski, *Markets Without Limits: Moral Virtues and Commercial Interests* (New York: Routledge, 2016).

69 Alasdair MacIntyre, *After Virtue: A Study in Moral Theory* (Notre Dame, IN: University of Notre Dame Press, 1984), especially Chapter 9.

able middle position between the two. Henry Veatch likewise points out that both proponents of Kantian “duty-ethics” and proponents of utilitarian “desire-ethics” mutually nullify one another’s arguments, upholding MacIntyre’s claim that no secular middle position is intellectually sustainable. Of course, the preceding argument on the need for virtue ethics does not deny the possibility that people who reject religious values can be highly ethical while people who hold religious values can be highly unethical. Rather, the claim is that secular philosophical ethics cannot offer intellectually sustainable reasons to *be* ethical.

Moreover, this does not deny that people can abuse religion. As Ghazi bin Muhammad observes, it is

true that religion—or rather the misuse of religion—has caused a lot of suffering. But it is also true that regimes based on atheistic ideologies like Communism and perhaps Nazism have caused even more suffering when they have been in power, and they have often made ‘religions’ of their own atheistic philosophies.⁷⁰

But admitting a role for ethical judgments in lieu of economists’ proposed technical market solutions would compromise the separation of ethics and economics upon which the discipline has been based since Adam Smith. As Robert Foley points out, Smith:

... consolidated, even if he did not initiate, a way of looking at modern society as made up of two spheres: an economic sphere of individual initiative and interaction, governed by impersonal laws that assure a beneficent outcome by pursuit of self-interest; and the rest of social life, including political, religious, and moral interactions that require the conscious balancing of self-interest with social considerations.⁷¹

This is sometimes called the “separate domain” argument, namely, that the motivations of the “actors,” whether ethical or not, have nothing to do with whether a market economy generates “beneficent” outcomes. But as we have seen, externalities leading to market and government failures quickly convert the benign “invisible hand” of economic theory into a malevolent “invisible foot.” And since Islamic markets only achieve environmental sustainability and

⁷⁰ Ghazi bin Muhammad, *A Thinking Person’s Guide to Islam: The Essence of Islam in 12 Verses from the Qur’an* (London: White Thread Press, 2018), p. 21.

⁷¹ Robert Foley, *Adam’s Fallacy* (Cambridge: Harvard University Press, 2006), p. 1.

socio-economic equilibrium because they are thickly “embedded” in spiritually significant non-market institutions, the separate domain argument applies neither to an Islamic economy nor to industrial capitalism. Indeed, before colonialism and the modern era, economic activity in the Islamic world (and any other religiously centered society) never constituted a separate domain, and there was no discipline of economics in the modern sense of the term despite tremendous economic activity.⁷² The separate domain argument (or lack thereof) is thus a central tenet distinguishing modern from Islamic economic theory. Islamic economics also maintains that nature is an interconnected whole⁷³ that reflects the unity of the Divine Principle, making environmental problems much more pervasive under deformed work than modern economic theory would envisage. Fortunately, studies by ecologists over the last few decades have brought to light the remarkable interconnectedness of nature.⁷⁴

Moreover, since the disequilibrium in the latter is only intelligible in terms of the equilibrium in the former, economic theory cannot dispense with a theology of work and ethics as the starting point of economic analysis, completely inverting the separate domain argument. Although economists may reply that the “invisible hand” is central whereas the “invisible foot” is peripheral, the reverse is the case according to Islamic metaphysics and cosmological sciences in which the unicity or interrelatedness of creation reflects the unity of the Divine Principle and qualitative differences are irreducible to quantitative ones. Islamic and modern mainstream economic thought are, therefore, essentially competing approaches to economic theory based on different world-views, although aspects of mainstream economic thought can be incorporated into Islamic economic thought to model market failures (as well as political failures to correct them because of lobbying by special interest groups) and other symptoms of disequilibrium within industrial capitalism and communism.

72 It is puzzling that Harry Landreth and David Colander maintain “although Muslim and Christian religious doctrine was basically hostile to economic activity, it could not eliminate all economic pursuits.” Harry Landreth and David C. Colander, *History of Economic Thought* (Boston: Houghton Mifflin Company, 2001), p. 41. Such a statement certainly does not apply to Islam. One only needs to recall that the Prophet of Islam was a merchant in his early years and many of the companions of the Prophet were engaged in various business vocations. For a remarkable biography of the Prophet of Islam that also briefly mentions some of the economic activities of his companions, see Martin Lings, *Muhammad: His Life Based on the Earliest Sources* (Rochester, Vermont: Inner Traditions, 2006).

73 We wish to thank Muhammad U. Faruque for suggesting the term “interconnected whole.”

74 See for instance Peter Wohlleben, *The Secret Wisdom of Nature: Trees, Animals, and the Extraordinary Balance of All Living Things* (Berkeley, CA: Greystone Books, 2019).

Jeremy Bentham was arguably the first to introduce the reduction of quality to quantity into economic thought, which implies the equation between WTA and WTP, through his crass hedonism claiming that the attraction of pleasure and avoidance of pain was the only motivating cause in which all pleasures and pains were qualitatively the same but quantitatively different.⁷⁵ Although John Stuart Mill objected to Bentham's hedonism for assuming a single motivating cause, Mill believed that he could add constant causes such as greed to "disturbance terms" such as generosity to predict the aggregate result of economic phenomena, just as Newton added constant forces such as gravity to "disturbance terms" such as friction to predict their aggregate effect.⁷⁶ The "conflicting forces" of different motivating causes were analogous to the "conflicting forces" of mechanics according to Mill, perpetuating the reduction of quality to quantity in economics.⁷⁷ In this sense, he attempted to build on Bentham just as Newton built on Galileo, adding disturbance terms to economic analysis just as Newton added them to mathematical physics.

But John Ruskin rightly objected that disturbance terms such as generosity were not of the same quality as the supposedly constant force of greed, and the two could not be aggregated. He summarized and critiqued Mill's position in the opening paragraphs of his renowned *Unto This Last*:⁷⁸

[Mill's approach] would be a perfectly logical and successful method of analysis, if the accidentals afterwards to be introduced were of the same nature as the powers first examined ... But the disturbing elements in the social problem are not of the same nature as the constant ones; they alter the essence of the creature under examination the moment they are added; they operate, not mathematically, but chemically, introducing conditions which render all our previous knowledge unavailable.⁷⁹

Ruskin therefore maintained: "The modern Liberal politico-economist of the Stuart Mill school is essentially of the type of a flat-fish—one eyeless side of him always in the mud, and one eye, on the side that *has* eyes, down in the

75 Waleed El-Ansary, "The Traditionalist Critique of Contemporary Economic Theory," *Sophia: A Journal of Traditional Studies* 11.1 (2005), pp. 79–118.

76 John Stuart Mill, *System of Logic* (New York: Harpers and Brothers, 1884), p. xiv.

77 It is ironic that Mill laid the foundation for this "mono-utility" economic methodology while he also argued for the existence of "higher" and "lower" pleasures in his utilitarian ethics, compounding one internal inconsistency with another.

78 John Ruskin, *Unto This Last and Other Essays* (New York: E.P. Dutton & Co., 1938), p. 115.

79 Ibid.

corner of his mouth,—not a desirable guide for man or beast.”⁸⁰ Fortunately, the discoveries in physics during the last century have completely refuted the notion of a strictly mechanistic universe in which purely quantitative “billiard ball particles” are the basis of reality. Indeed, quantum mechanics has demonstrated that the supposed “particles” of classical physics are merely “potentialities” which have yet to be “actualized” into existence, prompting a fierce debate about what should replace pre-quantum materialism.⁸¹ This is crucial for the present discussion, since the reduction of quality to quantity in economics is one logical consequence of the reduction of quality to quantity in the sciences of nature during the Scientific Revolution which simultaneously reduced nature to an “it” to be exploited while providing economic theory with the analytical tool to rationalize such exploitation in terms of a utility function. At the same time, this reductionism denied a theology of work that would have prevented the environmental crisis to begin with, returning us to the first section of this article.⁸²

What is of the utmost importance for economists to understand is that Wolfgang Smith, the prodigious Catholic mathematician, physicist, and philosopher, demonstrates that quantum mechanics requires us to distinguish between the “corporeal” world of perceptible **qualities** and the “physical” world of measured or measurable **quantities** that concerns physicists. What is crucial here is that the physical realm of potentiality is below the corporeal level of actual manifestation in which we “live and move and have our being.” Smith points out, “In light of these considerations, we are able, at last, to perceive the full magnitude of the Cartesian deviation. For it appears that in rejecting the qualities or so-called ‘secondary’ attributes, Galileo and Descartes have cast out what is primary: the very essence of corporeal things.”⁸³ In short, “jettisoning Cartesian bifurcation” is the key to resolving quantum paradox on one hand and integrating the findings of physics into higher orders of knowledge on the other.⁸⁴ Fully understanding this point clarifies the limits of physics. But as Nasr notes:

80 Edward T. Clark and Alexander Wedderburn (eds.), *The Works of John Ruskin* (London: George Allen, 1903–1912), volume XXVII, p. 180. Ruskin gives the following more charitable assessment of Mill in another passage: “Mr. J.S. Mill is assuredly strong in some directions of thought, and entirely, by his nature, shut out from following others.” Ibid, volume XVII, p. 478.

81 See for instance Wolfgang Smith, *The Quantum Enigma: Finding the Hidden Key* (Hillsdale, NY: Sophia Perennis, 2005).

82 Waleed El-Ansary, “The Traditionalist Critique of Contemporary Economic Theory,” *Sophia: A Journal of Traditional Studies* 11.1 (2005), pp. 79–118.

83 Ibid.

84 Wolfgang Smith, *Quantum Enigma*, p. 81.

... this limitation is rarely fully understood and therefore it is difficult for many caught in the web of reductionism to see that the reduction of the corporeal realm to the physical renders the physical itself ontologically incomprehensible. The result is the loss of grip upon reality about which some contemporary physicists have complained. To quote Smith, "Strictly speaking, one knows neither the corporeal nor the physical, nor has any clear conception of what physics is about. Is it any wonder, then, that physicists should have (in the words of the physicist Nick Herbert) 'lost their grip on reality'?" (p. 83)⁸⁵

All this has catastrophic implications for neoclassical environmental economic theory, because the rejection of Cartesian bifurcation implies that a utility function erroneously conflates the corporeal with the physical realms in reducing quality to quantity and must therefore grapple with qualitatively different costs and benefits for which ethical judgments rather than technical market solutions are necessary.

Moreover, it is significant to note that Muslim philosopher-scientists such as Ibn Sīnā (d. 1037 CE), 'Umar Khayyām (d. 1131 CE), Naṣīr al-Dīn Ṭūsī (d. 1274 CE) made the same distinction that Smith does between the corporeal world of perceptible **qualities** and the physical world of measured or measurable **quantities** that concerns physicists by contrasting *al-jism al-ṭabī'ī* (natural body) with *al-jism al-ta'limī* (mathematical body).⁸⁶ Mullā Ṣadrā (d. 1640) developed the thought of these philosopher-scientists into a grand synthesis of Islamic theology, philosophy, and mysticism and in doing so provided the metaphysical foundation for a contemporary science capable of interpreting all natural phenomena through a spiritual perspective that responds to the limitations of modern science without denying its factual discoveries. It is indeed ironic that Mullā Ṣadrā was a contemporary of René Descartes.⁸⁷ This explains why an Islamic economic theory of choice based on Islamic metaphysics and cosmological sciences could never reduce quality to quantity in the manner of neoclassical theory. With qualitatively different goods fulfilling different needs or wants (or combinations of the two in the case of goods with multiple use values such as water), neoclassical theory fundamentally misunderstands agents'

85 Seyyed Hossein Nasr, "Perennial Ontology and Quantum Mechanics: A Review Essay of Wolfgang Smith's *The Quantum Enigma: Finding the Hidden Key*," *Sophia: A Journal of Traditional Studies* 3.1 (1997), p. 152.

86 Seyyed Hossein Nasr, *Islamic Philosophy from its Origin to the Present: Philosophy in the Land of Prophecy* (New York: State University of New York Press, 2006), p. 171.

87 Ibid, ch. 12.

choices in which changes in allocation involve changes in “each of the items in relation to the *whole*, rather than in relation to each other ... changes happen at the *center* rather than at the margin.”⁸⁸ In a word, the irreducibility of quality to quantity in the Islamic sciences of nature reintroduces values into environmental economics, transforming the economizing process with all this implies for the analytical tools necessary to model it.

The preceding analysis also has implications for the internal consistency of the neoclassical theory of choice itself. This is because although egoistic preferences reducing quality to quantity may be consistent within a *limited* range of choices, such preferences cannot be consistent over any *global* range of *corporeal* choices from the Islamic perspective. In fact, although people often try “in the modern world to achieve integration by bringing forces together on a single plane of reality,” this is impossible according to Islamic metaphysics in which integration (as well as every other positive quality) comes “from above.”⁸⁹ If a transcendent Principle is necessary to integrate various elements on any lower level of reality, it is impossible to simultaneously combine the consistency and continuity axioms in the neoclassical theory of choice.⁹⁰ Accordingly, not only does a utility function not correspond to the nature of reality, but no one has ever had a utility function, and no one ever will. This has further damaging implications for neoclassical environmental economics, because without consistent preferences, “maximizing efficiency” is meaningless.⁹¹ Accordingly, neoclassical theory draws the wrong welfare and efficiency implications for ethical environmental economic constraints.

88 John Hobson as cited in Kenneth Lux and Mark Lutz, *Humanistic Economics: The New Challenge* (New York: The Bootstrap Press, 1988), p. 335. Hobson provides vivid examples of the “fallacy of allocation by marginal comparison” in neoclassical theory, ranging from a mother’s response to a price increase for medicine required by a sick baby to an artist’s response to a price increase for a pigment for a painting to charitable contributions. In all such cases, the comparison of marginal utilities is unconvincing and represents a fragmented rather than holistic view.

89 Seyyed Hossein Nasr, *Sufism and the Integration of the Inner and Outer Life of Man: The L M Singhvi Interfaith Lecture for the year 1999* (Kent, England: Temenos Academy, 2004), p. 2.

90 In Islamic philosophical terms, the “unity” required for consistency and the “uniformity” required for continuity are polar opposites. The former is associated with infinite quality whereas the latter is pure quantity.

91 Satisfaction of desire is particularly vulnerable as a welfare criterion if preferences change. As Hausman points out, “If one says that satisfying past desires does not count, because giving people what they no longer want brings them no ‘satisfaction,’ then one has shifted from a preference-satisfaction model to a mental-state theory of welfare.” Daniel Hausman, *Economic Analysis and Moral Philosophy* (Cambridge: Cambridge University Press, 1996), p. 76.

Conclusion

Recovering Islamic environmental economic theory and practice requires recovering the Islamic intellectual heritage and applying it to the creation and support of holistic production and exchange processes. Thus, the effort to recover Islamic metaphysics and sciences of nature is indispensable to the recovery of Islamic and any other sacred environmental economics. Indeed, in Islamic intellectual history, economics is above all a *moral* code governing modes of production, trade, and exchange to benefit the collective good of society. There is no “invisible hand” that guides individuals’ economic activities toward some higher collective good, except that it be the Hand of God guiding those who believe in Him. Islamic economics recognizes no distinction between arts and crafts. The reward of work is not only payment in currency to purchase goods and services, but the satisfaction of providing products and services that are works of artistic beauty and excellence. Such holistic work not only enriches the consumers of those services and products, but it also honors and supports the dignity, virtue, and spiritual journeys of those whose talents and efforts provide those products and services, and whose manner of production has as an integral component the protection of the environment for future generations.

An economy based on deformed work that does not provide such satisfaction to all of its laborers and managers and professionals, who are simultaneously consumers, cannot meet their basic psychological and spiritual needs, and its attempts to meet the insatiable demands for material enrichment threaten to destroy the very environment that enables the essential physical needs of human beings to be met. A mechanistic approach to economics destroys a quality of life that could satisfy our highest aspirations as human beings, let alone our basic physical needs. The anxiety, alienation, anomie, despair, frustration, and hopelessness in modern Western (and Westernized) societies began with the de-sacralization of work (secularization of production processes). And it ends in anger, resentment, envy, xenophobia, fear—and possibly chaos and violence, when the laborers deprived of the satisfaction of pride in their work also lack hope for a secure and adequate income. Not only are they faced with accelerating environmental problems, but also the realization that prospects of a fair share in any increase in the income from temporary improvements—improvements that clearly could not occur without their labor—in the economy are beyond their reach.

The question of Islamic production processes is thus central to all other aspects of the Islamic economy and has important interconnections with other aspects of Islamic economic law that are necessary for integrated solutions to

environmental and other economic problems. Such economic practices and institutions cannot cohabit with secularized production processes in the long-term, just as Islamic ethics cannot cohabit with a secular view of science, with all this implies for responding to the environmental crisis. In light of the ubiquity of externalities involving qualitatively different costs and benefits as well as the moral limits of markets, economics cannot be *amoral* without becoming *immoral*. Environmental economic theory *cannot* be value-free, for every theory presupposes a view of man and nature requiring metaphysics (whether implicit or explicit), as well as epistemology and ethics. The Islamic intellectual and esoteric heritage is therefore central to the foundation of Islamic environmental economic theory and praxis. It is only on this basis that Islamic or any other sacred economics can foster an appreciation by workers, homemakers, professionals, and executives that their work and professions can serve not only to provide well-crafted, beautiful products, and render life-enhancing services, but can also constitute a form of prayer that will support them in realizing their spiritual destinies.

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A Neglected Notion: *Iqtiṣād* in Pre-modern and Early Modern Islamic Thought

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Introduction

The concept of “moderation” (*iqtiṣād*) is central to premodern Islamic virtue ethics. It appears in works of *adab* and renunciant piety from the formative period of Islam and holds a place of importance in the great works of the classical tradition of Islamic ethics (*akhlāq*), from Miskawayh (d. 421/1030) and al-Ghazālī (d. 505/1111) to Naṣīr al-Dīn al-Ṭūsī (d. 672/1274) and Jalāl al-Dīn al-Dawwānī (d. 908/1502). Featuring as a key concept in what may be called vulgarizations of that tradition in subsequent centuries, in various geographical areas and cultural contexts of the early modern world (from the Ottoman Empire to Mughal India), the notion of *iqtiṣād* would remain central to Islamic ethics into the modern period. This article will trace some aspects of the history of the concept, as it developed over the course of the pre-modern and early modern periods. The aim is to illustrate the potential value of the notion of *iqtiṣād* for contemporary Muslim engagements with questions of economic and environmental sustainability and justice. This will be done by highlighting, first and foremost, the profound transformation the term *iqtiṣād* has undergone in the modern era, when it came to denote, plainly and simply, “the economy”—a notion that, in itself, is neither plain, nor simple, as scholars in various fields have shown in recent decades.¹

1 See Timothy Mitchell, “Fixing the Economy,” *Cultural Studies* (1998), vol. 12, no. 1, pp. 82–101; Daniel Speich Chassé, *Die Erfindung des Bruttosozialprodukts: Globale Ungleichheit in der Wissensgeschichte der Ökonomie* (Göttingen: Vandenhoeck & Ruprecht, 2013); Zachary Karabell, *The Leading Indicators: A Short History of the Numbers that Rule our World* (New York: Simon and Schuster, 2014). For a good overview of the literature, including the work of scholars such as Adam Tooze, Adam Leeds, Quin Slobodian and others, see Daniel Hirschman, *Inventing the Economy Or: How We Learned to Stop Worrying and Love the GDP* (Ann Arbor: University of Michigan, 2016), unpublished Ph.D. dissertation. For the Enlightenment and an illuminating account of the “posthumous decline and rise” of Adam Smith, see Emma Rothschild, *Economic Sentiments: Adam Smith, Condorcet and the Enlightenment* (Cambridge, MA: Harvard University Press, 2001). An excellent example for a careful and meticulous historicization

It is, in fact, curious that *iqtiṣād*—as a virtue—seems to be absent from contemporary Muslim debates concerning economic sustainability, eco-mindedness and environmentally responsible economics. For the modern Muslim reader, *iqtiṣād* means “the economy.”² Thus, much like its English counterpart, which has witnessed a similarly profound shift in meaning from the premodern to the modern era, *iqtiṣād* came to denote “the totality of relations of production, distribution and consumption of goods and services within a given region.”³ As Timothy Mitchell has pointed out with regard to the English term “economy,” the older notion of “economy as frugality,” i.e. as a moral *virtue*, denoting the prudent use of resources—a *way* of doing things—at some point in the first half of the 20th century began to morph into an entirely new semantic entity, which eventually gave rise to a novel and decidedly modern discursive object: the economy as a “thing.” This process must be understood, as Mitchell has compellingly argued, in the context of the development of social and technical practices rooted in modern science and technology (cf. “economics,” “econometrics,” etc.).⁴ As this paper will show, the Arabic term *iqtiṣād* underwent a similar process of transformation. Thus *iqtiṣād* changed from a moral virtue (“moderation”) into an object denoting the particular state of relations of production, management and consumption of material resources within a defined geographic area.⁵ It was thus transformed in meaning from an ideal way of doing things, to a *state* of things—a state, which, in an ironic twist, would, over time, also begin to develop a life of its own. The “static” object of the

of the transformation of the notion of economy to *the* economy in the modern context is Johannes Burckhardt, “Wirtschaft,” in Brunner, Conze and Koselleck (eds.), *Geschichtliche Grundbegriffe* (Stuttgart: Klett, 2004), Studienausgabe mit beigelegten Korrigenda [first edition 1972], vol. 7, pp. 511–594.

2 See, for instance, Muḥammad Baqir al-Ṣadr, *Iqtiṣāduna* (Beirut: Dār al-kitāb al-lubnānī, 1982). It is indicative that even for scholars deeply conversant with the pre-modern tradition, the term *iqtiṣād* has become naturalized as the modern discursive object of “the economy.” For a good introduction to the question of Muslim engagement with the challenge of capitalism, in intellectual, social and political terms, since the late 19th century, see Charles Tripp, *Islam and the Moral Economy: The Challenge of Capitalism* (Cambridge University Press, 2004).

3 Mitchell, “Fixing the Economy,” p. 82.

4 Ibid. Cf. also Mitchell, “Rethinking economy,” in *Geoforum*, vol. 39 (2008), p. 116f.: “Economists claimed only to describe this [new discursive] object, but in fact they participated in producing it. Their contribution was to help devise the forms of calculation in terms of which new kinds of socio-technical practice were organized, to monitor these forms of practice as though they formed a self-regulating system, and to put forward rival accounts of how the system worked. “Economy” no longer referred to a way of exercising power and accumulating knowledge; it now referred to an *object* of power and knowledge.”

5 Note that “moderation” is broader than just “frugality,” a point we will come to in more detail below.

economy thus began “growing” or “shrinking”, “flourishing” or “declining”, “suffering” or “demanding sacrifice.” *Iqtiṣād*, likewise, became reified and entirely naturalized over the course of the 20th century. Its former moral import was relegated to the back corner of a pious tradition, which, in itself, became subject to the pressures of the new “economy.” The classical Islamic virtue thus turned into a genealogical remnant, buried under the weight of the new and all-imposing, modern discursive subject. The aim of this paper is to provide a sort of intellectual recovery of the history of the term *iqtiṣād* in the pre-modern and early modern periods.

This will be done in the hope that a reminder of the historical significance, contingency and ultimate mutability of terms such as *iqtiṣād* can provide an awareness that might be of use in the effort to achieve more sustainable and just ways of managing our material resources in the here and now. A greater consciousness of the very different meanings the term *iqtiṣād* involved, historically, could thus be marshalled in contemporary Muslim calls for more ethically responsible ways to produce and manage material wealth.

1 *Iqtiṣād* in Early and Classical Sources

In the Islamic context, the term *iqtiṣād* can be traced to the formative period of Islam. We find it in works of early renunciant pietists (*zuhhād*), men of letters (*udabāʾ*), and philosophers (*falāsifa*). The Qurʾān features the term *qashd* (in the first form of the verbal root *q-ṣ-d*) to exhort the reader and listener to: “Be moderate in the way you walk (*wa-qṣid fī mashīyika*), and lower your voice, for the most abominable of all sounds is the braying of the donkey” (Q 31:19).⁶ The con-

6 Translations of the Qurʾān are my own. Abdel Haleem translates this verse as: “Go at a moderate pace and lower your voice, for the ugliest of all voices is the braying of asses.” See M.A.S. Abdel Haleem, *The Qurʾān* (Oxford: OUP, 2004), p. 262. Alan Jones reads: “Be modest in your walk and keep our voice low. The most disagreeable voice is that of the donkey.” See A. Jones, *The Qurʾān* (Cambridge: E.J.W. Gibb Memorial Trust, 2007), p. 377 f. ‘Abdullah Yūsuf ‘Alī reads: “And be moderate in thy pace, and lower thy voice; for the harshest of sounds, without doubt is the braying of the ass.” See Yūsuf ‘Alī, *The Meaning of the Holy Qurʾān* (Beltsville, ME: Amana Publications, 1998), 9th ed. [first published in 1934], p. 1042. Yūsuf ‘Alī’s association of Luqmān’s “philosophy” with moderation in his footnote here is indicative: “The “Golden Mean,”” he says, “is the pivot of the philosophy of Luqmān as it is of the philosophy of Aristotle and indeed of Islam. And it flows naturally from a true understanding of our relation to Allah and His universe and to our fellow-creatures, especially man. In all things be moderate. Do not go the pace, and do not be stationary or slow. Do not be talkative and do not be silent. Do not be loud and do not be timid or half-hearted. Do not be too confident, and do not be cowed down. If you have patience, it is to give you constancy and determination, that you

text of the verse is Luqmān's counsel to his son not to be arrogant. And while the verb is in the first, rather than the eighth form, the meaning of moderation is clear, as confirmed by the exegetical tradition.⁷ *Sūra Luqmān* also features an instance of the verbal root *q-ṣ-d* in form eight, just a few verses down. The text of the passage reads as follows: "When waves cover them, like shadows, they call upon God, making their devotion sincere, to Him alone. But when He has delivered them safely to land, there are among them those who assume a middle position (*fa-minhum muqtaṣid*^{un}) [...]" (Q 31:32).⁸ According to the prominent early 20th-century British-Indian scholar, commentator and translator of the Qur'ān, 'Abdullāh Yūsuf 'Alī, *muqtaṣid* here refers to those who "halt between two opinions." In this case, it refers to people who halt between "right and wrong."⁹ That is to say, the Qur'ān here contrasts those who "constantly persevere and give thanks" with those who only do so when in distress (e.g. in a storm at sea).¹⁰ Despite the negative connotation of *muqtaṣid* presented here, the sense is that of the subject occupying a sort of "middle ground"—albeit one with deleterious consequences. So while conventionally *iqtiṣād* would come to be associated with "stopping short of excess" in a positive sense, the case of Q 31:32 is unusual. That which is stopped short of is full and truly singular devotion to God (Ar. *dīn*, "religion"). The idea is that of a self-serving ("lukewarm") embrace of God—i.e. calling upon His help when needed, while neglecting Him otherwise.¹¹

may bravely carry on the struggle of life. If you have humility, it is to save you from unseemly swagger, not to curb your right spirit and your reasoned determination." See Yūsuf 'Alī, p. 1038, fn. 3604.

7 al-Ṭabarī provides two main glosses for *qaṣd* in this instance: (1) *bi-l-tawāḍu'*, i.e. "in humility"; (2) *tark al-sur'a*, "to refrain from speed," i.e. to go slowly. See Muḥammad b. Jarīr al-Ṭabarī, *Jāmi' al-bayān 'an ta'wīl al-Qur'ān*, ed. 'Abd Allāh b. 'Abd al-Muḥsin al-Turkī (Riyad: Dār 'ālam al-kutub li-l-ṭibā'a wa-l-nashr wa-l-tawzī', 2003), vol. 18, pp. 562–563.

8 Abdel Haleem translates this as: "[...] But, when he has delivered them safely to land, some of them waver [...]" See Abdel Haleem, *The Qur'ān*, p. 263; Alan Jones translates it as: "[...] But when he brings them safely to land, there are some of them who are lukewarm." See Jones, *The Qur'ān*, p. 379. For "lukewarm," see also A.J. Arberry, *The Koran* (Oxford: OUP, 1964) [first published 1955], p. 421.

9 Yūsuf 'Alī, *The Meaning of the Holy Qur'ān*, p. 1042, fn. 3622. He translates the whole passage as follows: "But when He has delivered them safely to land, there are among them those that halt between (right and wrong)."

10 Yūsuf 'Alī, p. 1042.

11 So, ironically the "middle ground" of Q 31:32 is not one of moderation, but of egoism, neglect and denial—i.e. "They are not against good, but they will not eschew evil." See Yūsuf 'Alī says, *The Meaning of the Holy Qur'ān*, p. 1042, fn. 3622. al-Ṭabarī is more explicit, in presenting the meaning of *muqtaṣid* here. He says that "the one assuming a middle-ground in speech and [in the] affirmation of God is, in this, concealing [his] unbelief in

A similar kind of moral ambivalence can be found in Q 35:32, which reads: "Then we gave the scripture as inheritance to those whom we chose of our servants. Among them are those who wrong themselves; and among them are those who are *muqtaṣid*; and among them are those who outstrip [others] in good deeds, with the permission of God."¹² Here, too, *muqtaṣid* is a person who "stands in the middle," between those who wrong themselves (by committing hypocrisy and sin) and those who surpass others in good deeds.¹³

Him." ([...] *muqtaṣid fī qawlihi wa-igrārihi bi-rabbihi wa-huwa ma'a dhālika muḍmir al-kufri bihi*). He then presents two positions: the first glosses the *muqtaṣid* in question as a *muqtaṣid fī-l-qawl* (i.e. "one who assumes a middle-ground in speech"), which is explained as "an unbeliever" or "someone who denies" (*wa-huwa kāfir*); the second glosses *muqtaṣid* with "the one who is righteous in his affairs" or "righteous in terms of [God's] command" (*'alā ṣalāh min al-amr*). See al-Ṭabarī, *Jāmi' al-bayān*, vol. 18., p. 579–580. In the context of ancient Greek thought, the problem of a potential clash between the zealous embrace of, say, justice or piety and the traditional command to "do nothing in excess" has been noted by K.J. Dover: "It should be remembered [...] that the traditional Greek injunction *mēden agān*, '⟨Do⟩ nothing in excess', is not a prohibition of absolute integrity, patriotism, justice and piety (cf. Senator Goldwater's dictum, 'Moderation in the pursuit of justice is no virtue') [...]." K.J. Dover, *Greek Popular Morality in the Time of Plato and Aristotle* (Indianapolis, IN: Hackett, 1974), p. 56, fn. 18.

12 Cf. Abdel Haleem, who reads: "We gave the Scripture as a heritage to Our chosen servants: some of them wronged their own souls, some stayed [between right and wrong], and some, by God's leave, were foremost in good deeds." Abdel Haleem, *The Qur'ān*, p. 279; Alan Jones reads: "Then we gave the scripture as inheritance to those whom we chose of our servants. Among them are some who wrong themselves and some who are sparing and some who are foremost in good works, by the leave of God." Jones, *The Qur'ān*, p. 400; Yūsuf 'Alī reads: "Then We have given the Book for inheritance to such of Our Servants as We have chosen: but there are among them some who wrong their own souls; some who follow a middle course; and some who are, by God's leave, foremost in good deeds." Again, he adds a lengthy note (no. 3920), explaining that, "some in the house of Islam fail to follow the Light given to them, and thus "wrong their own souls". But some follow a middle course: in their case "the spirit indeed is willing, but the flesh is weak": their intentions are good, but they have much to learn yet of the true Muslim life and Muslim virtues. Then there is a third class: they may not indeed be perfect, but both their intentions and their conduct are sound, and they form an example to other men: they are "foremost" in every good deed. They are so, not by their own merits, but by the Grace of Allah." Yūsuf 'Alī, *The Meaning of the Holy Qur'ān*, p. 1111.

13 al-Ṭabarī explains that all three groups mentioned in the verse are part of "the community of Muḥammad" (*ummat Muḥammad*), i.e. all three are among those given the scripture (*al-kitāb*) as inheritance. The question of concern for the exegetes, as becomes apparent, is the respective fate of each group in the Hereafter. al-Ṭabarī presents various positions regarding the fate of "those who wrong themselves." According to some, he says, they are saved, according to others, they are doomed; they are the "hypocrites" (*munāfiqūn*). By contrast, group two, the *muqtaṣidūn*, end up in Paradise. al-Ṭabarī presents a number

The best-known instance of the term *muqtaṣid* in the Qurʾān, however, occurs in Q 5:66. In this verse, the term lacks the ambivalence of Q 31:32 and Q 35:32 and seems, rather unreservedly, positive: “If they had upheld the Torah and the Gospel and what was sent down to them from their Lord, they would have enjoyed [what is] above them and [what is] below their feet: a moderate community (*umma muqtaṣida*), but many of them are evil in what they do.”¹⁴ al-Ṭabarī glosses *muqtaṣida* here as short for *muqtaṣida fi-l-qawl fi ʿĪsā b. Maryam*, i.e. “moderate in speech regarding Jesus, son of Mary.”¹⁵ That is to say, the “moderate community” intended in the verse, according to al-Ṭabarī, as well as to other exponents of the exegetical tradition, is the community that does not engage in exaggeration (*ghuluww*) by claiming that Jesus is the son of God, as Christians do.¹⁶ It is an *umma* that is “saying the truth about him” (*qāʾila fihi al-ḥaqq*), “that he is a Messenger of God and His *logos*” (*innahu rasūl allāh wa kalimatuhu*), but one that stops short of asserting that he is the son of God.¹⁷ Not all exegetes read or explained the term *umma muqtaṣida* in this specific way, however. al-Ṭabarī himself provides far more general glosses, too, such as: a “believing” (*muʾmina*) community, “the people of obedience of God” (*ahl ṭāʿat allāh*) and “those who do not stray from the right course in religion and who do not exaggerate” (*lā hum fasaqū fi-l-dīn wa-lā hum ghalaw*).¹⁸

of traditions in which this group is identified as “the people of the right side” (*aṣḥāb al-yamīn*), who go to Heaven. See Q 56:27, Q 56:38, Q 56:90–91 and Q 74:39.

- 14 Jones conveys the idea of “moderation” by translating the last part of the verse as: “Among them is a moderate community, but many of them are evil in what they do.” See *The Qurʾān*, p. 120. Arberry equates *muqtaṣid* with “just:” “Some of them are a just nation; but many of them—evil are the things they do.” See *The Koran*, p. 111. Yūsuf ʿAlī, in turn, reads: “There is from among them a party on the right course: but many of them follow a course that is evil.” See *The Meaning of the Holy Qurʾān*, p. 269. The idea of “following a right course” is also conveyed by Abdel Haleem, who reads: “Some of them are on the right course, but many of them do evil.” See *The Qurʾān*, p. 74. The last couple of translations bear on a semantic field covered by the root *q-ṣ-d* that involves the idea of “aiming for.” Indeed, “proceeding in a straight way” leads the believer to his “aim” or “goal” (*qaṣd*)—a topic deliberated on in the lexicographical literature, see below.
- 15 al-Ṭabarī, vol. 8, p. 565.
- 16 See, for instance, also in Ibn al-Jawzī, *Zād al-masīr fi ʿilm al-tafsīr* (Beirut: Dār Ibn Ḥazm, 2002), p. 397.
- 17 We are thus confronted with a clear statement of demarcation between Muslim and Christian doctrine regarding the nature of Jesus. In fact, a number of the traditions cited by al-Ṭabarī feature “the Israelites” as the overarching community intended here: “The Israelites split into a number of groups. One group said, ‘Jesus is the son of God.’ Another said, ‘He is God.’ And another said, ‘He is the servant of God (ʿabd allāh) and His spirit (rūḥuh).’ This is the moderate one (*hiya al-muqtaṣida*), the Muslim one, of the People of the Book.” al-Ṭabarī, vol. 8, p. 566.
- 18 al-Ṭabarī, vol. 8, pp. 566–567. al-Zamakhsharī, likewise, glosses *umma muqtaṣida* with *ṭāʾifa muʾmina* (“a believing community”), see *Tafsīr al-kashshāf* (Beirut: Dār al-maʿrifa,

In Ḥadīth literature, too, the terms *qaṣd*, *iqtiṣād* and *muqtaṣid* feature prominently.¹⁹ Thus, the Prophet is reported to have declared that: “Moderation (*al-iqtiṣād*) is one of the twenty-five parts of prophethood” (*juz’ min khamsa wa-‘ashrīn juz’an min al-nubuwwa*).²⁰ Moderation is, accordingly, a virtue Muslims are encouraged to cultivate. It is a virtue that could, in fact, play out in many different areas of life. Ibn Māja, for instance, includes a chapter on “moderation in eating” (*al-iqtiṣād fi-l-akl*) in his *Sunan*, as well as a chapter on “moderation in the pursuit of livelihood” (*al-iqtiṣād fi-ṭalab al-ma’isha*).²¹ While the former warns against overeating, the latter counsels against ostentatious accumulation of material wealth. Likewise, in prayer and preaching, early *ḥadīth* collections stress the importance of moderation. The Prophet’s way of praying and preaching is reported to have been characterized by *qaṣd*: “His prayer was moderate, as was his sermon (*fa-kānat ṣalātuhu qaṣdan wa-khuṭbatuhu qaṣdan*).”²²

2009), p. 300. al-Bayḍāwī reads *muqtaṣida* as “just” (*‘ādila*), “not exaggerating” (*ghayr ghāliya*), “nor falling short” (*lā muqaṣṣira*) and explains that it is “those who believe in Muḥammad” who are meant. Like Zamakhsharī, he also provides the gloss of “middling in enmity” (*mutawassīṭa fi ‘adāwatihī*), see *Anwār al-tanzīl wa-asrār al-ta’wīl* (Beirut: Dār Iḥyā’ al-turāth al-‘arabī, 1998), vol. 2, p. 126. Ibn al-Jawzī, on the other hand, explains that “*iqtiṣād* means balance (*i’tidāl*) in speech and deeds, without exaggeration (*min ghayr ghuluww*) or cutting [or: falling] short (*wa-lā taqṣīr*).” Ibn al-Jawzī, *Zād al-masīr*, p. 397.

19 See A.J. Wensinck [contd. Brugman], *Concordance et indices de la tradition musulmane* (Leiden: Brill, 1967), vol. 6, p. 396.

20 There are various versions of this, featuring twenty-four, twenty-five, or more “parts” of prophecy, in different combinations of virtues, but invariably featuring *iqtiṣād* and *qaṣd*, and doing so in the sense of “moderation.” Abū Dā’ūd, *Sunan*, no. 4776 (*kitāb al-adab*, no. 2): “Right guidance (*al-hady al-ṣāliḥ*), the right way (*al-samt al-ṣāliḥ*) and moderation (*al-iqtiṣād*) are part of the twenty-five parts of prophethood.” *Sunan Abī Dā’ūd* (Beirut: Mu’assasat al-risāla nāshirūn, 2019), p. 1011f. al-Tirmidhī, *Sunan*, no. 2010 (*kitāb al-birr*, no. 66): “The right way (*al-samt al-ḥasan*), deliberateness (*al-tu’ada*) and moderation (*iqtiṣād*) are part of the twenty-four parts of prophecy.” *Sunan al-Tirmidhī* (Beirut: Dār Ibn Kathīr, 2016), p. 756. Aḥmad b. Ḥanbal, *Musnad*, no. 2698: “Right guidance (*al-hady al-ṣāliḥ*), the right way (*al-samt al-ṣāliḥ*) and moderation (*al-iqtiṣād*) are part of the twenty-five parts of prophethood.” Aḥmad b. Ḥanbal, *al-Musnad*, ed. Aḥmad Muḥammad Shākir (Cairo: Dār al-ḥadīth, 1995), vol. 3, p. 205f.

21 See Ibn Māja, *Sunan* (Beirut: Dār Ibn Kathīr, 2016), p. 663 on eating (*bāb* 50 of *kitāb al-aṭ’ima*, nos. 3349, 3340 and 3341) and p. 420 on how to earn one’s living (nos. 2142, 2143 and 2144).

22 al-Nasā’ī, *Sunan* (Beirut: Dār Ibn Kathīr, 2016), p. 352 (no. 1582, *bāb* 24 of *kitāb ṣalāt al-īdayn: al-qaṣd fi-l-khuṭba*); Muslim, *Ṣaḥīḥ* (Beirut: Mu’assasat al-risāla nāshirūn, 2020), p. 359 (nos. 2003, 2004); Abū Dā’ūd, *Sunan*, p. 283 (no. 1101); al-Tirmidhī, *Sunan*, p. 214 (no. 507); Ibn Māja, *Sunan*, p. 215 (no. 1106). *Qaṣd* here does not denote *nīyya*, as one might at first assume, in the context of prayer, but moderation, cf. the gloss “in the middle,

The most prominent tradition involving *qaṣd*, however, is the one in which the Prophet is said to have proclaimed to his followers that: “Not one of you will be saved by his deeds” (*lan yunajjiya aḥadan minkum ‘amaluhu*). They asked: “Not even you?” He answered: “Not even me! Except that God protects me with His mercy. So keep to the right path (*saddidū*, lit. “do the right thing”), draw near (*qāribū*), pray in the morning (*wa-ghdū*, lit. “proceed in the morning”), in the evening (*wa-rūḥū*) and [during] part of the night (*wa-shay’ min al-dulja*). And be moderate (*wa-l-qaṣd al-qaṣd*)! This way you will reach (*tablughū*) [the goal].”²³ Much like the *ḥadīth* regarding the Prophet’s own prayer, this report is linked to the theme that God has made religion “easy” for mankind—a well-known *topos* in the Islamic discursive tradition.²⁴ In another version of the report, we read: “The devotion [called for] is easy (*inna al-dīn yusr*); it vanquishes the one who tries too hard (*wa-lan yushādd al-dīn illā ghalabahu*). So, keep on the right path (*saddidū*), act wisely (*qāribū*) and rejoice (*absharū*), pray in the morning (*wa-ghdū*, lit. “do in the morning”), evening (*wa-rūḥū*) and part of the night (*wa-shay’ min al-dulja*). And be moderate (*wa-l-qaṣd al-qaṣd*), and you will reach (*tablughū*) [the goal].” The theme of Islam as a religion of ease (*dīn yusr*), with its emphasis on moderation, as opposed to the hardships and extremes of monasticism and asceticism, characterizing late antique Christianity, here meshes well with Q 5:66 and its (potential) anti-Christian polemical stance, likewise articulated through a reference to *iqtiṣād*.²⁵

The first major *ḥadīth* collections, in which *qaṣd* and *iqtiṣād* feature as moderation, date to the 3rd/9th century.²⁶ This was also the time that saw both terms begin to be expounded on in works of *adab*, such as in al-Jāḥiẓ’s (d. 255/868) *Kitāb al-bukhālā’* or Ibn Qutayba’s (d. 276/889) *Uyūn al-akhbār*. It was, moreover, the period that witnessed the absorption of late antique Greek

between [too much] length and shortness” (*wasāṭan bayn al-ṭūl wa-l-qīṣr*). Likewise, the Prophet’s sermon was “neither [too] long, not [too] short” (*fa-lā hiya ṭawīla jiddan wa-lā qaṣīra*), so as to not impose a hardship on the congregation. See: <https://www.dorar.net/hadith/sharh/139754> (last accessed 07/11/2022).

- 23 See al-Bukhārī, *Ṣaḥīḥ al-Bukhārī bi-hāshiyat al-Imām al-Sindī* (Beirut: Dār al-kutub al-‘ilmiyya, 1998), vol. 4, p. 237 (*kitāb al-riqāq*).
- 24 al-Nawawī, *Riyāḍ al-ṣāliḥīn* (Beirut: Dār Ibn Kathīr), no. 145.
- 25 For the issue of *raḥbānīyya*, see Sara Sviri, “*Wa-raḥbānīyatan ibtada’ūhā*: An Analysis of Traditions concerning the Origin and Evaluation of Christian monasticism,” in *Jerusalem Studies in Arabic and Islam*, vol. 13 (1990), pp. 195–208.
- 26 See footnotes 20–23 above, the authors of the six canonical *ḥadīth* collections of the Sunni tradition, the so-called “six books” (*al-kutub al-sitta*), all lived in the 3rd/9th century: al-Bukhārī (d. 256/879); Muslim (d. 261/875); Abū Dā’ūd (d. 275/889); al-Tirmidhī (d. 279/892); al-Nasā’ī (d. 303/915) and Ibn Māja (d. 273/887); likewise Aḥmad b. Ḥanbal (d. 241/855), although his *Musnad* is not counted as among the six.

thought into the Islamic tradition. Translations of Greek philosophical texts into Arabic, which would come to be referred to as *‘ulūm al-awā’il* (“the sciences of the ancients”), had already begun in the 2nd/8th century, under the Umayyads. But the so-called “translation movement” of the ‘Abbāsids, only really began to take off in earnest under the caliphate of al-Manṣūr, subsequently gaining momentum in the first half of the 3rd/9th century under al-Ma’mūn.²⁷ The translation of the heritage of Graeco-Roman antiquity, in terms of philosophy and the sciences, would, over the course of the subsequent couple of centuries (from the 2nd to the 4th centuries of the *hijra*), in fact, be of crucial importance in the development of the Islamic discursive tradition. This can be observed in the trajectory of terms such as *qaṣd* and *iqtiṣād* as much as elsewhere. Both would become imprinted with the legacy of Aristotelian virtue ethics—an imprint that can be traced in the more supposedly secular field of *adab*, as well as in the religious sciences and Sufism.

The Aristotelian definition of virtue (Gk. *aretê*, Ar. *faḍīla*) was key in this context. To better understand the place of *iqtiṣād* in the framework of Islamic ethics, as it was being formulated at the time, it might be useful to remind us of Aristotle’s definition of virtue in general to begin with. In the *Nicomachean Ethics*, virtue is described as “[...] a state of character concerned with choice, lying in a mean (*mesotês*), i.e. the mean relative to us, this being determined by reason [...] Now it is a mean between two vices, that which depends on excess and that which depends on defect [...]”.²⁸ Aristotle’s *mesotês* is what Muslim scholars of the 3rd/9th century (and beyond) would most commonly translate as *tawassuṭ* or *wasat* (“mean”).²⁹ In the context of discussions of the moral and intellectual virtues, however, one often also finds the (related) idea of an equilibrium, i.e. a balance: *i’tidāl*.³⁰

27 For a good overview of the process, see Cristina D’Ancona, “Greek into Arabic,” *EI* 3.

28 Aristotle, *NE* (Oxford: OUP, 2009), trans. D. Ross, Book II, Part 6, p. 31. Cf. Rackham’s translation of the same passage in Loeb’s Classical Library: “Virtue then is a settled disposition of the mind determining the choice of actions and emotions, consisting essentially in the observance of the mean relative to us, this being determined by the principle, that is, as the prudent man would determine it. And it is a mean state between two vices, one of excess and one of defect.” p. 95.

29 The Islamic equivalent of this is emphasized in the prophetic tradition that “the best things are in their means” (*khayr al-umūr fī awṣā’ihā*).

30 See, for instance, (Ibn) Miskawayh, *Tahdhīb al-akhlāq* (Beirut: Dār al-kutub al-‘ilmiyya, 1985). Cf. E. Bucar, “Islamic Virtue Ethics,” in N.E. Snow (ed.), *The Oxford Handbook of Virtue* (Oxford: OUP, 2018), p. 211, where Bucar glosses *i’tidāl* with “moderation.” Majid Fakhry does the same in his account of Miskawayh’s ethics, see *Ethical Theories in Islam* (Leiden: Brill, 1994), p. 112.

The specific mean that characterized virtue, as Aristotle and his Muslim successors envisioned it, i.e. the mean between a certain kind of excess (*ifrāt*) and deficiency (*tafrīt*), ultimately depended on the individual believer and his or her temperament, as well as on the specific context in which a given vice could arise.³¹

Mainstream Islamic philosophy, and ethics, as a subdiscipline of it, came to understand the human soul—created, but immortal—to be constituted of three faculties (*quwā*, sg. *quwwa*), following the neo-Platonic tradition: (i) a “vegetative” or “concupiscent” faculty (*al-quwwa al-nabāṭiyya* or *al-quwwa al-shahwāniyya*); (ii) an “animal” or “irascible” faculty (*al-quwwa al-ḥaywāniyya* or *al-quwwa al-ghaḍabiyya*); (iii) and a “human” or “rational” faculty (*al-quwwa al-insāniyya* or *al-quwwa al-nāṭiqa*).³² The first of these was characterized by appetite (*shahwa*), the second by anger (*ghaḍab*) and the third by reason (*nutq*).³³ The driving forces of the two lower faculties of the soul were “desires” or “passions” (*ahwāʾ*, sg. *hawāʾ*), concerned with survival and procreation in the case of the vegetative soul, and with warding off danger and securing social status in the case of the irascible soul. It was the rational soul, which strove towards higher, immaterial things, that ultimately distinguished men (i.e. humans) from other animate beings. Thus, human “excellence” (lit. *faḍīla*, “virtue”), which characterized man beyond other creatures, was seen to lie in his rational capacity: in being able to speak, think and reason, and—by extension—in his ability to rule over his baser faculties.³⁴

31 For Aristotle, see *NE*, op. cit., p. 23 (“Neither by nature, nor contrary to nature [...]”), for instance, and/or p. 31 (“the mean relative to us”). For Miskawayh, see *Tahdhīb al-akhlāq*, op. cit., pp. 27–29. However, the same idea was picked up by representatives of the subsequent tradition—from Tūsī and Dawwānī to early modern Muslim writers of *ʿilm al-kalām*, as well as vulgarized adoptions and adaptations of the ethical tradition in Sufi and exhortatory literature.

32 The three faculties were often also called “souls” themselves, i.e. the concupiscent soul (*al-naḥs al-shahwāniyya*), the irascible soul (*al-naḥs al-ghaḍabiyya*) and the rational soul (*al-naḥs al-nāṭiqa*) of a person. Each of the three could be subdivided into various sub-faculties with corresponding virtues. For a detailed discussion of this scheme in Ghazālī, for example, see Mohamed Ahmed Sherif, *Ghazālī’s Theory of Virtue* (Albany: SUNY Press, 1975), pp. 24–26. See also K.A. Ivanyi, *Virtue, Piety and the Law: A Study of Birgivi Mehmed Efendi’s al-Ṭarīqa al-muḥammadiyya* (Leiden: Brill, 2020), pp. 140–142.

33 Birgivi Mehmed Efendi, *al-Ṭarīqa al-muḥammadiyya* [henceforth *TM*] (Cairo: Muṣṭafā al-Bābī al-Ḥalabī, 1937), p. 41. Birgivi’s work is characteristic of the later exhortatory tradition—a manual of practical ethics that combined extensive reliance on Ḥadīth with legal discussions and material from Sufi ethics drawn from both the tradition of early pietistic literature, such as al-Ḥārith al-Muḥasibī’s *Riʿāya li-ḥuqūq allāh* and later syntheses, such as Ghazālī’s *Iḥyāʾ*, see below.

34 Cf. D.M. Donaldson, *Studies in Muslim Ethics* (London: S.P.C.K., 1953), chp. 4: “Philosophical Ethics in Islam,” pp. 96–120; M. Fakhry, op., cit.

Concomitant with this tripartite division of the soul was the assignment of a virtue to each of its faculties. Again, these virtues were understood in Aristotelian terms, as balance points between deficiencies and excesses—a “too little,” on the one hand, and a “too much” on the other. In fact, they were thought of as “dispositions” (*malakāt*, sg. *malaka*) that could be acquired by training and effort. The ability to acquire them was, however, also dependent on temperament, i.e. some had to struggle harder than others to acquire certain virtues; each person having their own, contingent battles to fight, so to speak, depending on circumstance and temperamental make-up.

The virtue of the concupiscent faculty of the soul was “temperance” (*‘iffā*), understood as the mean between the excess of “debauchery” (*fujūr*) and the deficiency of “stillness” or “frigidity” (*khumūd*).³⁵ The virtue of the irascible faculty of the soul was “courage” (*shajā’a*), the mean between the vices of “recklessness” (*tahawwur*) and “cowardice” (*jubn*). Finally, the virtue of the rational faculty was “wisdom” (*ḥikma*), the mean between “cleverness” (*jarbaza*, lit. “deception”) and “stupidity” (*balāda*), or varying cognate terms, depending on the author.³⁶

Mankind would never be able to fully “cut” or “break” the desires of the two lower faculties of the soul, as human beings had to sustain their bodies, procreate and defend against danger. Thus, it was necessary for man to keep a balance (*i’tidāl*), i.e. to indulge the passions to the extent required, but not beyond. It was precisely in the difficult task of keeping the various desires or passions of the soul in check, in practicing “moderation,” “courage,” and “wisdom,” that man was able to establish piety in everyday life. When the virtues of the three faculties of the soul were kept in balance, i.e. when each was accorded what it demanded, without transgressing the boundaries of either the divine law or common-sense, the overarching virtue of “justice” (*‘adl*)—the fourth of the cardinal virtues—was achieved.³⁷

Other, subsidiary virtues and vices were then integrated into this overarching framework. When it came to the question of “spending,” for instance, i.e. the use and spending of material wealth, authors in the field of Islamic virtue ethics juxtaposed the “deficiency” of avarice (*bukhl*), on the one hand, and the “excess” of prodigality (*isrāf* or *saraf*), on the other. Again, both of these vices were understood as opposite ends of a spectrum, with *iqtisād* as a kind of middle point in between—the right mean in terms of the consumption or use

35 For a study of temperance in the Greek context, see Helen North, *Sophrosyne: self-knowledge and self-restraint in Greek literature* (Ithaca: Cornell University Press, 1966).

36 *TM*, p. 41.

37 (Ibn) Miskawayh, op. cit., p. 16.

of wealth.³⁸ *Iqtisād* was thus a virtue representing the idea of “moderation in spending,” careful husbandry of resources, livestock and material goods.

In the Greek tradition, and in Aristotle in particular, the mean between stinginess and wastefulness was “liberality” or “generosity” (Gk. *eleutheriotês*)—a notion that would come to be prominent in the Islamic context, too.³⁹ In fact, *jūd* or *sakhāʾ* (the Arabic equivalents of *eleutheriotês*) had already been among the preeminent virtues of the pre-Islamic Arabs.⁴⁰ In Islamic philosophical ethics (from Ibn ʿAdī to Miskawayh and the later tradition), in its turn, they also came to be defined as virtues associated with the correct use of material wealth. Nonetheless, the notion of careful husbandry, moderation in spending or frugality—*iqtisād* or *qasḍ*—soon enough found its way into the developing *akhlāq* literature. In fact, the notion of moderation in spending was not championed to the exclusion of liberality. Instead, it seems to have been supplementing it, refining and adding to it, depending on context.⁴¹

In early and classical works of *adab*, we usually find *iqtisād* or *qasḍ* defined in relation to either stinginess, liberality or prodigality, or a combination of these. al-Jāhīz, for instance, the 9th-century *adīb* and author of *Kitāb al-bukhālāʾ* (“The book of misers”), is quoted to have said: “Prodigality (*al-sarf*) is that which goes beyond liberality (*al-jūd*), while miserliness (*bukhl*) is that which is less than frugality (*iqtisād*).”⁴² We can thus envision *iqtisād* on a continuum: on the furthest end of the spectrum, i.e. the end that characterizes the greatest averseness to spending, lies avarice (*bukhl*); next comes frugality, then liberality, then prodigality. The context of the quote might help us understand this relationship further, for it is embedded in a wider explanation: “Every kind of passion (*ʿishq*) is called love (*ḥubb*), but not every kind of love (*ḥubb*) is passion (*ʿishq*), because passion (*ʿishq*) is a word for that which goes beyond love (*maḥabba*), just like prodigality (*sarf*) is a word for that which goes beyond generosity (*jūd*, liberality), while stinginess (*bukhl*) is [a word for] that which falls short of *iqtisād*.”⁴³

38 See below.

39 Cf. T. Izutsu, *Ethico-Religious Concepts in the Qurʾān* (Montreal: McGill-Queen's University Press, 2002), chp. 5, “The Islamization of Old Arab Virtues,” pp. 75–83.

40 Donaldson, op. cit., p. 4.

41 *TM*, p. 97.

42 Yāqūt al-Ḥamawī, *Muʿjam al-udabāʾ*, ed. Iḥsān ʿAbbās (Beirut: Dār al-Gharb al-Islāmī, 1993), vol. 5, p. 2108.

43 Ibid. The quote goes on by adding the example of the second of the so-called “cardinal virtues,” courage: “[...] and cowardice (*jubn*) is that which goes beyond the strength of guarding (*shiddat al-iḥtirās*) [i.e. oneself, one's dear ones], whereas *hawaj* (rashness, thoughtlessness) is a word for that which surpasses/goes beyond *shujāʾa* (courage).” Here,

So, on the one hand, *iqtiṣād* was understood as a particular, virtuous point on the continuum of vices and virtues associated with spending—a sort of subsidiary virtue, alongside liberality; a virtuous “neighbor” of stinginess. On the other hand, however, the sources also provide us with different semantic contexts for the term. For instance, rather than just representing a point on a larger continuum, *iqtiṣād* is at times explicitly and straightforwardly presented as the opposite of prodigality alone. In fact, at one point al-Jāḥiẓ simply juxtaposes truth and falsehood (*al-ḥaqq wa-l-bāṭil*), prodigality and moderation (*al-sarf wa-l-iqtiṣād*), seriousness and joking (*al-jadd wa-l-hazl*), among other well-known pairs of opposites.⁴⁴ Moreover, in some instances, *iqtiṣād* is presented as a form of moderation itself, a balance or equilibrium (*i’tidāl*):

We have heard those who blame excess, as well as those who find fault with deficiency. But we have not found anyone blaming that which is medium (*marbūʿ*), nor belittle it—there is no [...] doubt about it. The one who blames it [i.e. the mean—that which lies in the middle], does nothing but blame moderation (*i’tidāl*); and whoever belittles it, does nothing but belittle *iqtiṣād*. [...] Only the ignorant one disputes that which is clearly evident. [...] ⁴⁵

Indeed, the parallel construction here seems to indicate an equivalence of sorts. We even get *iqtiṣād* in parallel constructions to *rushd*, i.e. “reason” or “sensible conduct,” “integrity” and “right guidance.”⁴⁶

In Ibn Qutayba, too, we find the idea of *qaṣd* as a sort of moderation, a sensible way of spending wealth. For example, in his chapter on “the ruler” or “correct governance” (*kitāb al-sulṭān*) in *ʿUyūn al-akhbār*, a major work of 3rd/9th-century *adab*, the virtuous sovereign is exhorted to offer gifts to his soldiers in moderation only.⁴⁷ However, in the section on “the right mean in

too, we find a fourth element introduced into the equation: *shiddat al-ihtirās*, which doesn’t actually feature in the Aristotelian account, but seems to be the “equivalent” of *iqtiṣād*, in terms of the pairs presented, i.e. four elements in each case: avarice—frugality—liberality—prodigality in the one case, and cowardice—strength of guarding—courage—rashness in the other.

44 al-Jāḥiẓ, *Rasāʾil al-Jāḥiẓ*, ed. ‘Abd al-Salām Muḥammad Hārūn (Beirut: Dār al-jil, 1991), vol. 3, *al-muʿallimīn*, p. 35. “Economy” would, in fact, be a neat way to translate *iqtiṣād* here.

45 Ibid., vol. 3, *al-tarbīʿ wa-l-tadwīr*, p. 59.

46 Ibid., vol. 4, *al-wukalāʾ*, p. 96.

47 Ibn Qutayba, *ʿUyūn al-akhbār* (Cairo: Dār al-kutub al-miṣriyya, 1925), vol. 1, *Kitāb al-sulṭān*, p. 11.

things” (*bāb al-tawassuṭ fi-l-ashiyāʾ*), Ibn Qutayba explicitly posits *iqtiṣād* as the mean between “deficiency” (*taqṣīr*) and “excess” (*ifṭrāt*), generally;⁴⁸ it is the mean by which a wise ruler should govern in all the affairs of his domain.⁴⁹ Thus, it is both general and particular. In an abstract and general sense, *iqtiṣād* entails “seeking and realizing what is judicious and sage.” In a more particular sense, it is used to designate a particular virtue: i.e. “moderation” or “economy” regarding the use or disposal of material wealth.⁵⁰

The idea of *iqtiṣād* as the “right measure” also features, notably, in the so-called *Golden Verses of Pythagoras*, transmitted by Ḥunayn b. Ishāq, as well as in Miskawayh’s *Jāvidān-e kherad* and the so-called *Šiwān al-ḥikma*—important gnomological collections of the 4th/10th century. We find in them, for instance, the exhortation not to neglect the health of the body, but to keep “the right measure” in drinking, eating and exercise. By “measure,” the author says, what is meant is “that which does not harm you.” “Do not be stingy; in all things the right measure (*al-iqtiṣād*) is what is best. Do what does not harm you and think before acting.”⁵¹

The trajectory, which had thus been set up for *iqtiṣād*, continued in the pietistic, legal and Sufi literature of later centuries. The great 5th/10th-century scholar and Sufi al-Ghazālī (d. 505/1111), for instance, accorded the concept of *iqtiṣād* pride of place in his *Kitāb ādāb al-kasb wa-l-maʿāsh* of the monumental *Iḥyāʾ ʿulūm al-dīn*. al-Ghazālī sets out to explain that “striving” in this world is not just about the reward one can expect in the next. It is also about one’s liveliness in the Here and Now. In fact, the manner of gaining one’s living in this world, one’s *maʿāsh*, is the “means” (*dharīʿa*) to the life to come—that which a believer needs to “fix his eyes on” while engaged in the business of this world.⁵² “For this world,” Ghazālī explains, is “a field of cultivation for the next world,” “the path towards it.”⁵³ He explains that there are three kinds of people in this

48 Ibid., vol. 1, *Kitāb al-suʿdud*, p. 327.

49 Ibid., p. 328.

50 See Adi Setia, “The Meaning of ‘Economy’: *Qaṣd*, *Iqtiṣād*, *Tadbīr al-Manzil*,” in *Islamic Sciences*, vol. 14, no. 1 (2016), p. 120f.; Sami Al-Daghistani, *The Making of Islamic Economic Thought* (New York: Cambridge University Press, 2022), p. 178 and pp. 270–271.

51 Ḥunayn b. Ishāq, *Nawādir al-falāsifa*, ed. Christy Bandak (Zaragoza: 2007), p. 289; cf. Miskawayh, *al-Ḥikma al-khālida: Jāvidān-e kherad*, ed. ʿAbd al-Raḥmān al-Badawī (Tehran: Dāneshgāh-e Tehran, 1358AH [1980CE]), p. 227 and Abū Sulaymān al-Sijistānī, *Šiwān al-ḥikma wa-thalāth rasāʾil* (Tehran: Bunyād-e Farhang-e Irān, 1974), ed. al-Badawī, p. 121. For a review of Badawī’s edition, as opposed to that of D.M. Dunlop, and the various problems of authorship associated with the texts of the *Šiwān al-ḥikma* cycle, see Gutas, “The *Šiwān Al-Ḥikma* Cycle of Texts” in *JAOS*, vol. 102 (1982), no. 4, pp. 645–650.

52 Ghazālī, *Iḥyāʾ ʿulūm al-dīn* (Beirut: Dār Ibn Ḥazm, 2005), p. 502.

53 Ibid.

world: (i) those, whose concern for making a living in the here and now keeps them so busy, they forget about the next world: they are damned; (ii) those, whose concern for the next world keeps them from making a living in this world: they are “victorious”; and (iii) those who are in a position that is, in fact, “closest to moderation (*i’tidāl*).” This last group of people are “the ones whose way of making a living busies them with the next life” (*alladhī shaghghalahu ma’āshuhu li-ma’ādhihi*)—they are, Ghazālī states, the “*muqtaṣidīn*,” i.e. those who enact *iqtisād*. “Only those who incessantly practice the way of appropriateness (*sadād*), while seeking to gain their living, achieve the rank of *iqtisād*,” Ghazālī explains.⁵⁴

Likewise, in *Kitāb dhamm al-bukhl wa-dhamm ḥubb al-māl*, book nine of the fourth part of the *Iḥyā*, Ghazālī explains that the worst of this world’s temptations (of which there are many!) are material possessions (*amwāl*).⁵⁵ Material wealth is the worst, he says, because it is never bound to satisfy humans. Moreover, it exerts a tyranny over the believer, no matter whether rich or poor. Although material possessions bring many benefits, Ghazālī explains, they also bring numerous evils and only those with “keen perception” can distinguish between them. Ghazālī considers the various “states” potentially afflicting men when it comes to wealth, depending on whether a person is rich or poor, i.e. whether one has “found” (*wajada*) wealth or “lost” (*faqada*) it. The one who is a “loser” (*fāqid*), Ghazālī says, can either be characterized by “greed” (*al-ḥirṣ*) or “contentment” (*qanā’a*), while those who “find” wealth, i.e. the rich, can either be in a state of wanting to “hold onto” it (*imsāk*) or “spending” it (*infāq*). While the desire to “hold on” to wealth is due to “avarice” (*bukhl*), the act of spending is characterized either by “dissipation” (*tabdhīr*) or “economy” (*iqtisād*). “And that which is praiseworthy,” Ghazālī states, “is moderation (*iqtisād*).”⁵⁶

2 *Iqtisād* in the Early Modern Period: The Case of Birgivi Meḥmed Efendi (d. 981/1573)

The notion of *iqtisād* as a particular virtue, characterizing acts of spending or the disposal of material wealth, as well as moderation in a more abstract and general fashion, continued into the early modern period. While it is impos-

54 Ibid.

55 Ibid., p. 1134.

56 Ibid. Here, too, “economy” might serve as a nice alternative translation, stressing the particular aspect of the more general “moderation” (i.e. the particular kind of moderation that characterizes the management and disposal of material wealth).

sible to present an exhaustive genealogy in the context of this paper, a good example for how an early modern heir to al-Ghazālī (and to the ethical and legal traditions of the classical period) engaged the idea can be found in the Ottoman Empire of the 6th century of the common era. Birgivī Meḥmed Efendī (d. 981/1573), a popular Ottoman Ḥanafī jurist, preacher and Ḥadīth scholar—and vociferous opponent of all innovation (*bidʿa*) in his day—expounded on the idea of *iqtiṣād* in his main work, *al-Ṭarīqa al-muḥammadiyya*. This was a widely disseminated manual of exhortation (*waʿz*) and advice (*naṣiḥa*), presenting its reader with detailed instructions on how to cultivate individual virtue and piety in everyday life, expounding at length on the various vices of the heart (*āfāt al-qalb*) a believer needed to fight in order to establish a godly disposition. With regard to *iqtiṣād*, two areas stand out in particular: on the one hand, Birgivī championed moderation in an explicit rejection of exaggerated forms of Sufi worship and devotion (i.e. *iqtiṣād* as moderation *generally*, as opposed to any kind of excess); on the other hand, Birgivī stressed the importance of “moderation in spending” (viz. the particular virtue that in English usage is still referred to as “economy”—without definite article). However, the establishment and cultivation of a pious disposition—an endeavor essentially focused on the individual, privately—would have to go hand in hand, for Birgivī, with the establishment of societal virtue to be of any success or ultimate value. Since man was not isolated from the world at large, it was only possible to hone a virtuous self by also addressing much wider social and economic issues, which is where *iqtiṣād*, as both a general and particular virtue, comes in—bringing us back to the question of sustainability, environmental and economic justice.

Guided by a range of ethical considerations, Birgivī treated the ways in which a believer’s dealings in the economic arena could have an impact on his fate in the Hereafter.⁵⁷ At the heart of his discussion lay the concept of *māl* (material wealth). Just like Ghazālī before him, Birgivī embraced an attitude that was not unfavorable to wealth accumulation generally. Thus, *māl* was not conceived of as inherently bad.⁵⁸ It is true, Birgivī argued, that material possessions had a number of harmful characteristics. However, these were balanced out by various advantages, and the positive potential for societal welfare, charity and wealth engendered. Thus, material possessions and money were to be seen, first and foremost, as “a blessing from God” (*niʿmat allāh*).⁵⁹ Like Ghazālī, Birgivī explains that it was through *māl* that prosperity may be achieved in both

57 Ibid., pp. 239–284.

58 *TM*, pp. 103–104.

59 Ibid.

this world and the next. In this world, money enables believers to feed, clothe, shelter and protect their bodies. This is particularly important as the body was the tool by which good deeds were achieved in this world. The body, as Birgivî states, “is what carries our virtues.”⁶⁰ Furthermore, money enables people to be charitable and help the poor. It lets individual Muslims benefit society at large—by building mosques, schools, hospitals and lodges (i.e. all sorts of welfare institutions and institutions for education), as well as aqueducts, bridges, roads, border fortifications, dams for rivers and ports, and other structures to be used by the general public.⁶¹ “The best of people,” Birgivî says, “are those who benefit others.”⁶² Therefore, “it is better to gain money for the sake of doing good deeds and giving charity than it is to seclude oneself in ritual worship.”⁶³

So why is it then, if wealth had all these positive qualities, that “so much has been said regarding its blameworthiness” (*madhmūmiyya*)?⁶⁴ This is, Birgivî explains, because material possessions make people exceed proper bounds; they cause greed and tyranny, and they divert the believers’ attention away from God. Wealth makes people forget the fact that they will die, and that they should, in fact, be preparing for the next world in everything they do. These harmful characteristics, Birgivî believed, were “overpowering” (*ghāliba*). In fact, “the love of wealth” (*ḥubb al-māl*)—when not for the purpose of charity, taking care of one’s body or performing one’s religious duties—was an inherent “evil of the heart.”⁶⁵ It was, moreover, intrinsically related to two other vices: that of avarice (*bukhl*), on the one hand, and wastefulness (*isrāf*) on the other.

It is here that the notion of *iqtiṣād*, as “moderation in spending” or “careful husbandry” of material resources and wealth, came in. For while *bukhl*, i.e. the desire to hold on to money, when one should actually spend it, was blameworthy, so was the intemperate, reckless or wasteful spending of it, i.e. *isrāf*. Birgivî devotes a fair amount of space to his discussion of avarice and wastefulness, which he envisions, as Ghazālī had done, as opposite vices, arranged on a spectrum, with *iqtiṣād* as the corresponding virtuous mean. Both were extremes—one a deficiency, a “too-little” (*tafrīt*), the other an excess, a “too-much” (*ifrāt*). Thus, avarice meant “holding on to money when either the law (*al-sharʿ*) or virtue (*muruwwa*) command that one spend it.”⁶⁶ Wastefulness,

60 Ibid.

61 Ibid.

62 Ibid.

63 Ibid.

64 *TM*, p. 103.

65 *TM*, p. 98.

66 *TM*, p. 96.

on the other hand, was “to spend money when either the law or virtue command one hold on to it.”⁶⁷ The golden mean (*wasat*), lay in a balance of the two: to spend money when it was proper to do so, and to be thrifty—to practice economy—when it was proper to do so. The believer thus had to walk a tight rope, constantly examining his actions and motives and adjusting them in light of possible “excesses” to either side.

Birgivi would go into much detail in providing numerous examples for how to cultivate *iqtisād* in the context of the management of material wealth in everyday life. This covered many and decidedly practical aspects of “household management” (Gk. *oikonomia*, Ar. *tadbīr al-manzil*) proper, from exhorting believers to close their jars at night, so that food would not be spoilt, to looking after books, so that they would not tear or break or be eaten up by worms.⁶⁸ As wealth was considered a blessing from God, to squander God’s blessing meant to take it for granted, to not be thankful for it and to think little of it.⁶⁹ To “throw away” God’s gift, to spend material possessions and resources uselessly, was first and foremost an insult to God, as far as Birgivi was concerned.⁷⁰ It was, moreover a sin against humanity, because of the good that could potentially be achieved with it. Thus, to not harvest crops, so that they would rot; to not provide livestock with shelter and to not feed them, so that they would die, were examples of *isrāf* for Birgivi.⁷¹ Likewise, when people did not assume responsibility for the upkeep and proper preservation of objects they owned, when they did not look after their material goods, damaging them deliberately or out of thoughtlessness, and/or causing their destruction, this constituted wastefulness.

Thus, Birgivi’s initial definition of the vice of *isrāf*, which had been “to spend *māl* when either the law (*sharʿ*) or virtue (*murūwwa*) require that one should hold on to it” or “to spend without religious or worldly purpose,” got extended to include “the destruction of wealth” (*ihlāk al-māl*).⁷² While this seems a logical move in many ways, it has far-reaching consequences for our understanding of *iqtisād*—a virtue which must, accordingly, not only be understood as relating to “spending” in a narrow sense, but also as the responsibility for the preservation, care and upkeep of material wealth one has been entrusted with. Indeed, this is an aspect of the term that comes close to the idea of economy as “careful

67 *TM*, p. 97.

68 *TM*, p. 105.

69 *TM*, p. 103.

70 *TM*, p. 104.

71 *TM*, p. 105.

72 *TM*, p. 104.

husbandry”—a term frequently associated with frugality and one that could be of great potential in terms of contemporary concerns regarding economic sustainability and eco-mindedness.

Another way the term *iqtiṣād* was used by Birgivī is in the sense of moderation generally. For instance, in his introduction to *al-Ṭarīqa al-muḥammadiyya*, Birgivī provides the reader with a chapter on what he calls “moderation in deeds” (*al-iqtiṣād fi-l-a’māl*). He glosses the term *iqtiṣād* here with “keeping the mean” (*tawassuṭ*) and “avoiding the two extremes of excess and deficiency” (*al-ijtināb ‘an al-ṭarafayn al-ifrāt wa-l-tafrīt*), thus indicating that it was not only in the realm of material resources, but also in a range of other human activities, particularly in the context of religious devotion, that *iqtiṣād* could and should guide human behavior.⁷³ Reminding believers of Qur’anic injunctions that emphasized “ease” (*yusr*) over “hardship” (*‘usr*), i.e. that Islam was not sent to impose hardships on believers, by stipulating obligations that would be too hard for them to keep (and reminding them that God ultimately wants His servants to make use of the dispensations He offers), Birgivī argues that excessive acts of worship or devotion, such as staying up all night to pray, fasting without interruption, eating no meat, or practicing celibacy, are blameworthy.⁷⁴ They are excessive, not virtuous, since virtue is the expression of moderation—*iqtiṣād*—in deeds. While this might not at first sight seem as immediately and directly relevant to contemporary debates on ecological sustainability—compared to the more direct appeals to moderation in the use of material resources Birgivī offers in his discussions of the vice of wastefulness—his call for an overarching “*iqtiṣād* in deeds” might nonetheless be useful in re-assessing the relentlessness, speed and excessive “devotion” demanded by much of contemporary consumer culture.

There is no explicit articulation of the idea of sustainability, however. Neither in Birgivī, nor in his classical predecessors do we find such a notion. There is moderation, as we have seen, there is humility, and there is the notion of man’s viceregency over the earth. But sustainability *per se*, in the way we understand it today, does not feature. It might have been a given, considering the fact that pre-industrial societies were characterized by a fundamentally different ethos and way of life than ours, including when it came to the production, management and consumption of material resources.⁷⁵ This should not, how-

73 *TM*, pp. 14–19.

74 *Ibid.* For the theme of Islam as a religion of “ease” and its connection to *qaṣd*, see also above, p. 9.

75 See, for instance, R.I. Moore’s remarks in the preface to Patricia Crone’s *Pre-industrial societies*, regarding the great “challenge to the imagination” engendered by the “universal

ever, detract from the substance and transformative potential the recovery of meanings of the term *iqtiṣād* might have on contemporary Muslim debates on environmental and economic justice.

Conclusion

It is noteworthy that modern Islamic debates on economic and environmental sustainability have not engaged in the here sketched aspects of the history of *iqtiṣād* in any substantial fashion—a history in fact rich in potential to challenge our thinking regarding current predicaments. An awareness of the radical transformation of the concept of *iqtiṣād* from a virtuous way of doing things to the modern discursive object of “the economy” we have come to know, could enable more constructive, indeed more imaginative ways of confronting the latter than surrender to the seemingly inexorable qualities it has come to be imbued with. Similarly, more conscious engagement with pre-modern understandings of *iqtiṣād* could (and should) remind us of the mutability of such terms to begin with, as was well as of the mutability of the practices and world-views that go with them. In fact, any attempt to write a genealogy of concepts such as *iqtiṣād* confronts the historian with a wide array of simultaneously moving pieces of a complex puzzle, i.e. a great many variables, changing concurrently, often in dialectic relation to each other, which need to be kept in mind. That is to say, it is not only that the meaning of the term *iqtiṣād* changed in an otherwise stable historical setting; rather, the parameters of the setting themselves evolved in ways that are often difficult to keep track of and grasp in comprehensive fashion.

The aim of this paper was not to discover a premodern equivalent of the modern, indeed, very recent notion of sustainability. It was, rather, to chart the development of an important, yet neglected pre-modern concept that could potentially be of significance in modern calls for economic and environmental sustainability: that of *iqtiṣād*. As this essay has tried to illustrate, *iqtiṣād* denoted both a general virtue and a particular one. In general terms, the sense was that of a middle-point between excess and deficiency, i.e. “moderation,”

transformation set in train [...] by the advent of economies based on large-scale industrial production and global exchange, mass politics and culture and the human conquest of nature.” See P. Crone, *Pre-industrial societies* (Oxford: Blackwell Publishers, 1989), p. x. In the context of the search for pre-modern notions of “sustainability” we might be faced with exactly this sort of problem: the absence, in ideational terms, of something that was in fact ubiquitous in terms of lived reality.

whatever the particular field of human activity ultimately concerned. In its particular sense, *iqtiṣād* was a virtue connected to the disposal of material resources, i.e. what we might call “frugality.”

A point that bears mentioning in this regard is that the ethical injunctions associated with both moderation and frugality in the pre-modern Islamic tradition were historically addressed to the individual, first and foremost. For while the community (*umma*) certainly played a role in pre-modern Islamic ethics, the norms *per se* (e.g. to cultivate *iqtiṣād*, or any other kind of moral virtue for that matter) were usually formulated with the individual believer in mind, as the ultimate target. This was the case even when the community at large was addressed (e.g. “each and every one of you should be moderate”). In the crucial transition from “*iqtiṣād* as moderation” to “*iqtiṣād* as the economy,” which has come to characterize the modern period, we witness a corresponding transition from the strictly individual to the more broadly collective. That is to say, “society” or “humankind” now come to assume a place of centrality, indeed a place of *agency*. The notion of the common responsibility or duty of mankind vis-à-vis the planet or subsequent generations, for instance, has become central.⁷⁶ Any attempt to bring earlier understandings of *iqtiṣād* into conversation with debates on contemporary predicaments should bear this in mind.

Taking all such caveats into account, more conscious engagement with pre-modern notions of *iqtiṣād* might encourage Muslims, as much as non-Muslims, to reflect more creatively on the ways our common resources are harvested, processed, and put to use, for the benefit of communal welfare, and in a manner that is ecologically, morally and economically sustainable. The term *iqtiṣād* might thus be marshalled in contemporary debates on ecological and environmentally just living in interesting and potentially challenging new (old) ways.

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⁷⁶ Of course, the notion of a collective, communal duty (*farḍ kifāya*), as opposed to an individual duty (*farḍ 'ayn*) is existent in pre-modern Islamic jurisprudence, but this, too, is ultimately dependent upon a given member of the community discharging it for the rest. It is not abstract in any sense.

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PART 2

*Modern Discourses on Water,
Ecology, and Climate Change*



Islamic Resources for Water Conservation and Management

Natana J. DeLong-Bas

The life of this world is like this—the water We send down from the sky irrigates the earth’s vegetation, from which humans and animals eat. Just when the earth is in its most colorful and beautiful state, its people think they have control over it. Then our command comes to pass, by night or by day, and We cut it down as if it had not been flourishing the day before. In this way We explain the signs for a people who reflect.

YUNUS 10:24



1 Introducing the Problem¹

The problems and challenges facing the planet’s life forms—human, animal and plant alike—are deeply rooted in human abuse of water systems² and

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- 1 As I wrote this article, I often looked out the window to the bird bath, the most important watering point for drinking and bathing in the yard. Watching the birds, squirrels, and chipmunks reminds me of the responsibility to care for all of God’s creation. These small creatures have as much need for and right to water as human beings, but do not have the same means of acquiring it or ability to make themselves heard in our complicated system of property rights, laws, construction and destruction of the land. The woods are their home. The only water to which they have access is that which is either naturally present or offered to them. Without it, they, like we, will die, as will the food sources upon which they depend. Surely if God took the time to create so many forms of life, part of being God’s vicegerents (*khilāfa*) must be responsibility to protect each of these signs (*āyāt*) of the Creator’s work and presence, even as we work to protect vulnerable people. This paper is an exercise in “integral theology,” placing human and non-human life forms at the center of the constantly unfolding story of the planet.
 - 2 Human activities such as clearing forests and vegetation change the amount of transpiration from vegetation into the atmosphere at the same time that the vegetation absorbing and

the subsequent disruptions introduced to the water cycle³ by climate change, particularly global warming.⁴ Although fresh water is both the *sine qua non* (fundamental, universal requirement) of the existence of all life and *sui generis* (of its own kind with no substitute)—as well as finite,⁵ there remains strong reluctance to correct human abuses of this most vital resource.

The impact of these abuses and disruptions is clear: increasingly destructive alterations to the water cycle with some areas receiving more water than can be absorbed⁶ and others receiving less, creating dangerous drought conditions that render large portions of land susceptible to wildfires and desertification.⁷ In both cases, the losses have impacted not only human life and property, but also significant portions of animal and bird life and habitat.⁸ Rising temperatures have caused rapid melting of glaciers⁹ and permafrost, further diminishing drinking water supplies and adding tons of methane to the atmosphere,

retaining water in the soil is removed, increasing soil erosion. Draining and clearing wetlands is particularly damaging, impeding regulation of peak rainfall events and steady release of water over time and damaging critical natural cleaning systems that remove pollution. Haydn Washington, *Human Dependence on Nature: How to help solve the Environmental Crisis* (London and New York: Routledge, 2013), 16.

- 3 Water both falls from and is raised to the sky. 80 percent of water vapor comes from the oceans, with more coming from land transpiration from soil, tree leaves, and volcanoes. Water vapor condenses and falls back to the ground as precipitation, with some absorbed directly into the ground, some freezing and melting, and some running off into rivers, ponds, or lakes and, potentially, the ocean. Washington, 15–16.
- 4 For every 1 degree Celsius that the earth's atmosphere warms, its water-holding capacity increases by 7 percent. Washington, 17.
- 5 Gretel Van Wieren, *Food, Farming and Religion: Emerging Ethical Perspectives* (New York: Earthscan from Routledge, 2018), 83, mentions water as *sui generis*. Christiana Z. Peppard, *Just Water: Theology, Ethics, and the Global Water Crisis* (Maryknoll, NY: Orbis Books, 2014), 17–18, understands *sine qua non* and *sui generis* as universal features that work together yet manifest only in particular contexts, such that the presence or absence of clean, fresh water shapes human, societal, ecosystemic, biotic, and planetary potentiality at many levels of scale and contexts, including social, economic, and political structures.
- 6 Such as the 2019 flooding in the mid-Western US that left standing water in fields for months.
- 7 As seen in California and Australia in 2019 and 2020.
- 8 Examples include the decimated Koala population in the 2019 Australian wildfires and the 2020 deaths of hundreds of thousands of birds from smoke inhalation on the US West Coast.
- 9 Arctic sea ice helps maintain lower temperatures—ice reflects back 80 percent of the sunlight that hits it. By contrast, ocean water absorbs 90 percent of the sunlight, warming the water so that more ice melts. The loss of sea ice leads to coastal flooding and erosion, rendering coastal groundwater salty and adding more energy to increasingly warm seas, producing more powerful hurricanes and typhoons with heavier rainfall and stronger storm surges. Gary Chamberlain, *Because Water Is Life: Catholic Social Teaching Confronts Earth's Water Crises* (Winona, MN: Anselm Academic, 2018), 44–45.

accelerating and exacerbating rates of global warming.¹⁰ 21 of the 37 largest aquifers are being drained faster than they can refill, threatening the long-term supply of water for drinking and agriculture, in addition to damaging wetlands, contributing to sea-level rise, and making land sink.¹¹ So destructive and unpredictable is the impact that some recommend replacing the phrase “climate change” with “climate crisis” or even “climate chaos.”¹²

Perhaps the most significant impact on all life forms has been the increasing scarcity of drinking water¹³ at the same time that demand and water use have increased ninefold during the 20th century alone.¹⁴ A 2021 UNESCO report found that, although 5.3 billion people (71 percent of the global population) have access to a safely managed drinking water service, over 2 billion people live in countries experiencing water stress and an estimated 4 billion (over half of the global population) experience severe physical water scarcity for at least one month per year.¹⁵ Even in the Western world, where water has generally been assumed to be abundantly available for human use and consumption, whether for basic needs such as cooking, cleaning, and drinking, or

10 According to a 2007 Report of the Intergovernmental Panel on Climate Change, only 25 of the original 150 glaciers in Glacier National Park remain today and the Himalayan Glaciers, which supply more than half of the drinking water for 40 percent of the global population, are disappearing. Melting of the Siberian permafrost has led to a 10–25 percent increase in global warming that continues to accelerate beyond human capacity to control. Cited in Colleen Mary Carpenter, “Rushing Winds & Rising Waters: Seeking the Presence of God in a Radically Changing World,” in *Confronting the Climate Crisis: Catholic Theological Perspectives*, ed. Jame Schaefer (Milwaukee, WI: Marquette University Press, 2011), 326.

11 Chamberlain, 100–101.

12 Vandana Shiva, *Water Wars: Privatization, Pollution, and Profit* (Berkeley, CA: North Atlantic Books, 2016), xvi.

13 Although there is abundant water on earth, 97.5 percent of it is salt water. Of the remaining 2.5 percent fresh water, 70 percent is locked in the ice caps and polar regions and close to 30 percent is groundwater. Only 0.3 percent of the entire global fresh water supply is surface water. Peppard, 21–22.

14 Washington, 103.

15 While this marks improvement from prior years and signals progress toward the 2030 goal of the “sixth sustainable goal” (SDG) of availability and sustainable management of water and sanitation for all, there nevertheless remain 2.25 billion people (29 percent) without such access. The African continent is particularly challenged—home to nearly 9% of the global freshwater supply but with uneven distribution—27 countries combined contain only 7% of that total. *Valuing Water: The United Nations World Water Development Report 2021*. Paris: UNESCO, 2021, 6, 15. <https://unesdoc.unesco.org/ark:/48223/pf0000375724>, accessed July 11, 2022, and “Billions of people will lack access to safe water, sanitation and hygiene by 2030 unless progress quadruples—warn WHO, UNICEF,” Press Release July 1, 2021, <https://www.unicef.org/press-releases/billions-people-will-lack-access-safe-water-sanitation-and-hygiene-2030-unless>, accessed July 11, 2022.

more extravagantly for lawn sprinkler systems,¹⁶ private swimming pools, and long showers, water shortages are leading to severe water rationing in some places.¹⁷ Imitation of these extravagant uses of water continues in the name of modernization, development, and “improved” living conditions, even in places where water scarcity long predates the current climate crisis.¹⁸ Additionally, increased human management of natural waterways, such as through the construction of dams and reservoirs, typically to the detriment of rivers and the life forms they support, as well as supply to those living further downstream, has led to water disputes.¹⁹

The majority of human use of water is for agricultural purposes,²⁰ followed by industrial businesses and power plants. While the latter are always associated with pollution, it is often assumed that farms return clean water to the earth. The reality is that agricultural use of pesticides, herbicides, and synthetic

16 The largest irrigated crop in the United States is turfgrass, which occupies three times more land than agriculture and adds nothing to the food supply for human beings. Chamberlain, 81–82.

17 California’s water shortages are so extensive that some locations have rationed water for basic necessities, such as hygiene and cooking, even though household use accounts for only about 4 percent of the global water footprint. See Jill Cowan, “Why California’s Water Crisis is So Difficult to Solve,” *The New York Times*, May 21, 2019, <https://www.nytimes.com/2019/05/21/us/california-drinking-water.html>, accessed July 11, 2022. The situation in the Western US has reached extreme levels not seen in over 1,200 years. Stephanie Elam. “The West’s megadrought is worst in 1,200 years. Los Angeles Is Taking Wastewater Recycling to the Extreme,” <https://www.cnn.com/2022/02/14/us/west-megadrought-climate-wastewater-recycling/index.html>, accessed July 11, 2022.

18 Populations of many countries in the Middle East have expanded rapidly, resulting in enormously increased water consumption, typically heavily subsidized by the government. Water consumption in Riyadh, Saudi Arabia, jumped from 29 to 412 liters/day/person between 1970 and 1980, despite the massive expense of production and delivery, degradation of natural ecosystems and decimation of the supply of fossil water available in aquifers. See Mawil Izzi Dien, “Islam and the Environment: Theory and Practice,” in *Islam and Ecology: A Bestowed Trust*, eds. Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin (Cambridge, MA: Harvard University Press, 2003), 111.

19 Izzi Dien, 115–116, cites the Ataturk Dam on the Euphrates River built to protect Turkey’s water needs at the cost of almost half of the flow to Syria and Iraq, the death of many rivers once teeming with life, and ongoing water disputes.

20 Current global agricultural practices account for 70 percent of freshwater withdrawals and 90 percent of global water consumption. 80 percent of that use goes toward livestock production, adding manure runoff, antibiotics and growth hormones to pollutants entering the water system. Van Wieren, 81–85. Water demands for beef are among the highest usages—about 1,845 gallons of water for 1 pound of boneless beef. Cited in Daniel L. Brunner, Jennifer L. Butler, and A.J. Swoboda, *Introducing Evangelical Ecotheology: Foundations in Scripture, Theology, History, and Praxis* (Grand Rapids, MI: Baker Academic, 2014), 206.

fertilizers leaves water returned to the earth filled with nitrogen and phosphorus that cause increased contamination and acidity of ocean waters,²¹ eutrophication, and algae growth.²² Other serious forms of water pollution include garbage and sewage dumping,²³ oil spills,²⁴ and dumping of other pollutants, such as mercury, such that more than half of the world's rivers currently pose severe health problems to those living near them,²⁵ as well as to the marine life within them.²⁶ Although many people are negatively impacted by these combined problems, there has been a disproportionate impact on women, particu-

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- 21 Ocean-dwelling photosynthetic organisms produce a significant amount of the oxygen needed to breathe, in addition to ocean currents and their associated winds playing a vital role in balancing the climate and holding weather extremes in check. Christopher Uhl with Jennifer Anderson, *Developing Ecological Consciousness: Becoming Fully Human*, 3rd ed. (Lanham, MD: Rowman & Littlefield, 2021), 73.
 - 22 Over the past 4 decades, excessive nutrient loading, particularly through use of nitrate fertilizers combined with phosphorus use, has emerged as one of most important direct drivers of ecosystem collapse and change. See Washington, 17–23.
 - 23 A 2008 EPA report found that cruise ships produce on average 21,000 gallons of sewage (ranging from 1,000 to 74,000 gallons depending on size) and up to 15 tons of garbage daily **per ship**, among other waste products, much of which is dumped at sea. U.S. Environmental Protection Agency. Esp. sections 2 and 5. *Cruise Ship Discharge Assessment Report*. Washington, D.C., Dec. 9, 2008. Available at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/P1002SVS.PDF?Dockey=P1002SVS.PDF>, accessed July 11, 2022.
 - 24 706 million gallons of oil are spilled into the world's oceans every year. For details, see Ocean Planet: Oil Pollution, https://seawifs.gsfc.nasa.gov/OCEAN_PLANET/HTML/peril_oil_pollution.html, accessed July 11, 2022.
 - 25 Per the 2015 UN report www.un.org/en/section/issues_depth/water/, cited in “Clean Water and Sanitation Reduce Childhood Malnutrition and Diarrhea,” at <https://www.wsp.org/featuresevents/features/clean-water-and-sanitation-reduce-childhood-malnutrition-and-diarrhea>, accessed July 11, 2022, about 443 million school days are lost annually to water-related diseases. Half of the world's hospital beds are filled with people suffering from water-related diseases. As much as 80 percent of illnesses in developing countries are tied to poor water and sanitation conditions. Mark J. Allman, “Theology H2O: The World Water Crisis and Sacramental Imagination,” in *Green Discipleship: Catholic Theological Ethics and the Environment*, ed. Tobias Winwright (Winona, MN: Anselm Academic, 2011), 384, notes that waterborne diseases annually claim more lives than war. Noted in Brunner et al, 203. Peppard, 12, sees a theological dimension to the disproportionate and heavy burden on women. She calls for an “embodied” theology rooted in lived realities that recognizes the negative impact of the absence of fresh water on human life, flourishing and bodies, such as through male privilege, violence against women, and environmental degradation. I seek to expand this embodied theology beyond the anthropocentric project to include the bodies of all Divine creation because all life requires water for survival, even as access to water sources is increasingly limited due to expansion of human settlements and degradation of the natural environment.
 - 26 Chamberlain, 66–67.

larly girls under the age of 15 who spend as much as 4–5 hours per day fetching water in areas of scarcity, at the cost of their education, micro-enterprise, political participation, rest and leisure, while increasing the potential for physical and sexual assault.²⁷

Human greed has resulted in poor communities and communities of color being intentionally selected as locations for toxic waste, landfills and dumps, incinerators, and other undesirable byproducts, thereby polluting nearby water resources, contaminating tap water,²⁸ and raising prices for poor communities already ill-equipped to pay.²⁹ Even more pollution is caused by hydraulic fracturing (“fracking”), a method of fossil fuel extraction that injects significant quantities of water mixed with chemical additives into shale buried deep in the earth to push the fuel to the surface.³⁰ The byproduct of this process—“produced water”—is a toxic combination of chemicals and water for which no treatment currently exists to render it potable.³¹ About 40 percent of this “produced water” returns to the surface for storage;³² 60 percent remains in the ground where it often seeps into other water sources. While profits obtained from fossil fuels go into private hands, the cost for investigation and clean-up is socialized to surrounding communities. These short-term gains and profits from what are ostensibly public goods come at the expense of much longer-term natural processes, significant waste production, and prioritization of cor-

27 Noted in Brunner et al, 203.

28 As occurred most notoriously in Flint, MI. For details on this and related environmental justice issues, see Brittany Greeson. “Flint Water Crisis: Everything You Need to Know,” <https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know>, accessed July 19, 2022.

29 Chamberlain, 69–70.

30 Peppard, 144, notes that every well used for fracking pollutes between 3 and 5 million gallons of freshwater that then become unusable for any other purpose.

31 According to the “Halliburton Loophole” applied to the federal Safe Drinking Water Act (SDWA) of 1974 through the 2005 National Energy Act, the EPA has no authority to regulate the injection of chemicals in the fracking process—or even to know what they are as the contents of fracking solutions are considered “proprietary secrets” owned by corporations and not reportable to the federal government. The EPA is therefore without authority to regulate these unknown chemicals while corporations are empowered to pollute as and however much they wish. Although some effort has been made by local, county and state governments to obtain this information, records are neither systematic nor easy to search, making it difficult to determine the overall impact on human or environmental health as scientists do not know what chemicals to look for and are left simply to observe the impact on local communities. Detailed in Peppard, 154–155.

32 In theory, this “produced water” is supposed to be contained in storage tanks or artificial holding “ponds” with posted warning signs. However, Peppard, 144, observes that wildlife neither understands nor obeys signs.

porate access to water supplies over the rights of workers and small farmers, exacerbating economic and racial inequalities.

Yet water remains so vital to life that, as early as 1985, then-Egyptian Minister of Foreign Affairs and later Secretary-General of the United Nations Dr. Boutros Boutros-Ghali warned that future wars were likely to be fought over water, as agriculture and ultimately food security came to be increasingly threatened. His declaration of concern was reiterated in 1995 by Dr. Ismail Serageldin, then Vice President of the World Bank, predicting the next world war, “unless we change our approach to managing this precious and vital resource.”³³ Despite the importance of water security for all life, some countries have continued to place their own water security as a higher priority than right of access,³⁴ typically to the detriment of water-poor and less-developed countries.³⁵ Compounding this protectionist attitude has been the privatization and commodification of water and water rights as assets to be bought and sold by private entities.³⁶ Large multinational corporations have taken over water management in many parts of the developing world where governments have failed to invest in needed infrastructure or provide incentives to reduce water waste.³⁷ While some claim that this is the most efficient, effective, and equitable solution to the world water crisis, the reality is that privatization of water results in price increases of between 60 and 600 percent at the same time that water quality tends to decrease significantly.³⁸

Privatization of water management has been further compounded by the growing bottled water industry,³⁹ which has expanded pollution but not water

33 Cited in “Water Wars? A Talk with Ismail Serageldin,” *World Policy Journal*, Vol. 26, No. 4 (Winter 2009/2010), 25.

34 In 2010, the United Nations General Assembly asserted access to safe and clean drinking water and sanitation as a basic human right. Although this resolution was affirmed as legally binding by the United Nations Human Rights Council, only 122 nations signed it. 42 did not, including the United States, Canada, China, Spain, France, Japan, and the United Kingdom. Cited in Chamberlain, 138–139. One of the worst flashpoints in water access is between the Palestinian territories and Israel. <https://www.oxfam.org/en/failing-gaza-undrinkable-water-no-access-toilets-and-little-hope-horizon>.

35 Freshwater consumption in the Global North is at least 10 times as much, if not more, than freshwater consumption in the Global South. Van Wieren, 86.

36 The world's major banks hold investment funds focused on water as a profitable asset, expecting it to become the single most important physical commodity-based asset class, surpassing oil, agricultural commodities, precious metals, and copper. Van Wieren, 66, 87–88.

37 Allman, 386.

38 Allman, 387.

39 Water was considered a community good held in public trust and, thus, not ownable

safety.⁴⁰ Despite charging significantly more for bottled water,⁴¹ the overall quality of water has declined in many places, including in the United States where 1 in 5 states has no regulations for water used for bottling or for banning *E coli* or fecal matter in bottled water.⁴² Even more striking is the placement of profits from the bottled water industry into private hands, rather than public

until the 19th century when states and municipalities in Europe and the United States became the chief water suppliers to towns and cities. Privatization of water elsewhere, particularly Latin America and Africa, began with demands for adequate water supplies for large groups of poor people, usually in cities, but at a much higher price than water delivered to the upper and middle classes through the public water system, essentially making water available only to those who could pay for it. When many developing countries fell behind on loan obligations to the World Bank and the IMF in the 1980s, they were forced to open their public water systems to privatization to help reduce government expenses. Today, two large companies—ONDEO/Suez Lyonnaise des Eaux—Suez—and Vivendi/General des Eaux—Viola—own more than 70 percent of the privatized global water market. Chamberlain, 115–117.

40 Public water resources are monitored several times daily by the Environmental Protection Agency with tight restrictions and requirements for public disclosure of sources, treatment processes and contaminants found. Private water bottling is subject only to weekly tests by the Food and Drug Administration and is not required to disclose any of this information. Chamberlain, 119. The shift from considering water as a right to water as a commodity has provoked significant theological and ethical debates about whether water should be measured in terms of price, value, or some alternative non-economic form. Peppard, x and 36.

41 19 cents per day on average for tap water versus \$4.98 for the same quantity of bottled water in the United States, per Chamberlain, 119. As noted by Peppard, 38, the overwhelming majority of those buying bottled water have clean tap water available and are not in danger of drinking disease-ridden water, rendering bottled water a lifestyle choice, rather than a necessity. Peppard, 43, concludes that bottled water exists because of public failure to provide satisfactory water systems and services. I add that there remains the additional problem of pharmaceuticals and other chemicals in the water supply, whether through personal discarding, human waste, or industrial waste. Water treatment facilities can only clean up so much, typically through a two-step treatment process of debris removal and chemical purification that does not clean all the chemicals and pharmaceutical remnants out of the water supply. Peppard, 151, notes increasing evidence of excreted or discarded prescription medications traveling through municipal water and sanitation systems, eventually causing or contributing to a range of disturbing outcomes, such as toxins ingested through meat consumption that are found in their heaviest concentrations in fetuses and infants—early human life when the consequences for development, genetically and otherwise, are most significant. For more on endocrine disruptors in chemicals in daily use, see Monona Rossol, *Pick Your Poison: How Our Mad Dash to Chemical Utopia is Making Lab Rats of Us All* (Hoboken, NJ: John Wiley & Sons, Inc., 2011). The contamination of bottled water with micro-plastics is not addressed in any of the ethical literature, although it is a known problem.

42 Bottled water generates more waste while it empowers corporations to sell for profit

funds, despite the pollution that bottled water production and its packaging add to the environment.⁴³ These risks are then socialized and left to public resources to resolve, favoring narrow self-interest over the prior concept of water as a public good that was part of the “global commons.”⁴⁴

Ironically, at the same time that the broad principles of reduction, recycling and reuse have been emphasized, water usage has become ever more extravagant and wasteful through higher meat consumption, larger home purchases, larger lawns with in-built sprinkler systems, and use of more drinking water.⁴⁵ Those areas most likely to experience a decline in available water supplies are those least able to withstand it—those already living in poverty and vulnerability⁴⁶—such that the poor and sick are expected to become even poorer and sicker, while the comparatively rich, who have regular access to clean water and good sewerage, become healthier and richer. Fresh water access is therefore a problem of justice that demands political attention and community activism in support of “the common good.”⁴⁷

what is already available—and paid for by tax dollars—rendering it a double purchase by consumers. Ibrahim Abdul-Matin, *Green Deen: What Islam Teaches About Protecting the Planet* (San Francisco: Berrett-Koehler Publishers, Inc., 2010), 130. Certain brands of bottled water, such as Dasani, are simply tap water drawn from municipal sources.

43 Bottle production requires 17 million barrels of oil annually and even more to transport. 86 percent of the recyclable 50 billion bottles used in 2015 ended up in landfill, accounting for 2.7 billion pounds of landfill garbage. Chamberlain, 123–125. In the United States alone, 1.5 million barrels of oil—enough to fuel 100,000 cars for a year—are required to make the plastic bottles used for water every year, only 1 in 5 of which are recycled. Nicanor Pier Giorgio Austriaco, OP, “Living the Natural Moral Law and Respecting the Ecological Good,” in *Green Discipleship: Catholic Theological Ethics and the Environment*, ed. Tobias Winwright (Winona, MN: Anselm Academic, 2011), 161.

44 Peppard, 40–43.

45 Putting water use, scarcity and waste into perspective, Allman notes that the individual person needs 13.2 gallons of water per day for drinking, sanitation, and hygiene. While the average person in the developing world receives only about 20 percent of that, the average person in the United States consumes between 100 and 175 gallons per day. A 5-minute shower in the United States uses more water than the typical person in the developing world uses in an entire day. The money spent on bottled water sales globally in 2008 (\$11.3 billion) is equivalent to the financial output needed to provide sustainable access to safe drinking water and basic sanitation globally. Allman, 383–385.

46 Cited in Peppard, 31.

47 Peppard outlines arguments for collective solutions in 33–35. UNICEF has formed a program called WASH (Water, Sanitation and Hygiene) to address these concerns, focusing on children. See <https://www.unicef.org/wash>, accessed July 11, 2022.

2 Water as a Theological Imperative

As clear as these problems are, the sad reality is that, despite abundant data, scientific knowledge, warnings,⁴⁸ and political and economic statements about water scarcity and the need to conserve it, there remains a lack of serious political, economic and scientific leadership and consensus for necessary changes, particularly where powerful economic and political entities have a vested interest in maintaining the industrial economic status quo. Personal awareness of and discipline toward water consumption and waste is an important first step, but simply decreasing domestic demand for fresh water or shifting the problem to desalination plants will not resolve the crisis. Given that the three largest consumers of fresh water are, respectively, agriculture, industry, and power generation, a more holistic, multi-tiered, and comprehensive approach is needed.

Activists and NGOs have tried to raise awareness and make recommendations about lifestyle choices and changes through reduced personal water consumption and food and power consumption choices. Yet there remains a lack of moral and ethical imagination and institutional engagement to develop effective policies. Feeling stressed and anxious about threats to and from disruptions to the water cycle do not seem to be enough to make people care enough to *act* upon what is known. Herein lies the ultimate challenge: *knowing* that the problem exists does not seem to translate into *doing* something about it.

It is here that religion becomes a potentially helpful tool in addressing the crisis—not as an alternative to science but working with science to provide the inspiration and determination that science has not been able to harness up until this point. Science tells what is, what has happened and what is likely to happen if humans do not change their ways—a prophetic warning and call—while religion can inspire meaningful responses and encouragement to consider treatment of the created world as a reflection of human reverence for the Divine, a spiritual and moral crisis, and an opportunity for transformation, rather than simply an economic, political or social reality. Religion calls

48 Warnings about human impact on the global environment have been issued since 1970, with particular concern for nine “environmental services” at risk of decline, seven of which are implicated in the water cycle: fisheries, climate regulation, soil retention, flood control, soil formation, cycling of matter, and atmospheric composition. The other two not directly related to the water cycle are pest control and pollination. The Millennium Ecosystem Assessment listed 4 categories of impacted ecosystem services, all of which relate to water—Provisioning (fresh water supply), Regulating (water regulation and purification and waste treatment), Cultural (recreation and tourism, much of which revolves around access to water such as oceans or snow), and Supporting (water cycling necessary to the production of all other ecosystem services). Cited in Washington, 27, 30–31.

for looking deeply not just at *what* needs to happen, but *why*, rooting actions in faith. Faith asks people to look beyond themselves to a much larger whole and recognize that their choices and actions matter in ultimate ways far beyond the immediate moment. How people interact with the world reflects what they understand the world to represent.

Muslims consider the natural world to be the “Book of Creation,”⁴⁹ a series of “signs” (*āyāt*) from God that are intended to reveal something of Godself to all forms of life, satisfying both physical demands and spiritual needs.⁵⁰ The ultimate purpose of these *āyāt* is to point not to themselves, but to something beyond themselves.⁵¹ Water is particularly helpful because of its capacity to reflect light and images, encouraging by its very nature the “reflection” that the Qur’an calls believers to engage. Thinking of nature as the Book of Creation helps to center nature as an inherent part of the story, not as the background setting for the “real” story. It is intended to push human beings to reflect (*fakr*), remember (*dhikr*), give thanks (*shukr*), and remain humble.

3 Qur’anic and Islamic Resources

The current climate chaos calls for profoundly re-thinking what water represents as a Qur’anically declared symbol and sign (*āya*) of the Divine, rather than simply a transactional commodity to be bought, sold, consumed, wasted, and thrown away with no regard to its moral or spiritual significance. Instrumentalization of nature and monetization in the form of “ecosystem services”

49 Ibrahim Ozdemir has posited that the initial command to Muḥammad to “Read/Recite!” was really a command to look at the world—the “Book of Nature”—in an entirely new way, as a revelation of the Divine Self, using the order, meaning, harmony, and constant change of the universe as a mirror of the Divine Self’s own beauty, power, wisdom and mercy. Ibrahim Ozdemir, “Toward an Understanding of Environmental Ethics from a Qur’anic Perspective,” in *Islam and Ecology: A Bestowed Trust*, eds. Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin (Cambridge, MA: Harvard University Press, 2003), 7–8.

50 The Qur’an uses the term *āya* (pl. *āyāt*) 288 times, referring to the created universe in its many manifestations as proofs or “signs” of God’s existence. See, for example, Qur’an 41:53 and 51:20–22. The function of the universe is to point to the One who created it and filled it with meaning, making it a sacred book to be read and contemplated through experience—experience that must be held in trust for all generations as loss of even one symbol from the natural world robs those who never have the opportunity to behold that symbol of a sign of the Divine that might otherwise never be perceived.

51 Sachiko Murata, *The Tao of Islam: A Sourcebook on Gender Relationships in Islamic Thought* (Albany: State University of New York Press, 1992), 24.

suggests that water, a priceless gift necessary to life, has no value outside of that assigned by humans. Its role as a Divine gift, capable of giving and taking life away, is lost in the process.⁵²

The centrality of water in Islam and its representation of God's authority over all of creation is made clear from the Qur'an's record⁵³ of its presence at the creation of the world as the primordial and primary element at the origin of every living thing through Divine intervention,⁵⁴ its intimate presence in the stories of prophets and messengers, and in the hadith in stories such as Hajar's⁵⁵ persistent search for water that resulted in the revelation of the well of Zamzam and her crafting of a reservoir for its water as a gift to all that no one could claim to own or possess.⁵⁶ The Qur'an frequently uses water, particularly in the form of rivers or streams, as a descriptor for Paradise, providing abundant drink as a reward to those who lived righteous lives on earth—a stark contrast to the desert environment of water scarcity in which the Qur'an was originally revealed. The waters of Paradise are described as not only clean, but flowing—"living" water⁵⁷—as opposed to the stagnant, boiling water of Hell, which not only cuts apart those who drink it, but also suggests stagnant and unclean water which cannot be purified even through boiling and does not refresh or satisfy.⁵⁸ As with other instances of water, the purpose is to point to the One who controls it. Rather than a literal description of the concrete real-

52 Ozdemir notes that the tendency toward instrumentalizing what was previously considered sacred in nature is a product of the Western Enlightenment. He uses the example of a tree lacking in value until it is turned into an object of use to human beings. Ozdemir, 5. Thatamanil has also critiqued Enlightenment configurations of religion that insulate economic practices and neoliberal ideologies from theological critique. He argues that theologians have an obligation to uncover religious or quasi-religious claims embedded within economic practices and ideologies that have privatized religion in the same way that they have privatized what were previously viewed as public goods. John J. Thatamanil, *Circling the Elephant: A Comparative Theology of Religious Diversity* (New York: Fordham University Press, 2020), 183–184.

53 The word "water" occurs more than 60 times in the Qur'an, "rivers" over 50, and "sea" over 40, while "fountains," "springs," "rain," "hail," "clouds," and "winds" appear less frequently. Muhammad Abdel Haleem, *Understanding the Qur'an: Themes and Style* (London: I.B. Tauris, 2011), 31.

54 See Qur'an, 11:7, 21:30, 25:54, and 24:45.

55 Spelled Hagar in Jewish and Christian traditions.

56 Hadith from Ṣaḥīḥ al-Bukhārī, cited in Saffet Catovic, "Islamic Sacred Texts Related to Water," GreenFaith Water Shield, https://www.faithinwater.org/uploads/4/4/3/0/44307383/islamic_sacred_texts-water-greenfaith.pdf.

57 See, for example, Qur'an, 37:45 and 55:50.

58 See, for example, Qur'an, 47:15. This description brings to mind the deadly "produced water" of fracking.

ities of Paradise, the idea of a water-rich garden serves as a sign of God's favor and an invitation to believers to consider the afterlife,⁵⁹ while a flooded or dried up garden signifies God's punishment.⁶⁰ Of the three categories of gardens described in the Qur'an—those of creation, this world, and the hereafter—the Qur'an dedicates the most attention to the gardens of the Afterlife—Paradise won rather than Paradise lost.⁶¹ Symbolically, this encourages looking forward to a future in which active choices can be made in the spirit of repentance and self-improvement rooted in hope, rather than forever backward in guilt at circumstances that cannot be changed.⁶²

At the same time, water reflects the realities of sin and temptation, in which a single action can have a snowball effect, reverberating outwards like the ripples extending outward from an object tossed into water. By itself, a single action may not seem like a "big deal"—going near a particular tree when warned not to—but the repercussions may be felt globally—the disruption of life as it was known, along with the systems that supported it, when Adam and his wife gave in to temptation in the Garden. Repentance, when offered,

59 James Wescoat, Jr., has noted that, of the 166 references to gardens in the Qur'an, 147 use the word *jannah*, carrying the dual meaning of Paradise. Of the remaining 19 references, 15 use alternate words that have dual meanings referring to the Afterlife, including *firdaws* (literally Paradise), *rawḍa* (which also means tomb), and *'adn* (Eden). Cited in James L. Wescoat, Jr., "From the Gardens of the Qur'an to the 'Gardens' of Lahore," in *Islam and Ecology: A Bestowed Trust*, eds. Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin (Cambridge, MA: Harvard University Press, 2003), 512.

60 For example, Qur'an 34:15–17 describes the blessings originally given to the inhabitants of Saba in the form of two gardens in their homeland, which provided sustenance for the people, but were destroyed when they turned away from God. God is said to have sent a flood against them, converting their previously fruitful gardens into producers of only bitter fruit, tamarisks, and stunted trees.

61 Wescoat, 513. These three categories reflect the three main purposes of water in the Qur'an: 1. Serving as a sign and proof of God's existence, unity and power, as in Qur'an 27:60 and 56:68; 2. Proving God's care for all life, as in Qur'an 56:65 and 67:30; and 3. Serving as a symbol of the resurrection, just as it serves as a symbol of creation, as in Qur'an 56:47, 85:13, and 30:19. Cited in Abdul Haleem, 39–40.

62 This marks a major doctrinal difference between Islam's attention to individual accountability and Christianity's doctrine of Original Sin that keeps believers tied to and weighted down by past mistakes and in need of divine intervention for salvation offered through baptism. Islam has no such doctrine or therefore no need for sacraments. Modes of self-improvement described in the Qur'an include believing and doing good works (Qur'an, 2:82, 6:100, 20:75, 30:15, 42:22), controlling anger and offering forgiveness (Qur'an, 3:134), perseverance even in the midst of hardship (Qur'an 3:195–198, 13:24), obedience to God and His Messenger (Qur'an, 4:13), being humble before God (Qur'an, 11:23), repentance (Qur'an, 19:60), and giving thanks (Qur'an, 36:35).

did not fix the problem that the sin provoked, even when forgiven.⁶³ Water thus serves as an important mirror in which human arrogance could check itself.

In the Qur'an, water behaves as it behaves in life—"ubiquitous, flowing into and out of everything."⁶⁴ Yet, water is not sentient and does not possess its own will; it must be sent and is subject to Divine command as the Qur'an declares that human beings have no role in producing or controlling water falling "from the sky;" only God can send or bring down water.⁶⁵ If water does not fall accidentally or tangentially, then whether it is sent and in what quantity is always a deliberate choice of God, falling on and diverted away from whom God wills.⁶⁶ In this way, like the rest of nature, water points to God's ultimate sovereignty and shows us what it means to be "muslim" in the sense of reflecting perfect submission to the Divine Will: what God wills, water does, even if this is beyond what water "normally" does, such as during Noah's flood or the drowning of the Egyptian army in the story of Moses.⁶⁷ Water therefore serves as a reminder of God's power either to bless through life, fertility and rebirth, or punish in death and destruction, providing a means for humans to experience a theology of warning, testing, judgment and repentance, as well as a theology of hope of redemption, salvation and compassion—all major themes of the Qur'an.⁶⁸ It also makes clear that those who abuse and harm the environment essentially

63 Qur'an 2:35–38.

64 Abdul-Matin, 118.

65 See Qur'an, 6:99, 7:57, 35:27, 13:4, 15:21, and 56:68–70. Cited in Abdel Haleem, 32.

66 As in Qur'an, 7:57 and 24:43.

67 Citing Qur'an 22:18, 17:44, 13:13, 24:41–42, Ozdemir, 16, notes that the major difference between nature's submission and human submission is that human beings possess free will while nature does not. Nature can only obey God's commands; human beings always have a choice. I have limited that observation to water, particularly in light of Sarra Tlili's argument that, in the Qur'an, other forms of nature, such as mountains and rocks, have the capacity to choose whether or not to obey the Divine. I am grateful to Sarra for this insight during the discussion following the presentation of her paper at the same conference.

68 Some scholars have noted that natural disasters provide opportunities for traditional, scientific, and religious narratives to make their own contributions to a more complete understanding of the phenomenon. Science can contribute insights into mechanistic processes and encourage us to engage reason in determining what actions and activities we need to change, while traditions connect us to past times and peoples. Religion's contribution comes in the form of recognizing God's agency and sovereignty in the midst of our human experiences, warning, testing and judging us on the basis of whether we obey or not. Bernard Adeney-Risakotta, *Living in a Sacred Cosmos: Indonesia and the Future of Islam* (New Haven, CT: Yale Southeast Asia Studies, 2018), 251.

usurp God's place in controlling nature—an act of *shirk*—in addition to denying nature its God-given respect and dignity.⁶⁹

The Qur'an points to water as part of God's creation and as a sign (*āya*) pointing to God, suggesting a relationship between the natural and human worlds, and between all living creatures and God.⁷⁰ The intimate connection of water to humans reflects its centrality to both physical and spiritual life,⁷¹ inviting relational living with the environment as a sign of respect for God. A parable from the Qur'an⁷² illustrates this vision through two owners of grapevine gardens, one of whom relies upon himself and his own efforts for short-term prosperity, while the other relies upon God, although he enjoys less materially as a result. The parable is intended as a reminder that trying to own and dominate nature for immediate benefit may be successful in the short term, but it comes at the cost of human relationships with nature and, ultimately, God. Taking a relational approach that sees humans as part of nature, rather than standing above it, while recognizing human subordinate status to God, allows for a more coherent and cohesive relationship with nature that recognizes interdependence and teaches satisfaction, rather than constant acquisition.

The Qur'an uses fresh and sea water to speak to human lived experience of blessing and satisfaction versus punishment and want, always in contention with each other.⁷³ Symbolized by the divide or barrier (*barzakh*) between them,⁷⁴ fresh and sea water point to human potential for both good and sinful behaviors, with only a fluid membrane—the conscience—standing between hearts filled with simultaneous love for and fear of God. Both are necessary and each is separate, yet they are intended to interact with each other. It is up to the individual to choose proper conduct.⁷⁵

The critical determining factor is human choice in asking God for help when in need. While God always has the potential to save, the Qur'an says that God

69 John Kaltner, *Introducing the Qur'an: For Today's Reader* (Minneapolis: Fortress Press, 2011), 72–73.

70 Özdemir, 10–11, rooted in Qur'an, 3:190–191, 21:16–17, 23:115, 80:24–32 and 20:50.

71 This insight is provided by Catovic as part of a broader piece encouraging water responsibility as an Islamic duty.

72 Qur'an, 18:32–43, as discussed in Kaltner, 44.

73 The Qur'an frequently uses fresh water to signify reward, while sea water is considered a means of transportation, a metaphor for God's vast power and knowledge, and a potential source of either blessing or punishment. Observed by Abdel Haleem, 36–37.

74 Qur'an 25:53. Even the title of this chapter (*sūra*)—*al-Furqān*—reminds us of divisions as signs (*āyāt*) intended to point us toward God.

75 Qur'an 35:12 and 55:19–20 also point to this idea of two waters separated by a barrier (*barzakh*) yet interacting.

chooses to do so only when human beings recognize the source of their assistance, as well as their own powerlessness in the face of the elements.⁷⁶ Water reminds human beings how little control they have over these resources and invites reflection on how water is approached—with reverence, respect, and gratitude or with greed, selfishness and the desire to exploit?

It is here that Hajar's story becomes particularly instructive. According to Islamic tradition, Hajar, abandoned by her male protector with only a bag of dates and a water skin to sustain herself and her son, does all that she can to find water to save her son from death by thirst, demonstrating mercy through love for one in need, even as her efforts fail and she ultimately surrenders her situation to God, recognizing her powerlessness in the face of the elements. It is in this engaged surrender⁷⁷ that God intervenes to respond to the needs of the child through his mother, even as God recognizes the needs of the mother as a person in her own right. Although God does not rescue Hajar from her lived reality of abandonment in the desert, God demonstrates loving concern and mercy for her, taking over protection not only of her, but also of her child. This story highlights the mutuality between mother and child at the same time that it suggests that God rewards those who confront the challenges they face, rather than giving up in despair or trying to hide from them.⁷⁸ In this way, Hajar serves as a role model for women left as the sole caretakers of dependent children even as her story highlights the impact of water scarcity on women around the world. The story reassures women that God is aware of their vulnerability⁷⁹ and sets the example for taking action.

Symbolically, Hajar's story connects the human story to Earth's story. Parallel to the Earth cradling the ancient waters of aquifers deep within, women, as the carriers of life in the waters of the womb, are to be assured safety in their vulnerability as they bring forth new life and sustain those already born through the labor of fetching water where it is not readily available.⁸⁰ Depletion of the amniotic fluids of pregnancy can be fatal to the unborn child and potentially

76 See, for example, Qur'an, 6:63, 17:67, and 10:22.

77 I draw upon Amina Wadud's coining of this phrase in *Inside the Gender Jihad: Women's Reform in Islam*. (Oxford: OneWorld, 2006), 158.

78 Dr. Husna Ahmad OBE, "Islam and Water: The Hajjar (r.a.) Story and Guide," Global One 2015, 2–3.

79 Ahmad, 17.

80 The Qur'an uses the term *akhraja* with respect to water for "bringing forth," whether referring to people from the earth at resurrection (Qur'an, 7:75) plants from the earth (Qur'an, 32:27), or babies from their mothers' wombs (Qur'an, 16:78), offering a primordial symbolism to water/watery substances and the bringing forth of life.

harmful to the mother, much as depletion of the ancient water resources of the Earth threaten its capacity to provide needed fresh water sources for future generations.

Hajar's story also points us to the "living" aspect of water⁸¹ as the source of all life⁸² and especially as the water revealed to her gushes forth, much as the waters of Creation and of the Flood burst forward in response to the Divine command.⁸³ "Living water" is used as a descriptor of Paradise in the Qur'an in the form of rivers that flow, sustaining plants, animals and humans, reflecting God's existence, power, grace, benevolence, cleanliness and beauty, and inviting us to aspire to the life to come.⁸⁴

Hajar's story finally points us to the reality that many women around the world today bear the burden of fetching water, often at great risk to their own personal safety. Like Hajar, these women are not seductresses seeking illicit sexual relationships, whores in need of forgiveness, or beasts of burden to be used and abused, but are vital to life—connecting the life-giving of water and the life-bearing and life-giving of women. Just as all life needs water, so babies need their mothers, both for the gift of life and for their nourishment in their earliest and most vulnerable early years. The connection of water to women perhaps also suggests the need to remain connected to women to remain connected to life. Whatever sexual sin may be present at water gathering locations is not the fault of women's purportedly seductive natures, but the reality of their vulnerability to rape and assault when they walk to gather water, bathe, or wash clothing.⁸⁵

81 In antiquity, "living water" (flowing water) was considered safest to drink because it was in motion, indicating a source, such as a spring. Standing water was always suspect as, distanced from its source and held in some way, it was more likely to bear disease. Peppard, 177–178.

82 Highlighted in the Arabic verbal root *hayaya* which describes the giving of life. Abdul Haleem, 40.

83 As described in Qur'an 55:50 and 66, and 88:12.

84 Abdul Haleem, 43. I would note that "living water" is not the only water that fulfills a Divine purpose. While "living water" as constant sources would be essentially important in a desert environment, there are also wadis, which are only seasonal and not always reliable as they carry run-off from the rainy season. As such, they may not initially appear to serve as metaphors for the Divine presence, which is supposed to be constant. However, wadis could be used to represent God in a particular way—although always present as a possibility, there is no guarantee of God's constant and ongoing direct intervention in human affairs. Such interventions happen periodically and are powerful when they do occur but should not be used as a substitute for righteous living or to absolve human beings from responsibility for redressing injustice wherever it may be found.

85 Peppard, 180–181.

4 Islamic Legal and Ethical Resources

Although typically associated with the objectives of Islamic law, *Shari'a* means “the watering source” or “the path that leads down to a source of water,” placing water at the center of faith as a lived experience and suggesting that Divine law is intended to quench thirst for knowledge and lead to truth.⁸⁶ From a legal and ethical perspective, caring for water may be viewed as part of exercising the God-given role of vicegerency (*khalifa*) with both rights and duties, rendering preservation of the earth and responsible and sustainable use of its resources an expression of obedience to God and recognition that the universe is theocentric, not anthropocentric.⁸⁷ From this perspective, the current moment of climate crisis might be viewed as one of “de-creation,” with humans as “anti-Creators” inflicting damage leading to mass extinctions and sabotaging the planet’s biology and biodiversity, particularly in the oceans and Arctic Circle.

Some Muslim legal scholars have placed environmental concerns, particularly equitable access to resources, within the categories of justice (*‘adl*) and the common good (*maṣlaḥa*), such that environmental issues cannot be separated from the concerns of the life community. Within this construct, the needs of the community take precedence over the whims of the individual, particularly where collective security is concerned.⁸⁸ Environmental law is thus posited as collective protection that asserts access to pure air, clean water, and fertile soil as fundamental rights, connecting human beings to a holistic vision of sustainability that requires protection of biodiversity, ecosystems, conservation land (*ḥimā*) and sacred precincts (sing. *ḥarām*, pl. *ḥurum*) as aspects of the unity of all reality (*tawḥīd*) and the common good of the balance of nature (*mizān*).⁸⁹

86 See Catovic.

87 Kaltner, 72–73, posits that the entire Qur’an calls us to this view of the universe.

88 This argument is rooted in a hadith in a parable Muḥammad told his Companions about a group of passengers on a ship waiting for drinking water to be distributed. One passenger became angry and impatient with having to wait and asserted his right to do as he pleased, grabbing an axe, and chopping at the hull. The other passengers were then faced with a decision—if they did nothing, they would drown; if they stopped him, they would be saved. The point of the hadith is to illustrate the value of the common good of the community over the whims of the individual. Discussed in Othman Abd-Ar-Rahman Llewellyn, “The Basis for a Discipline of Islamic Environmental Law,” in *Islam and Ecology: A Bestowed Trust*, eds. Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin. Cambridge, MA: Harvard University Press, 2003, 185.

89 Adnan Z. Amin. “Preface to *Islam and Ecology*,” in *Islam and Ecology: A Bestowed Trust*, xxxii. These traditional concepts could be expanded to incorporate contemporary needs. For example, inviolable zones (sing. *ḥarām*, pl. *ḥurum*) could be used to facilitate water

Wastefulness, environmental destruction, and degradation of the world's poor have no place because they violate the underlying principles of justice and the common good at the same time that they point to human failure to submit to the Divine will, actions that ultimately have eternal consequences.⁹⁰ These actions also point to the pursuit of wealth, extravagance (*tabdhīr*), and wasteful overconsumption (*isrāf*) as corruption of the earth (*al-fasād fī al-'arḍ*) and sinful behavior that results in pollution and deprivation of the right of other life forms to water.⁹¹

As a finite resource, water is to be preserved, protected and made available to all in need,⁹² including animals and land, which must be irrigated if there are sufficient water resources, regardless of who owns it, out of respect for God's sovereignty.⁹³ From an Islamic legal and ethical perspective, maintaining the centrality of God's sovereignty over water is critical to maintaining human awareness of the importance of equitable use of water, including rights of watering (*ḥaqq al-shiffā'*), drinking/thirst (*ḥaqq al-shurb*),⁹⁴ and flow (*ḥaqq*

resource management and prevent contamination and hazards. The principle of *ḥisbah* (establishing good and eradicating evil) rooted in Qur'an, 3:104, could be used to encourage individual and social consciousness of environmental preservation.

90 As argued by Richard C. Foltz, "Introduction," in *Islam and Ecology: A Bestowed Trust*, xxxviii–xxxix.

91 Outlined in Llewellyn, 188–193, 199. This is true even during military activity. These prohibitions are rooted in Qur'an, 17:26, 30:41, and 41:10. Not even in the case of preparation for worship is wasting water acceptable in God's eyes. In a famous hadith, Muḥammad chastised a Companion for excessive water use in performing ablutions, even if performed on the bank of a running river. Given that this hadith prohibits wasting water in a non-trivial situation (preparation for worship), wasting water in trivial situations is even more reprehensible. Ozdemir, 14–15.

92 Qur'an, 23:18 and 7:30 remind us that water resources are not inexhaustible.

93 Hadith collections and classical Islamic law give significant attention to fair and just distribution mechanisms for water based on right of access for all who share a waterway and size and type of the water source. Mechanisms include, but are not limited to, aqueducts and control and direction of the flow of water, canals, rivers, and drains, while water rights include the right to alter or obstruct water courses, construct dams, dig trenches, and construct water engines, bridges, and water vents. Discussed in S. Nomanul Haq, "Islam and Ecology: Toward Retrieval and Reconstruction," in *Islam and Ecology: A Bestowed Trust*, 146. Llewellyn, 204–205, outlines specific details of how various rights to water are determined, particularly for agriculture, including riparian rights (those of communities living along the banks of rivers to withdraw water provided that they do not damage the same right for other users), prior appropriation (in which the first one to the river or stream has senior rights to it, but only to a certain amount), and property rights (which assures the right to use water found on one's property, but not to own it).

94 Right of thirst for animals is supported in a variety of hadith, including one in Ṣaḥīḥ al-Bukhārī about a man who climbed into a well for water for himself and then returned

al-majra).⁹⁵ Some Muslim scholars have particularly called out the privatization of water resources as a sinful development. Ibrahim Abdul-Matin connects the privatization—and thus deprivation—of water resources, as well as its contamination, poisoning, or withholding, whether from plants, animals or human beings, especially on the basis of race or socio-economic status, as examples of the Qur'an's teaching that the one who harms another living being has committed harm against all of humanity.⁹⁶ The ethical principle of *amāna* (honoring the trust God has given humans as protectors of the planet) emphasizes this point.⁹⁷ Taking seriously Muḥammad's statement that the entire earth is a mosque for believers⁹⁸ might be coupled with recognition that 70 percent of the Earth is covered with water, such that caring for water becomes a central aspect of vicegerency (*khalīfa*) and trust (*amāna*).⁹⁹ Abdul-Matin also cites a hadith in which Muḥammad was told about a person who was charging a high price for people to use his privately owned well. Muḥammad responded by convincing a Companion to purchase the well and make its use free for the people of Medina,¹⁰⁰ highlighting the centrality of water to life such that no single individual has the right to charge exorbitant fees to others over right of access.

Other scholars have called for expansion of the definition of *maṣlaḥa* (public welfare) beyond human beings to include all created beings, prioritizing the

to fetch water for a dog panting with thirst—an act for which God forgave him his sins. While this story is usually interpreted as encouraging kindness to animals—rendering water simply a means that is peripheral to the main point—it could also be understood as placing water at the center of the story as central to all life. God put the water in the story in that location—the man simply helped himself to something already present and then helped another in need. The story is thus not just about kindness, but about gratitude for the ability to meet a need, regardless of who has that need. It also shows the man demonstrating his role as vicegerent by caring fully for God's creation, rather than thinking only of himself or trying to reserve the water exclusively for human use. The example established in the hadith is one of a human being humbling himself and recognizing equality in right of access to water, even of one normally considered unclean.

95 Noted in Izzi Dien, 117–118. Classical Islamic law recognized certain categories of natural resources as “essential,” and thus held in common by all members of society such that each individual might benefit from them provided that their usage did not infringe upon or violate the rights of another. These included water, fish, forests, woodlands, wildlife, rangeland, fire, and fuel/energy. Cited in Llewellyn, 202.

96 Abdul-Matin, 119–121.

97 Abdul-Matin, xix.

98 Cited in Abdul-Matin, 2.

99 Abdul-Matin, 119.

100 Abdul-Matin, 122.

welfare of the greatest number, consideration of all interests involved, avoidance of injury and assuring that the welfare of society takes precedence over the interests of individuals.¹⁰¹

Water further provides an opportunity to consider what reform means in an Islamic context. Theologians such as Tariq Ramadan have called for a nuanced approach to textual sources that distinguishes between what is immutable (*thābit*), absolute and transhistorical versus what is subject to change (*mutaghayyir*).¹⁰² This approach places actions in context in order to determine their relative morality, measured by adherence to principles and universal ethical demands, namely justice, equality, rights and human brotherhood, rather than the particular historical result of literal adherence to or blind imitation of an action undertaken by Muḥammad in 7th century Arabia.¹⁰³ Ramadan calls for less attention to matters of *authority* rooted in who is speaking or the literal content of a text in favor of focusing on the need for *adequacy*—meeting the needs of contemporary Muslim communities and the complex challenges of modern times.¹⁰⁴ Methodologically, this means recognizing the inherent interconnection between three means of revelation used by God—written revelation, knowledge and the surrounding universe—taking seriously the role of not just written *āyāt* but other physical *āyāt* in providing a more comprehensive testament to God's presence—spiritually, materially, and through the natural order.¹⁰⁵ Engaging nature and the universe is thus a necessary step in completing human knowledge.¹⁰⁶

Water provides a powerful means of doing this. Ramadan observes that the Qur'an associates human life and death with water, which quenches thirst, causes food to grow, and reflects Divine control.¹⁰⁷ He argues that human beings are expected to absorb this lesson as a first step, but then need to supplement this basic knowledge through observations about water cycles—biological, physical and historical—adding human intelligence, observations, and rational understanding to the Divine message in order to manage soci-

101 Llewellyn, 195.

102 Tariq Ramadan, *Radical Reform: Islamic Ethics and Liberation* (New York: Oxford University Press, 2009), 17–18. He further argues for nuance in recognizing that change is a reality of the world, such that the ultimate purpose of reform is to engage and transform change in ways that seek to fully integrate all aspects of human knowledge to address shortcomings and injustices in our current circumstances. Ramadan, 31–33.

103 Ramadan, 19–20.

104 Ramadan, 29.

105 Ramadan, 87.

106 Ramadan, 88–89.

107 Ramadan, 92–93.

eties.¹⁰⁸ Adding to, rather than detracting from or altering the framework established by textual revelation, helps to restore the balance between them.¹⁰⁹ This enhanced framework is intended to transform human relationships and interactions with the environment, not just adaptations of it.¹¹⁰ Water is thus intended to be instructive, calling to knowledge of the Creator through respect for and moderate use of water in both ritual practices and daily life. Understood through its intrinsic value, rather than its instrumentalization, water points toward an “ecology at the source,” rather than an “ecology of catastrophe,” rooting human relations to nature in ethics and deep spiritual teachings.¹¹¹ Recognition of water’s intrinsic value also serves as a warning against contemporary patterns of consumption that tend toward extravagance and waste. Ramadan calls for revisioning *ḥalāl* standards beyond ritual matters of whether a particular action was performed correctly to the bigger picture of whether resources were squandered or humans or animals were exploited in the undertaking—a shift from “having” to “being.”¹¹² If “having” requires us to “be” wasteful, excessive, polluting, oppressive, and/or over-consumptive, our state of “being” cannot be ethical; modes of life must align means and commodities with ethics.¹¹³

5 Implementing Theory in Practice

The challenges of climate chaos have been the subject of discussion among Muslim leaders, scholars and activists seeking to root public policy in faith-rooted initiatives to mitigate the impact on all life forms. Initiatives include The Muslim 7 Year Action Plan on Climate Change, 2010–2017,¹¹⁴ supported by major Sunni and Shia religious leaders and Ministries of Environment and Awqaf from multiple Muslim majority countries, and the even further reaching faith-based Islamic Declaration for Climate Change,¹¹⁵ issued in

¹⁰⁸ Ramadan, 92.

¹⁰⁹ Ramadan, 130.

¹¹⁰ Ramadan, 150.

¹¹¹ Ramadan, 235.

¹¹² Ramadan, 249.

¹¹³ Ramadan, 251.

¹¹⁴ For details and the document, see https://iefworld.org/fl/WindsorARCMuslim_summary091020.pdf, accessed July 14, 2022.

¹¹⁵ Available at: www.ifees.org.uk/wp-content/uploads/2016/10/climate_declarationMEB.pdf. The Declaration was the product of a 2-day symposium that brought together religious authorities, including the grand muftis of Lebanon and Uganda, academics, inter-

response to and with desire for engagement with the Roman Catholic Papal Encyclical *Laudato Si'*.¹¹⁶

The Islamic Declaration took a strongly theological tone, acknowledging human sinfulness, corruption, abuse, and ultimately devastation of the earth in violation of the God-given role to human beings as its caretakers or stewards (*khalīfa*). It called upon humanity to recognize the disruption it has caused to its perfect equilibrium (*mizān*)—fertile land, fresh air, clean water, natural seasonal rhythms and cycles, and all else that makes life viable—to the point of causing corruption (*fasād*) on earth in the form of global climate change, pollution, deforestation, and destruction and degradation of ecosystems for all life forms, all in the name of economic growth and consumption.¹¹⁷ The Declaration called for a spirit of repentance (*tawba*) and accountability rooted in awe (*taqwā*) for Creation, compassion (*rahma*), and the utmost good (*ihsān*) in conscious recognition that humans are “but one of the multitude of living beings with whom we share the earth,” with no right to abuse or impair creation.¹¹⁸ Ultimately the Declaration was intended as a call and invitation (*daʿwa*) to find new ways of relating to Earth and limiting further destruction and suffering, particularly among the poor and vulnerable with special attention to women, children, and indigenous persons.¹¹⁹ It proposed doing this by shifting priorities from unlimited economic growth to a spirit of collaboration, cooperation and friendly competition, welcoming the significant contributions of other faiths and centering the discussion on life, rather than the economy.¹²⁰ In the process, it took on the challenging issue of fossil fuel-based economies, going so far as to call for divestment from fossil fuels, even as some fossil fuel-rich countries are seeking to diversify their economies away from fossil fuel dependency.¹²¹

governmental organizations, and civil society leaders and activists from over 20 countries with the hope of global impact.

116 Pope Francis. *Encyclical on Climate Change & Inequality: On Care for Our Common Home*. Brooklyn, NY & London: Melville House, 2015. Collective bodies of many faith groups issued similar responses, bringing their faith traditions and values into the broader global conversation about climate change.

117 Articles 2.3 and 2.5, www.ifees.org.uk/wp-content/uploads/2016/10/climate_declaration_MEB.pdf.

118 Article 2.6, www.ifees.org.uk/wp-content/uploads/2016/10/climate_declaration_MEB.pdf.

119 Articles 3.1, 3.2 and 3.3, www.ifees.org.uk/wp-content/uploads/2016/10/climate_declaration_MEB.pdf.

120 Article 3.5, rooted in Qurʾan, 5:48, www.ifees.org.uk/wp-content/uploads/2016/10/climate_declaration_MEB.pdf.

121 Saleem H. Ali, “Reconciling Islamic Ethics, Fossil Fuel Dependence, and Climate Change,” *Review of Middle East Studies*, Vol. 50, No. 2 (2017): 173, <https://www.jstor.org/stable/2625224>, accessed July 19, 2022.

Instead of economic growth and gross domestic product driving the issues, the Declaration sought to shift the structure of the discussion to one in which the economy becomes secondary as a tool for facilitating the process of meeting the life needs of all of creation, not just individual or even simply human gain. Doing so would, ideally, result in an “integral ecology” that parallels Laudato Si’s call for a holistic approach to the environment focused on a common plan and common solutions,¹²² and connecting concern for nature with justice for the poor and commitment to broader society.¹²³ At the heart of the Declaration is serious consideration of relational approaches to nature and all life forms to replace transactional approaches.

The Declaration sought to shake the collective Muslim conscience, intentionally invoking Qur’anic claims to describe the science of climate change in order to frame the issues in a common idiom for Muslims and in plain and accessible language. It called for a multi-tiered approach, ranging from individual and group efforts to governmental actions. Yet it has been slow to gain traction. It has been critiqued as merely descriptive of the various challenges of climate change¹²⁴ and exegetically limited in its use of the Qur’an and Muḥammad’s example in the form of proof texts, rather than sustained theological engagement,¹²⁵ even as it took a step further than Laudato Si by prescriptively proposing actions to be taken and specific policy recommendations. Some have criticized it as apologetic and defensive.¹²⁶ Others have observed that it was not necessarily intended to result in immediate policy changes, but to raise awareness and change the “cultural climate” surrounding climate issues.¹²⁷

Part of the challenge in implementation is the fact that there is no singular “Muslim” perception of or approach to climate change, even as Muslim populations are disproportionately impacted by it, despite living in generally

¹²² Pope Francis, 102.

¹²³ Pope Francis, 8.

¹²⁴ This is done in the format of factual statements about current realities, rather than engaging deeper questions about the nature of these realities.

¹²⁵ This is likely intended to keep it accessible to a broad audience but creates a misleading perception that all one need do is “see what the Qur’an says” without putting it into a broader framework.

¹²⁶ Observed by Mehmet Ozalp. “Why taking action on climate change is an Islamic obligation,” *The Conversation*, Nov. 4, 2021, available at <https://theconversation.com/why-taking-action-on-climate-change-is-an-islamic-obligation-171111>, accessed July 14, 2022.

¹²⁷ See, for example, Bill McKibben. “Climate Change: A Warning From Islam,” *The New York Review*, <https://www.nybooks.com/daily/2015/08/24/climate-change-warning-islam/>, accessed July 14, 2022.

developing nations that are not high carbon emitters.¹²⁸ As important as the provision of a theological framework for engaging climate change is, the Declaration has not proven to be sufficient to encourage changes in daily life and practices among the majority of Muslim populations.¹²⁹ Although the majority of Muslims surveyed recognize climate change as an important societal challenge, there is no agreement on its cause (spiritual, human caused, or even skeptical as to its existence). Many also believe that economic development, poverty reduction, and access to adequate food and water supplies are higher priorities than controlling carbon emissions.¹³⁰

While there are some local initiatives toward “greener deen,”¹³¹ including in Muslim houses of worship,¹³² concerns have also been expressed about the relative justice of asking all nations to commit to Net-Zero, particularly those in the Global South, when there are such inequities of carbon emissions in low- and middle-income economies. Additional research, particularly comparative studies, on Muslim environmentalist activities at the local, regional, national and international levels are needed. Religious organizations clearly have a role to play in mobilizing attention to climate change issues, including through the recommended means of public awareness campaigns, materializing change beginning with houses of worship, and disseminating pro-environmental messages and values to their constituencies and those living around them,¹³³ but it is clear that theological and ethical approaches *alone*, much like science and data, will not necessarily, immediately, or singularly produce the needed changes in human behaviors and choices. Theological and ethical inspiration is simply one piece of a much larger needed package.

128 There are, of course, exceptions, such as the Gulf states, but many Muslim majority countries are faced with the consequences of climate crisis without necessarily having contributed significantly to it.

129 Jens Koehrsen. “Muslims and Climate Change: How Islam, Muslim organizations, and religious leaders influence climate change perceptions and mitigation activities,” *WIREs Climate Change*, Feb. 24, 2021, available at <https://doi.org/10.1002/wcc.702>, accessed July 14, 2022.

130 Koehrsen, 5–6.

131 Phrasing borrowed from Abdul-Matin.

132 For example, the award-winning Cambridge Mosque: <https://worldarchitecture.org/article-links/evhmv/the-uk-s-first-green-mosque-the-cambridge-mosque.html>, accessed July 19, 2022.

133 Recommended by Koehrsen, 7. He classifies the Islamic Declaration on Climate Change as an awareness campaign.

Conclusion

As a sign (*āya*) pointing to God and an instrument for accomplishing God's will, water plays a central role in the Islamic faith tradition, reflecting God as full of movement, vital to life, capable of moving with speed and surprise or of being withheld, offering reward or administering punishment.¹³⁴ Water is essential to life, such that it is the majority component of the human body (between 60 percent and 75 percent over the course of a lifetime) and human beings cannot live more than three to four days without it. Water is central to worship in cleansing and purifying through ablutions (*ghusl* and *wudu'*), such that physical cleansing points toward spiritual cleansing and, ultimately, transformation enabled through regular prayer and even spiritual sustenance in gathered communal worship.¹³⁵ Water also calls attention to the needs of the poor, particularly through equitable water access and distribution,¹³⁶ as highlighted in the Islamic juristic principles of averting harm from the poor taking priority over averting harm from the wealthy and the welfare of the poor taking priority over the welfare of the wealthy.¹³⁷

For those who are willing to hear and reflect, water provides a mechanism for consideration of human sinfulness—through waste, greed, mistreatment of women, and lack of care for the common good—as well as opportunities to consider redemption—of human beings, communities, and ultimately all life. Rethinking the human relationship with water requires understanding that water is *integrated* into all forms of life,¹³⁸ such that the impact of human decisions is not limited to human beings but extends to the broader communities of life.

Although each person is accountable for their own personal decisions, those individual choices have a collective impact, rendering both individual and col-

134 Abdul Haleem, 40, notes that the Arabic itself points to this—*min al-ma'* (from water) and *bi-al-ma'* (by means of/with water). Water does not exist in a vacuum but is the means by which God accomplishes God's purpose.

135 Allman, 390.

136 See, for example, Qur'an, 54:28, as discussed in Abdul Haleem, 41.

137 Llewellyn, 196.

138 The terminology of "Islam" itself is instructive in this regard as the root letters—s-l-m—carry not only the connotation of peace, but also of being whole and integral and not disintegrated. That understanding can be applied to consideration of the environment as a holistic, integrated whole, not simply a series of separate pieces, thinking inspired by Fazlur Rahman, "Some Key Ethical Concepts of the Qur'an," *Journal of Religious Ethics* 2 (1983): 183.

lective participation critical to genuine change, even if it takes time.¹³⁹ Perhaps that is why the Qur'an portrays water as a *collective* good, a symbol and a sign, present throughout prophetic narratives and divine revelations in both abundance and scarcity, for blessing and punishment for all life forms, not just humans. Human use and abuse of water serves as a reflection of use and abuse of each other and, ultimately, of the human relationship with God. Care about water, its sourcing, and its purity, and giving thanks for its availability in a safe and consistent manner, recognizes its connection to the Divine as well as human needs. Just as humans cannot live without the sustaining power of water, so the Qur'an asserts that humans cannot live without the Divine. Just as humans cannot hoard or claim a monopoly on the Divine, so humans must set aside the temptation to store and hoard water for personal use in favor of being more like living water—allowing it to flow through, taking what we need for ourselves and assuring the flow for other lives, human, plant and animal alike, so that we might be transformed by it.

Water serves as a call for humans to de-center themselves in recognition that, inasmuch as humans can claim ownership of water and build structures and boundaries to try to capture and contain it, the reality is that humans cannot control it. Dams can overflow and even burst. Rivers do not respect national or international boundaries or walls; they run right through them. Oceans do not remain within the limits set by human beings in the form of cities, boardwalks, or parking lots. Coastlines constantly change due to the movements of water, sometimes gentle and sometimes rough. Whatever arrangements human beings pride themselves in establishing with respect to water or which nation or group claims a right to it, such claims are but illusions as they are all ultimately subject to the seasonal flow of water and dependent upon conditions of rain or drought. Even where human behaviors impact the flow of rivers or streams, there is a difference between influence and control.

Perhaps part of the Divine message contained in water is not simply the dualism of blessing and punishment highlighted in the Qur'an, but also a reminder of human fragility and powerlessness in the face of the natural world that humans so arrogantly try to conquer and dominate. Water is central to human existence, but just as capable today as it was in the time of Noah of destroying us, our food supply, our homes, and life as we know it. Whether water is life-sustaining or life-threatening depends in large part upon how we treat not only water, but all of Creation which has its own systems, rhythms,

139 This is a central theme of Cynthia D. Moe-Lobeda. *Resisting Structural Evil: Love as Ecological-Economic Vocation* (Minneapolis: Fortress Press, 2013).

and seasons. Water calls us to observe, reason, and remember. Rather than trying to control it, we might be further ahead to observe water's behavior. One drop of water added to another becomes integrated into that larger drop. The drops do not remain separate or apart. They do not establish barriers between themselves. Water by itself simply gathers drops together, regardless of size, integrating them into a larger whole. The more water that is gathered together the stronger the capacity for that water to rush forward, sweep away landscape, and carve new territory, even as it also has the potential to move gently, shaping and smoothing over long periods of time. Observed in this way, water tells us something important about how human beings need to view each other—as integral parts of nature and the human community, there to protect and be a part of them, rather than above or apart.¹⁴⁰ Just as water carries the risk of contamination that can drive droplets apart, so human beings must be on guard against sin and temptation that can drive wedges into the community at the cost of life itself.¹⁴¹ The choice today is not just about whether and how to reduce or continue current patterns of consumption, but about whether humans allow ourselves to be transformed by the “living water” of faith so that we might learn to relate to the greater whole of Creation, no longer above it in a vertical hierarchy of privilege, but centrally located within it, horizontally connected to all life.

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140 A traditional idea with respect to nature suggested by Adeney-Risakotta, 232.

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Borrowing against the Future: Is Ecological Usury Changing the Climate?

Sarah E. Robinson

When the Prophet Muhammad created the first Islamic polity in Medina fourteen hundred years ago, he deliberately set the foundations for a comprehensive way of life meant to satisfy the social, spiritual, and material needs of the people, while at the same time fulfilling the will of God.¹



Introduction^{2,3}

Although the bulk of my prior research in comparative Muslim ethics and ecological religiosity focuses on food ethics and eco-halal meat, this study applies

- 1 Reza Aslan, *No God but God: The Origins, Evolution, and Future of Islam*, Updated Edition (New York: Random House, 2011), 267.
- 2 I prepare this essay with attention to comparative religious ethics and appreciation for academic freedom, which offers the opportunity to discuss critique and constructive potentials. This essay is dedicated to the wellbeing and safety of all people and living beings, particularly those who are unable to voice advocacy, due to risks to health and safety, both in current communities and into the future.
- 3 National University Center for Islamic Studies (Indonesia), "Impact of Climate Policy on Hajj," cited in "Low Climate Action Will Harm Hajj," Pusat Pengajian Islam Universitas Nasional. 08 July 2022. Accessed 21 July 2022, Accessed online: <http://ppi.unas.ac.id/rendahnya-aksi-iklim-global-akan-membahayakan-ibadah-haji/>; cited in Souad Anouar. "Climate Change Renders Hajj 'Dangerous,' Global Action Necessary." *Morocco World News*. 08 July 2022. Accessed 13 July 2022. Accessed online: <https://www.moroccoworldnews.com/2022/07/350152/report-climate-change-renders-hajj-dangerous-global-action-necessary>. Brian Roewe, "Calling Fossil Fuel Investments Sinful, Global Interfaith Coalition Outlines Moral Standards for Climate Finance," *National Catholic Reporter: Earthbeat*, 24 February 2022, Accessed 22 July 2022. Accessed online: <https://www.ncronline.org/news/earthbeat/calling-fossil-fuel-investments-sinful-global-interfaith-coalition-outlines-moral>. Greenfaith, "Multi-faith Climate Finance Campaign," Accessed 22 July 2022. Accessed online: <https://greenfaith.org/climate-finance/>.

Qur'anic precedents and eco-halal principles toward a Muslim environmental ethics for climate change by applying Qur'anic financial prohibitions against usury, excessively extractive and unjust financial practices. The driving ethical questions are: Can Islamic condemnation of *ribā*, or usury, be understood not only as a matter addressed by contemporary financial institutions processing "Islamic" mortgages, but through a lens of intergenerational eco-halal ethics for climate futures? Can eco-halal ethics apply to the costs contemporary vulnerable populations and future generations may pay for current extraction and pollution of earth systems, which, according to Muslim environmental writers, are on loan by the Creator? More precisely, how can contemporary Muslim ethics, including normative applications condemning *ribā*, extractive financial practices, and encouraging *zakāt*, charity or taxation, address the specter of global climate change effectively?⁴ To address these questions, I begin by defining the application of usury to intergenerational climate debt, followed by brief study of empirical truths, economics, and religiosity in real time and real places, highlighting the salient example of *hajj* pilgrimage amid planetary warming interconnected with religious and business practices on the Arabian peninsula. Qur'anic prohibitions against usury, or *ribā*, and connected support for generous charity, or *zakāt*, provide a robust ethical locus for considering potential harm or possible generosity, which contemporary people offer to all earthly lives in the present time, near term, and farther future. Through individual, industrial, and other institutional climate actions and inaction, the current generation will generate the means for greater flourishing or amplify future horrors.

Usury is the practice of profiting unjustly at a high rate of interest on a loan that becomes an undue burden on the debtor. The religious tenet of debt forgiveness traces a historical lineage from Sumerian and Babylonian kings

4 As a critical-constructive scholar of comparative religious ethics in North America, I offer these questions and this essay toward engagement with traditions, which are not my own. For this reason, I acknowledge the task of religious ethics to discuss ethical trends and religious commitments toward, in this case, a livable earth now and into the future. I will not presuppose my voice as having any authority other than as a person who hopes that people alive today can reorient toward offering beneficial generosity to people who will inherit places, which shape community meaning. This essay represents an exercise in intellectual freedom, which itself is a privilege. As an outsider interlocutor, I hope this essay does justice to the people it describes and the people who take time to read it. Any shortcomings are my own, and I am humbly grateful to have participated in the invited, international workshop, "Religion, Environment and Economic Traditions: Refining an Epistemology of Moral Accountability" at the Institute for Religion, Culture, and Public Life at Columbia University in New York in March 2019, as well as this volume, which emerged from those conversations.

through ancient Hebrew writings and Christian gospels, and appears four times directly in the Qur'an.⁵ These four Qur'anic passages highlight charity as opposite to usury, while accepting market economics. While some Muslim scholars interpret usury as impermissible in all forms, necessitating loans with zero interest, other scholars identify degrees of usury as acceptable (low-level) and unacceptable (higher level). In either case, ethical objection to usury is linked not simply to interest-taking beyond the principal of a loan, but rather, misuse of financial power over the debtor. For example, future people have no participation in current and past decisions, which combine to intensify climate disturbances, such as heatwaves, floods, and other extreme weather events.⁶ Thus, future people may pay excessively for current extractive "borrowing" from environmental and financial reserves, unless contemporary people steer in another direction, such as avoiding extractive financial practices and offering generosity, charity, or taxation.

By highlighting charity as the antithesis of usury, the Qur'an provides a template for solving financial abuses through charitable generosity. The Qur'an names people deserving of charity: family, travelers, the poor, rather than exploiting these groups via usury. Thus, to address usury, forgive debts and offer generosity facilitates financial ethics to preserve family wellbeing, ease travel-

5 Debt forgiveness appears in two canonical Christian gospels of Luke and Matthew. For historians, the appearance of an event or teaching in multiple gospels indicates a higher likelihood of its historicity. Some Christian "Lord's Prayer" versions use the language "forgive us our debts as we forgive our debtors," though other versions feature "trespasses" or "sins" in the same segment of the prayer, demonstrating the daily expression of some Christian practitioners to avoid extractive financial practices. Debt appears in Qur'an 2:280–281, 2:282, and 4:11–12. "[2:280] If the debtor is in difficulty, then delay things until matters will become easier for him; still, if you were to write it off as an act of charity, that would be better for you, if only you knew. [281] Beware the Day when you will be returned to God: every soul will be paid in full for what it has earned, and no one will be wronged." "[2:282] You who believe, when you contract a debt for a stated term, put it down in writing: have a scribe write it down justly between you ... let the debtor dictate, and let him fear God, his Lord, and not diminish [the debt] at all. If the debtor is feeble-minded, weak, or unable to dictate, then let his guardian dictate justly. Call in two men as witnesses ... Do not disdain to write the debt down, be it small or large, along with the time it falls due: this way is more equitable in God's eyes, more reliable as testimony, and more likely to prevent doubts arising between you ... [284] Whatever is in the heavens and in the earth belongs to God and, whether you reveal or conceal your thoughts, God will call you to account for them ..." In the chapter titled, "Women," Qur'an 4:11–12 describes inheritance, and the mention of debt is regarding paying debts prior to distributing inheritance. Translation: M.A.S. Abdel Haleem, *The Qur'an* (New York: Oxford University Press, 2004).

6 For current information on global, scholarly consensus on the science of climate change, as well as overview summaries for policy makers, see Intergovernmental Panel on Climate Change. Online resource: www.ipcc.ch; Internet; accessed 1 March 2019.

ing burdens, and prevent or ameliorate impoverishment. Contemporary interpreters focus usury prohibitions on “preserving justice and equity in financial relationships, very similar to contemporary concern with predatory lending.”⁷ Individual or institutional generosity as charity protects relationships both familial and societal, strengthening the social contract toward greater financial wellbeing for all. Charity, in another sense, can be understood as taxation, as in Muslim-majority countries the same word describes a Qur’anicly derived system of taxation for social benefit, but the Qur’an asserts charity as a means to protect relationships.⁸ Below, after defining further elements of climate debt, further treatment of climate-changed pilgrimage will be explored, combining attention to projected scientific concerns about excessive heat with religious requirements to offer generosity to travelers and steward sacralized areas for central religious practices.

Climate debt has emerged in religious conversations on climate justice, encouraging industrialized countries with fossil-fueled economies to recognize their disproportionate contribution to climate change as correlated with increased responsibility for abatement, mitigation, and adaptation.⁹ Environmental studies locates relations of debt between nations, naming industrialized nations as largely responsible for climate-changing pollution.¹⁰ Generally, climate debt refers to present time debts for past actions by industrialized people, debts to be paid in kind by investing more actively in a transition away from climate-hazardous industries and to subsidize transition, adaptation, and resilience efforts for the world’s more vulnerable people and countries.¹¹ Those

7 Constant Mews and Ibrahim Abraham, “Usury and Just Compensation: Religious and Financial Ethics in Historical Perspective,” *Journal of Business Ethics* (2007) 721.

8 Timur Kuran, “Zakat: Islam’s Missed Opportunity to Limit Predatory Taxation,” *Public Choice* 182, no. 3/4 (March 2020): 395–416.

9 In addition to a justice-oriented climate debt discussion among a variety of scholars, scientific concerns with carbon debt payback can be traced to forestry practices to replant deforested areas or otherwise compensate for carbon dioxide releases from forest product burning and both old-growth and plantation forest cover loss, for example: Beverly E. Law, William R. Moomaw, Tara W. Hudiburg, William H. Schlesinger, John D. Sterman and George M. Woodwell, “Creating Strategic Reserves to Protect Forest Carbon and Reduce Biodiversity Losses in the United States,” *Land* 11, no. 5 (2022): 721. doi: <https://doi.org/10.3390/land11050721>.

10 H. Damon Matthews, “Quantifying Historical Carbon and Climate Debts among Nations,” *Nature Climate Change* 6, 60–64 (2016), 07 September 2015, Online resource: <https://www.nature.com/articles/nclimate2774>; accessed 15 March 2019.

11 Environmental studies identify the I=PAT equation to define environmental impact of human presence and behaviors shaped by economic status and access to technology: Impact=Population, Affluence, Technology I=PAT. Paul Robbins, John Hintz, and Sarah

who contributed least to climate disturbances suffer most, thus it is incumbent on industrial nations whose policies, industries, and practices have contributed most to take the greatest responsibility. In addition to familiar usage of climate debt to describe relations of industrialized consumers to contemporary vulnerable groups, the notion of climate debt can refer also to future people whose suffering is preventable through altering “business as usual.” Muslim tenets to counteract usury with charity translate to enabling changes, individually and culturally, which can produce greater flourishing for vulnerable lives today and into the future.

If environmentally minded Muslim writers presuppose that humanity acts as *khalifa* for nature, then people are viceregents or trustees of an inheritance not bound for the current generation, but for the future with nature’s “true owner” as God.¹² If the current generation extracts more than the future can pay, then the debt burden is born unjustly by people who have no ability to choose indebtedness. Is this an undue burden to future people? In order to ascertain the answer, the next section approaches religious worldviews and climate communication. The paper moves on to empirical and economic realities of climate change, discussing how global financial institutions, including Islamic banks, have begun to articulate and implement climate commitments. The need to address climate change is far from academic, as arid regions subject to climate change are estimated to become uninhabitable during part of the year, including the Saudi Arabian region where pilgrims prayerfully make their way in *hajj*. Thus, Muslim ethics on climate can build on existing environmental discourse on the role of *khalifa* as charitable trustee, rather than usurious exploiter. With decreasingly dependable weather patterns and changing landscapes, resource conflicts may increase, spurring religious division. Nevertheless, the work of religiously pluralistic integration remains a means for stepping

A. Moore, *Environment and Society: A Critical Introduction, Second Edition* (Malden, Mass.: Wiley Blackwell, 2014), 17.

- 12 Generally, the language of Muslim stewardship appears in cross-culturally read texts highlighting the value of Islamic traditions through human viceregency on behalf of the divine in the project of religious environmental ethics. Muslim stewardship language appears both as apologetically inclined and singularly representative of valuable aspects of Muslimness in a contested and non-majority culture location for its readership. Read in combination with Christian and other apologetics for ecological value in religion, such essays mirror the desire to highlight and amplify the potential ecological religiosity to be found in each religion. Nonetheless, this body of work does not represent practices among a majority. See various works by, for example, Seyyed Hossein Nasr, Richard Foltz, Sara Tlili, Zayn Kassam, the Forum on Religion and Ecology’s Harvard volume on *Islam and Ecology*, and emerging voices on the topic.

back from the brink of conflict. Further, Muslim ethicists define Islamic law tenets to protect progeny as applicable to future generations, further shedding light on the need to avoid usurious, extractive relations with future people. Instead, Muslim climate ethics shift away from enacting climate harms, enable climate finance, lower carbon and other greenhouse gas emissions, and provide mitigation, adaptation, and resilience for contemporary and future believers and the whole of nature, which is only temporarily held in trusteeship on behalf of God until future people inherit the responsibility.

1 Climate Communication and Religious Worldviews

Although climate disturbances and extreme weather events are epistemologically framed with empirical, scientific research in international organizations, multifarious human beings across the world ask the sky why God has brought them bad weather. I name this phenomenon not as an insult to those who live in a God-centered universe, not at all, but rather as a strategic necessity for anyone attempting to nimbly address the simultaneity of empirical and moral thinking.¹³ Climate scientist Mike Hulme asserts, “Science is never enough to resolve problems that are cultural in origin,” indicating the import of addressing the socio-cultural foundations of our changing climate.¹⁴ Similarly, climate scientist James Gustave Speth concludes his 2004 book with “the most fundamental transition of all,” which he locates in culture and perspective changes.¹⁵ Although in-group variation is vast, Muslims and Christians together encompass over half the human population, above 4 billion people, and the potential for religious climate leadership is ripe.¹⁶

13 For further study, see Ian G. Barbour, *When Science Meets Religion: Enemies, Strangers, or Partners?* (New York: Harper Collins, 2000).

14 Mike Hulme, *Why We Disagree About Climate Change: Understanding Controversy, Inaction and Opportunity*. Cambridge, UK: Cambridge University Press (7, 246) in Willis Jenkins, Evan Berry, and Luke Beck Kreider, “Religion and Climate Change,” *Annual Review of Environment and Resources*, 2018, 43:9.2. Available online: <https://doi.org/10.1146/annurev-environ-102017-025855>

15 James Gustave Speth, *Red Sky at Morning: America and the Crisis of the Global Environment* (New Haven: Yale University Press, 2004), 191.

16 Christians constitute 2.3 billion and Muslims 1.8 billion, 31.2 percent and 24.1 percent respectively, for a total of 4.1 billion and 55.3 percent of global population, counted as 7.3 billion people. Conrad Hackett and David McClendon, “The Changing Global Religious Landscape,” *Demographic Study: Religion and Public Life*, Pew Research Center, 5 April 2017.

Furthermore, another majority of humanity does not have educational access to empirical truths necessary to guide practical actions on climate.¹⁷ Ignorance of the laws of nature do not protect current or future people from their consequences. Thus, when religious ethics integrate accurate scientific data, this integration can be particularly important for effective leadership on climate. Meanwhile, many people turn to the sky, asking God what personal or collective moral accountability must be rectified, in order to return to calmer weather conducive to healthy water and food, the bedrock of stable, peaceful communities.¹⁸ Bringing science into productive conversation with religious ethics can be served by recognizing usury in the fabric of climate problems. People who respond to weather changes by trusting God's will can embrace the Anthropocene historical moment in Islamically familiar ways when industrialized inheritors of earth balance both the capacity to trust God and to tether the metaphorical camel.¹⁹

2 Empirical and Economic Realities of Climate Change

The science of climate change has been clear for decades, but in fall 2018, scientists began to do the equivalent of standing on their chairs to shout. Prior gatherings, reports, and findings tended to use cautious scientific framing, emphasizing margins of error, known-knowns, parts per million, and other language impenetrable and unhelpful to a more or less educated public.²⁰ In contrast, in fall 2018, both the Intergovernmental Panel on Climate Change and

17 The Intergovernmental Panel on Climate Change is the global scientific body responsible for guiding national-level policy makers with empirically sound data. Valerie Masson-Delmotte et. al., *Global Warming of 1.5°C, an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. Intergovernmental Panel on Climate Change, 2018. Online resource: <http://www.ipcc.ch/report/sr15/> or www.ipcc.ch/; Internet; accessed 1 March 2019.

18 Gary Gardner. *Inspiring Progress: Religions' Contributions to Sustainable Development* (New York: W.W. Norton and Company, 2006).

19 The term Anthropocene refers to the contemporary and future geological age, shaped by human influence. Specifically, this influence is tied to pollution intensification, such as emissions of carbon dioxide and other greenhouse gases and saturation of oceans and landfills with plastics, derived from industrial economies based on fossil fuel extraction, processing, and burning. Electronic waste similarly taints local watersheds with heavy metals and other chemicals toxic to human and other living beings.

20 Unfortunately, such language has been harnessed in climate doubt and denial by those

the U.S. National Climate Report confirmed that the time horizon has dramatically shortened for making drastic structural changes before hitting a scientific “cliff’s edge,” in which the conditions conducive to life’s flourishing deteriorate in natural systems fundamentally changed.

To enable agile transformation of human influence on natural systems, the World Bank identifies goals for climate finance systems to restore human and ecosystem resilience while encouraging sustainable development.²¹ Climate finance burgeoned in the late 2010s, with annual funds surpassing one-half trillion dollars.²² In light of the COVID-19 crisis, revisioning finance is already underway, providing further opportunity to combine climate resilient finance with furthering human health and wellbeing through stimulus funding attentive to climate action. Public funding and policy directives can be leveraged to enable private sector funding that furthers climate goals. The World Bank proposes eight levers with climate significance: “project-based investments, financial sector reform, fiscal policy, sectoral policies, trade policy, innovation and technology transfer, carbon markets, and climate intelligence.”²³ These methods enable transformation by reducing barriers to climate finance through

who might profit from continuing economic and political habits without adapting to change.

- 21 World Bank Group: Climate Change. *Transformative Climate Finance*, Washington, D.C.: International Bank for Reconstruction and Development, 2020. The World Bank was established to rebuild war-torn European infrastructure at the close of World War II, but continued after reconstruction with policies to provide loans toward development in less industrialized regions via national financing. During the mid- to late 20th century, financing from the World Bank received both accolades and scrutiny, particularly due to strict policies of Structural Adjustment, which required reduction of social welfare programs, in order to finance debt repayment in so-called developing nations. “History,” World Bank, Accessed 20. July 2022. Accessed online: <https://www.worldbank.org/en/about/history>. The following source provides an example, demonstrating adverse effects of structural adjustment policies on vulnerable people and health outcomes: M. Thomson, Kentikelenis, A. & Stubbs, T. “Structural Adjustment Programmes Adversely Affect Vulnerable Populations: A Systematic-Narrative Review of Their Effect on Child and Maternal Health.” *Public Health Rev* 38, 13 (2017). <https://doi.org/10.1186/s40985-017-0059-2>. Both United Nations and World Bank primary agendas reflect global policy interest in sustainable development. Articulated in 2015, “The 2030 Agenda for Sustainable Development” combines financial, environmental, and social welfare goals. “World Bank Group and the 2030 Agenda,” The World Bank, Accessed 21 July 2022. Accessed online: <https://www.worldbank.org/en/programs/sdgs-2030-agenda>. Department of Economic and Social Affairs: Sustainable Development: “Do You Know All 17 SDGs?,” United Nations, Accessed 21 July 2022. Accessed online: <https://sdgs.un.org/goals>.

- 22 World Bank Group: Climate Change, 1.

- 23 Ibid.

development financial institutions, the philanthropic community, and other funds dedicated to climate finance.

Some writers assert that Islamic finance is particularly well-suited to meet global and local ethical considerations, such as climate-related aspects in the United Nations Sustainable Development Goals (SDGs) and social justice for pastoralists vulnerable to a changing climate. Islamic finance integrates four elements: asset-backed finance, central ethical expression, equitably shared risk among investors, and good governance.²⁴ In an investment periodical, UN Environment Programme Finance Initiative's Eric Usher and Islamic Development Bank's Lead Climate Adaptation Specialist Daouda Ndiaye refer to "social trust, cooperation, and solidarity" as aspects of Islamic finance aligned with SDGs.²⁵ An organization representing participants in 57 countries, the Islamic Development Bank Group (IsDB) published a "Sustainable Finance Framework" in November 2019, modeling alignment between Islamic finance and the SDGs.²⁶ The IsDB Framework names financing goals to support renewables, energy efficiency, cleaner transportation, land use for agricultural and forestry resilience, pollution prevention, water sustainability, natural disaster mitigation, policy, adaptation, youth empowerment, gender empowerment, and resilience, integrating the Voluntary Principles for Mainstreaming Climate Action within Financial Institutions, as well as the Common Principles for Climate Mitigation Finance Tracking.²⁷ In place of traditional bonds, Islamic finance organizations have issued *sharī'a*-compliant Islamic bonds, or *ṣukūk*.²⁸ As sustainable finance grows in interest, for example, in Jordan, Malaysia,

24 Erica Usher and Dr. Daouda Ndiaye, "2020: The Year Sustainable Islamic Finance Scales?," *Responsible Investor*, 2 March 2020. <https://www.responsible-investor.com/articles/2020-the-year-sustainable-islamic-finance-scales>.

25 Ibid.

26 The Islamic Development Bank represents 57 member states in the largest, global Islamic development institution. Islamic Development Bank. *Sustainable Finance Framework*, November 2019. Accessed online: [https://www.isdb.org/sites/default/files/media/documents/2019-11/IsDB%20Sustainable%20Finance%20Framework%20\(Nov%202019\).pdf](https://www.isdb.org/sites/default/files/media/documents/2019-11/IsDB%20Sustainable%20Finance%20Framework%20(Nov%202019).pdf). An additional document produced in collaboration between the UN and IDB is: "I for Impact: Blending Islamic Finance with Impact Investing for the Global Goals," Istanbul: UN Development Program and Islamic Development Bank, 2017.

27 Ibid., 6, 20–21.

28 *Ṣukūk* is a bond based on partial ownership, rather than debt obligation for traditional bonds. *Sukūk* is defined as "An Islamic financial certificate that represents the portion of ownership in a portfolio of eligible existing or future assets," according to Corporate Finance Institute. CFI Team, "Sukuk," Corporate Finance Institute, 12 February 2022. Accessed online: <https://corporatefinanceinstitute.com/resources/knowledge/trading-in-vesting/sukuk/>.

and Indonesia, green *ṣukūk* projects have emerged to fill demand for environmentally focused, financial instruments.²⁹ Saudi Arabia and the Arab region more generally, Malaysia, Luxembourg, and the UK play central roles in global Islamic finance.³⁰ Maram Ahmed proposes that Islamic finance principles are grounded in social justice and inclusion, which can offer a catalyst for climate finance, particularly for smallholders like pastoralists without access to financial resilience with agricultural adjustments in a changing climate and landscape.³¹ Further, familiar aspects of Islamic finance, such as avoiding investment in alcohol, gambling, and tobacco, could arguably be applied to avoid climate detriment, which involves unhealthy and greedy indulgence and gambling against future people. Integrating these and other climate finance strategies into international Muslim financial institutions, as well as Islamic microfinance institutions, could further eco-halal potential to integrate the formidable global sector of Islamic banking with emerging climate finance goals and institutions.³²

As the planet's climate systems become more unpredictable and globally hotter, our planetary fever correlates with intensification of extreme weather events, stronger hurricanes, droughts, lightning events, and floods, plus glacier

29 In the latter referenced article, the term *ṣukūk* is defined as "Certificates of equal value which evidence undivided ownership investment in the assets in accordance with *Shariah* principles and concepts" (Securities Commission Malaysia and World Bank Group, 7). Green Sukuk Initiative (<http://www.gifip.org/green-sukuk-initiative/>) of the Global Islamic Finance and Impact Investing Platform (Jakarta, Indonesia) expressly refers to integrating SDG goals into Islamic finance. Securities Commission Malaysia and World Bank Group, "Islamic Green Finance: Development, Ecosystem and Prospects," Kuala Lumpur: Securities Commission Malaysia, March 2019. Accessed online: <http://documents1.worldbank.org/curated/en/591721554824346344/pdf/Islamic-Green-Finance-Development-Ecosystem-and-Prospects.pdf>. These organizations are mentioned in Usher and Ndiaye. Additionally, al-Amini's book provides a wider background on securitization, finance, and global applications of *ṣukūk*: Al-Amine, Muhammad al-Bashir Muhammad. *Global Sukūk and Islamic Securitization Market: Financial Engineering and Product Innovation*. Leiden: Brill, 2012.

30 Usher and Ndiaye.

31 Maram Ahmed, "How Islamic Finance Can Build Resilience to Climate Change," World Economic Forum, 17 July 2019. Accessed online: <https://www.weforum.org/agenda/2019/07/islamic-finance-global-financial-inclusion-climate-change/>.

32 A major climate finance organization is the Transition Pathway Initiative, "a global, asset-owner led initiative which assesses companies' preparedness for the transition to a low carbon economy." This organization is affiliated with the London School of Economics and Political Science's Grantham Research Institute on Climate Change and the Environment. Also, see Simon Dietz, et al. "TPI State of Transition Report 2020." Transition Pathway Initiative, 2020: <https://www.transitionpathwayinitiative.org/tpi/publications/50.pdf>. Transition Pathway Initiative. <https://www.transitionpathwayinitiative.org/>.

and ice cap melt. All areas of global economy interconnect with a heating world. Maintaining healthy landscapes corresponds to survival and potential to thrive, in contrast with usurious climate debt, in which present industrialized people borrow from the vulnerable in current and future times.

3 Religious Realities of Climate Change: Wet-Bulb Temperature and the Future of the Ḥajj

To provide an example of particular interest to Muslims, climate scientists predict that global warming will render parts of the Arabian Peninsula, such as the area for *ḥajj* pilgrimage, uninhabitable for parts of the year by the end of the 21st century. Water scarcity is normal in the Arabian Peninsula.³³ The wet-bulb temperature index indicates the ability of healthy mammalian bodies to perspire, then evaporate and cool the body in hot weather. In 2010 and 2015 studies, climate scientists concluded that, without efforts to reduce emissions, business-as-usual trends will “severely impact human habitability in the future” in the Arabian Gulf region.³⁴ Although desert conditions, humid summer weather, and intense heat may be normal in the Arabian Peninsula region, temperatures on the horizon are unlike any yet seen in human history.³⁵

Nevertheless, the world is tasting global warming already. On July 31, 2015, summer temperatures in Iran nearly reached the wet-bulb peak for less than an hour.³⁶ Extreme heat events have led to an estimated 100,000 deaths spanning events in Europe (2003), Russia (2010), South Asia and the Middle East (2015), and Southeast Asia (2016).³⁷ Thus far in human history, extreme heat expo-

33 G.O. Odhiambo, Water Scarcity in the Arabian Peninsula and Socio-economic Implications. *Appl. Water Sci.* <https://doi.org/10.1007/s13201-016-0440-1> (2016). Cited in Abid, Muhammad Adnan, Mansour Almazroui, Fred Kucharski, Enda O'Brien, Ahmed Elsayed Yousef, “ENSO Relationship to Summer Rainfall Variability and Its Potential Predictability over Arabian Peninsula Region,” *NPJ Climate and Atmospheric Science*, 1:2017 (2397–3722), <https://doi.org/10.1038/s41612-017-0003-7>.

34 Ibid.

35 A 2017 article brought popular attention to projected hazardous conditions for the *ḥajj* and Middle East, in general, in a dire report on global worst case scenarios in a changed climate. David Wallace-Wells, “The Uninhabitable Earth,” *New York Magazine*, 12 July 2017. Accessed 21 July 2022. Accessed online: <https://nymag.com/intelligencer/2017/07/climate-change-earth-too-hot-for-humans.html>.

36 David Chandler, “Study: Persian Gulf Could Experience Deadly Heat,” *MIT News*, 26 October 2015. Accessed online: <http://news.mit.edu/2015/study-persian-gulf-deadly-heat-1026>.

37 Horton, R.M., Mankin, J.S., Lesk, C. et al., *Current Climate Change Reports* (2016) 2:242. <https://doi.org/10.1007/s40641-016-0042-x>.

sure has been of particular concern for vulnerable groups, such as young children, elders, hospitalized and immune-suppressed people, and people without access to water, food, or shelter. Despite current concerning conditions, late 21st century weather predictions, based on projected weather changes at current levels of pollution, include temperatures at which all bodies—rich, poor, healthy, vulnerable, human, other-than-human—would be adversely affected.

Because the *hajj* tends to involve hours and days traveling and praying outdoors, the threat of an uninhabitable Arabian Peninsula during the season of pilgrimage is of particular concern. Millions of Muslims participate in the *hajj* annually, in addition to others who visit Mecca for the lesser *umrah* pilgrimage.³⁸ For the physically and financially capable, *hajj* is required once in a lifetime, though only 9% of global Muslims report participating.³⁹ Although some may argue that *hajj* may be undertaken in the heart, rather than across the desert, this key marker of Muslim identity and religiosity could be rendered fatal by global warming.

Can contemporary Muslims imagine a year without a *hajj*? Perhaps in light of 2020 COVID-19 restrictions, this is less unthinkable than before.⁴⁰ When considering changing temperatures in the region, if pilgrims cannot survive the seven turns around the Kaaba, what does this mean for the future of Islam, Muslim religious observance, and religious life in Saudi Arabia? If children, grandchildren, and some of us, too, will face conditions hazardous to life whether or not we endeavor to participate in religious practices, what moral accountability do we bear now and among our fellow people in this historical moment? Remembering Abraham's sacrifice of his son, can current people prevent future Eid al-Adha (*Īd al-'Aḍḥā*) celebrations from involving unintended heat-induced slaughter? What debt do we owe to the future, when the data is clear that contemporary inaction will render their lives miserable at best? The whole of contemporary humanity is faced with existential threats from climate change, yet how may people in religious spaces of moral leadership endeavor to respond? Research emerged in October 2019 that the single company with the greatest contribution to climate pollution is the national oil company from

38 Fatima Ghani Chandler and Michael Lipka, "Five Facts about the Hajj," Fact Tank: News in the Numbers, Pew Research Center, 11 October 2013. Accessed online: <http://www.pewresearch.org/fact-tank/2013/10/11/5-facts-about-the-hajj/>.

39 Ghani and Lipka.

40 In 2020, only a select 10,000 residents in Saudi Arabia were approved to undertake the *hajj*. "Downsized Hajj Begins Amid Coronavirus Restrictions," *Al Jazeera*. 03 August 2020. Accessed online: <https://www.aljazeera.com/programmes/newsfeed/2020/08/downsized-hajj-begins-coronavirus-restrictions-200803103033796.html>.

Saudi Arabia, thus, how can a religiously devout state embrace and renew religiosity by relinquishing the death grip of oil production implicated in a future with no livable pilgrimage to Mecca?⁴¹ As Saudi Arabia's state oil company was named the "most profitable business in the world,"⁴² making larger profits than global corporations like Apple and Exxon, can Saudi Aramco's charitable acts balance harms to humanity through turning toward a renewable energy future?

4 Islam, Ethics, Economics, and Conflict amid Climate Change

The questions above provide fodder for ethical consideration in relation to beliefs and practice in Islam, and Muslim ethics can be defined through connection with authoritative texts and traditions. Late 19th and early 20th century scholar Ignaz Goldziher defines Muslim individual ethics:

A life lived in the spirit of Islam can be an ethically impeccable life, demanding compassion for all God's creatures, honesty in one's dealings, love, loyalty, the suppression of selfish impulses, and all the other virtues that Islam derived from the religious whose prophets it acknowledges as its teachers. A true Muslim will lead a life that satisfies stringent ethical requirements.⁴³

Although the term Islamic ethics arises in cultural spaces and academic publications, the history of ethics in Islam is not unitary.⁴⁴ In reflection on Muslim meaning, the categories of law, theology (*kalām*), sectarian distinctions, and

41 Saudi Aramco is the highest contributor to global carbon emissions among the top 20 businesses named by an October 2019 study. Matthew Taylor, Jonathan Watts, "Revealed: The Twenty Firms Behind a Third of All Carbon Emissions," *The Guardian*, 09 October 2019; Accessed online: <https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions>; Internet; accessed 09 October 2019.

42 Saudi Aramco's profits in 2018 topped all other global businesses, valued at \$111.1 billion (\$84.7 billion), gained from \$355.9 billion in revenue. Richard Partington, "Saudi Oil Company Named World's Most Profitable Business," *The Guardian*, 01 April 2019; Accessed online: <https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions> <https://www.theguardian.com/business/2019/apr/01/saudi-aramco-oil-world-most-profitable-business-apple-exxon>; Internet; accessed 09 October 2019.

43 Ignaz Goldziher, *Introduction to Islamic Theology and Law*, trans. Andras and Ruth Hamori (Princeton, N.J.: Princeton University Press, 1981), 18.

44 Further, the term ethics may emerge in relation to Muslim and Islamic elements due to cross-cultural and cross-disciplinary conversation partners, such as environmental ethics or Christian ethics.

philosophy may have greater reach than ethics (*akhlāq*), though the practice of disciplined conduct (*adab*) may be part of daily practice. Nevertheless, from early Muslim history, ethical considerations of determinism and free choice shaped schools of thoughts in Islam.⁴⁵ Further, historical circumstances can be interpreted through a religious lens, such as the presupposition that nature and scripture contain “signs of God”:

If one wants to argue that the Koran has to be understood in terms of historical circumstances, the Muslim commentators can reply that the historical circumstance themselves are signs of God, and hence they have a significance that transcends the mundane: How can you understand the historical circumstances if you do not understand what these circumstances tell us about *tawhid* [expression of faith in the unity of God]? The difference between signs found in scripture and signs found in nature is that the scriptural signs tell us explicitly and in so many words that this is a message of God.⁴⁶

Therefore, various Muslim interpreters find nature among the spaces where religious meaning can be located, where divine communication may occur toward understanding God’s unity, a core belief shaping Muslim ethical formation.⁴⁷ By reinterpreting historical events through a theocentric lens, Muslim ethical interpreters assert elements of belief when facing historical, contemporary, and future considerations. Ethical trends may follow cultural patterns, ethnic subgroups, and ideological directions, which vary in relation to so-called Western influences, which can be invoked through contested contrasts to tradition when defining ethical authenticity in Islam.⁴⁸ Due to the complexity

45 Fazlur Rahman, *Islam, Second Edition* (Chicago: University of Chicago Press, 1979/2002), 57. Further, Goldziher argues that historical sectarian tendencies aligned with political divisions, “The significance of the earliest dissenting movements consists precisely in this: within the warlike religion that was early Islam, the dissenting movements fostered religious considerations that, further enriched by elements imported into Islam, soon gave political cleavage a religious character.” Goldziher, 168.

46 Sachiko Murata and William Chittick, *The Vision of Islam* (St. Paul, Minn.: Paragon House, 1994), 56.

47 For example, Muslim environmental philosopher Ibrahim Ozdemir has asserted environmental ethics in Qur’anic terms. Ibrahim Özdemir, “Toward an Understanding of Environmental Ethics from a Qur’anic Perspective,” *Islam and Ecology: A Bestowed Trust*, ed. Richard C. Foltz, Frederick M. Denny, and Azizan Baharuddin (Cambridge, Mass.: Harvard University Press, 2003), 3–37. Ibrahim Ozdemir, *The Ethical Dimension of Human Attitude Towards Nature: A Muslim Perspective* (Ankara: İnsan Publications, 2008).

48 Moral interpreters may both envelop and reject so-called “Western” elements: “Implicit

and range of Muslim interpreters, a cohesive Islamic ethics is not to be found. Instead, Muslim ethics find expression through themes and topics, such as eco-halal meat in non-majority locations and halal finance.

Muslim eco-halal climate ethics can relate to particular economic and policy measures to respond to climate pollution, recognizing human beings as temporary charitable trustees of our planetary home. Muslim discussions of earth stewardship emphasize the Arabic term *khalīfa* as viceregent, steward, or trustee, entrusted with God's property, the earth, which passes from generation to generation in trust.⁴⁹ Taking religious ethics seriously, Akrum Helfaya, et al., write in the *Journal for Business Ethics* about corporate social responsibility expressed through Islamic environmental responsibility. Citing traditional understandings of people as trustees (*khalīfa*) of God's perfect balance in nature (*mīzān*), the authors identify Muslim environmental ethics for restoring created nature's divine balance by reducing deforestation, restoring sustainable land use plans, and making immediate shifts in the energy economy.

Many environmental issues become shoe-horned into consumerist rhetoric about individual choices, however, government, industry, and communities provide concrete locations for preventative action on climate disruption. Yale economist Kenneth Gillingham offers, "The real challenge is finding ways to reduce emissions and maintain economic growth on the timeline demanded by the nature of climate change."⁵⁰ In Islamic terms, the nature of climate change reflects the laws of nature formed by the divine, which bless the generous, but condemn greed and extractive usury. Muslim regions undertaking industrialization might avoid environmental pitfalls of exploitative economic development, keeping consistent with Islamic requirements to avoid

in fundamentalism is ... a rejection of most of the great thinkers and sages of the Islamic tradition. At the same time, most fundamentalist movements feel right at home with the scientific rationalism of the modern West. However, they feel that the West has betrayed the rational approach by letting morality slip out of center stage." Murata and Chittick, 247.

49 References to *khalīfa* in Muslim environmental ethics are numerous. For a brief discussion of these references, please see Robinson-Bertoni, "All God's Creatures Are Communities Like You," 94–96. See also a 2016 article relating Qur'anic environmental ethics with business ethics: Helfaya, A., Kotb, A. & Hanafi, R., "Qur'anic Ethics for Environmental Responsibility: Implications for Business Practice," *Journal of Business Ethics* (2018) 150:4, 1105–1128. <https://doi.org/10.1007/s10551-016-3195-6>.

50 Carolyn Kormann, "The False Choice Between Economic Growth and Combatting Climate Change," *The New Yorker*, 4 February 2019. Accessed online: <https://www.newyorker.com/news/news-desk/the-false-choice-between-economic-growth-and-combatting-climate-change>.

waste, excess, and concomitant atmospheric pollution.⁵¹ Further, the World Bank defines climate finance directions, including “project-based investments, financial sector reform, fiscal policy ... carbon markets, and climate intelligence.”⁵² Thus, enabling and expanding further Muslim climate finance ethics could serve climate resilience and adaptation. Thus, not only Muslim individuals, but Muslim institutions and industries can respond to climate impacts with religious ethics reflecting the role of charitable trustee, rather than usurious exploiter.

Prohibitions against usury, *ribā*, may be applied in terms of the role and responsibilities of *khalīfā*, faithful trustees of the environment as God’s creation. If Muslims, as individuals, families, communities, governments, organizations, and industries, borrow life-giving necessities—the earth, land, water, air, and life itself—on loan from God, agreeing to pass them along to the next generation, then extracting a greater yield than what can be replaced and replanted is unethical and impermissible. If current people deliver to the next generation a substantial economic, environmental burden, rather than a charitable trust enhanced by this generation’s care, these activities stand in stark contradiction to the role of humanity as caretakers and trustees, *khalīfā*, of this precious earthly inheritance. People, Muslim and otherwise, are not absent from nature, but can be participants in replanting, restoring, and renewing natural systems, more akin to carefully tending gardeners than extractive exploiters. As the popular hadith resonates among Muslim environmentalists, “If the last day comes and you have a sapling in your hand, plant it.”⁵³ Perhaps at no time in history does this piece of Muslim proverbial wisdom resonate within and beyond the *ummah*, Muslim community.

Finally, it is important to name the elephant in the room when speaking of Muslims and climate change: oil producers and resource conflicts. Regard-

51 A. Bagader, A. El-Sabbagh, M. Al-Gayand, M. Samarrai, and O. Llewellyn, “Environmental Protection in Islam.” IUCN Environmental Policy and Law Paper. 1994, No. 20. http://cmsdata.iucn.org/downloads/eplp_020even.pdf. In Helfaya, A., Kotb, A. & Hanafi, R., “Qur’anic Ethics for Environmental Responsibility: Implications for Business Practice,” *Journal of Business Ethics* (2018) 150:4, 1105–1128. <https://doi.org/10.1007/s10551-016-3195-6>.

52 World Bank Group, *Transformative Climate Finance: A New Approach for Climate Finance to Achieve Low-Carbon Resilient Development in Developing Countries*. World Bank, Washington, D.C., 2020. Accessed online: <https://openknowledge.worldbank.org/handle/10986/33917> License: CC BY 3.0 IGO.

53 Musnad Ahmad, no. 12491. This hadith statement is considered authentic:

عَنْ أَنَسِ بْنِ مَالِكٍ قَالَ قَالَ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ إِنَّ قَامَتْ عَلَى أَحَدِكُمُ الْقِيَامَةُ وَفِي يَدِهِ فَسْلَةٌ فَلْيَغْرِسْهَا مُسْنَدُ أَحْمَدَ بَاقِي مُسْنَدُ الْمُكْتَرَيْنِ 19421

ing the energy economy, Islamic studies scholar Zayn Kassam recommends turning the energy economy to ameliorate resource conflicts in Muslim majority regions.⁵⁴ Further, in cases of violent conflict, social scientific data suggest that war increases religious participation.⁵⁵ Resource conflicts now and in the future may further entrench religious polarization, evident in extremist violence. However, the extent of polarization depends on community capacities to listen, engage across, and mediate differences.⁵⁶

Despite predictions of climate dystopia and amplified religious conflict delivered in language of inevitability, religious participation can align with pro-social behaviors, such as the charitable generosity asserted in the Qur'an and supported by social science. In comparative politics, Warner et al., describe site-based research in Istanbul, Milan, Paris, and Dublin, which illustrates religious duty to offer charity, unsurprisingly, encourages charitable acts.⁵⁷ These researchers posit, "beliefs and positive community affect can be important factors in engaging and channeling the inherent pro-social tendencies of individuals."⁵⁸ Pro-social influences, framed in eco-halal terms, include acting as earth's trustees and avoiding usurious financial relations with current and future people. Qur'anic injunctions against usury are paired with pro-charity *sūrahs*, verses encouraging Muslim expression of inherent human capacity to give generously, supported by social scientific evidence toward strengthening community, despite climate changes.

Contemporary Muslim ethicists on the environment, briefly introduced below, place centrally familiar Islamic tenets, such as theocentric and legal concerns, yet human actions remain crucial for undoing environmental destruc-

54 Conference paper delivered by Zayn Kassam for a panel entitled, "What Is Civilization and What Are Its Consequences for Human Relations to the Rest of the Natural World?" at the conference entitled "Seizing an Alternative: Toward an Ecological Civilization," 10th International Whitehead Conference and 9th International Conference on Ecological Civilization, June 4–7, 2015.

55 Joseph Henrich, Michal Bauer, Alessandra Cassar, Julie Chytilova, and Benjamin Grant Purzycki, "War Increases Religiosity," *Nature Human Behavior* 3, (2019): 129–135. Accessed online: <https://doi.org/10.1038/s41562-018-0512-3>.

56 See the work of Diana Eck and the Pluralism Project at Harvard University. See also the work of the Lincoln Institute, formerly Conflict Resolution International, where my father, psychology scholar Robert P. (Skip) Robinson, Ph.D., worked in the 1990s and early 2000s. Accessed online: <http://www.thelincolninstitute.cc/international/>; Internet; accessed 15 March 2019.

57 Carolyn M. Warner, Ramazan Kılınç, Christopher W. Hale, Adam B. Cohen, and Kathryn A. Johnson, "Religion and Public Goods Provision: Experimental and Interview Evidence from Catholicism and Islam in Europe," *Comparative Politics* 47, no. 2 (2015): 189–209.

58 Ibid., 205.

tion, thus personalized, anthropocentric frameworks remain useful to the task of generating accountability. Zubair Hasan interprets “the protection of progeny” among the five objectives of Islamic law (*maqāṣid al-Sharīʿa*), asserting environmental conservation as integral to bedrock Muslim ethical tenets.⁵⁹ Hasan interprets future people’s protection as “*inter-generational equity in the distribution of wealth and prosperity, conservation of resources, and sustenance of the environment*” (emphasis in original).⁶⁰ Sarra Tlili cites Hasan, but differs in interpretation, recognizing Muslim assertions of “future generations,” as cross-culturally significant. Due to the Western environmental movement emphasis on moral reflection on future people, Muslims who participate in interfaith or cross-cultural environmental conversations engage with the concept of “future generations” in an apologetic way. Tlili asserts that traditional Muslim ethics reflect in theocentric rather than anthropocentric ways on the environment. Tlili identifies both afterlife accountability and “spiritual features to all beings” as theocentric Muslim ethical calls to moral action on the environment, which root in traditional Muslim worldviews.⁶¹ Further, since the mid-20th century, Seyyed Hossein Nasr has been heralded in cross-cultural academic circles for celebrating the beauty and mathematics in nature as reflecting divine order and creativity.⁶² Thus, Muslim climate ethics integrate spiritual aspects of nature, future human family, and afterlife concerns with theocentric and legal aspects of the tradition.

Tlili renders an important distinction between theocentric and anthropocentric ethics, yet when emerging environmental crises so thoroughly root in human actions, anthropocentric attention to “future generations” function to personalize ethical considerations toward “our grandchildren,” “our children,” or family, among groups protected from financial exploitation in the Qur’an. Psychologically, the most fundamental relationship for human beings

59 Zubair Hasan, “Sustainable Development from an Islamic Perspective: Meaning Implications and Policy Concerns,” *J.KAU: Islamic Economics* 19, no. 1 (2006): 8.

60 Ibid.

61 Sarra Tlili, “Animals Would Follow Shafi’ism. Legitimate and Illegitimate Violence to Animals in Medieval Islamic Texts,” in *Violence in Islamic Thought from the Qur’an to the Mongols*, ed. Robert Gleave and Istvan Kristo-Nagy, 225–244 (Oxford: Edinburgh University Press, 2015). Sarra Tlili, “I Invoke God Therefore I Am: Creation’s Spirituality and Its Ecologic Impact in Islamic Texts,” in *A Global History of Literature and the Environment*, ed. Louise Westling and John Parham, 107–122 (New York: Cambridge University Press, 2017). Both 2015 and 2017 texts appear in Sarra Tlili, “Future Generations,” unpublished essay, Academia.edu, 2018, accessed 18 August 2020.

62 Seyyed Hossein Nasr, *The Encounter of Man and Nature: The Spiritual Crisis in Modern Man* (London: Unwin, 1976); Seyyed Hossein Nasr, *Religion and the Order of Nature* (New York: Oxford University Press, 1996).

is between themselves and their caretakers, particularly between mother or parents and children. Therefore, enabling reflection on environmental ethics as a relational paradigm of child protection is salient, personal, and perhaps necessary to enable swifter, thorough action. With the thin layer of livable earth transforming, appeals to a person's sense of beauty, order, and spiritual aspects of the living world may appear less urgent than afterlife accountability in both a personal sense (divine judgment of daily actions) and post-humous legacy sense (what a person leaves behind, based on actions). Further, calls to avoid usury and, instead, offer charity for family, travelers, and the poor clarify Qur'anic concerns when shaping Muslim ethics for environmental and human health now and into the future. According to Yasin Dutton, not only is usury a primary factor in environmental issues, but is nearly one hundred times worse than heinous crimes:

There is one wrong action which is described as being thirty-six, or seventy, or ninety-nine times worse than a man having intercourse with his mother. This is the taking of *ribā*, or usury, which refers to the taking of money at interest—any amount of interest, however small—and various associated practices. We are therefore entitled to assume that the prohibition against *ribā* is an extremely important judgment.⁶³

The ethical abhorrence for *ribā* described above shows the level of judgment associated with exploitative financial practices, which in this essay are applied to the extraction of financial and physical wellbeing for current and future people vulnerable to climate disruptions.

Conclusion

Despite rhetorics of inevitable destruction via climate peril, resource conflict, and religious divides, contemporary people occupy the present time, not fear-projected futures. If navigated with agility, this historical moment might be remembered for successful recommitments to intergenerational ethics, plural-

63 Yasin Dutton, "The Environmental Crisis of Our Time," *Islam and Ecology: A Bestowed Trust* (Cambridge, Mass.: Harvard University Press, 2003), 330. Dutton cites the following to support numerical claims: "See Ibn Mājah, *Sunan*, ed. Muḥammad Fu'ād 'Abd al-Bāqī (n.p.: Dār Ihyā' al-Turāth al-'Arabī, n.d.), 2:325 (seventy times); al-Qurṭubī, *Aḥkām al-Qur'ān* (Cairo: Matba'at Dār al-Kutub al-Misriyya, 1935–1950), 3:364 (thirty-six and ninety-nine times)." 339n15.

istic community capacities, fair treatment and equity, and economic reframing of flourishing. If *ribā*, or usury, can be defined both in terms of a time horizon—contemporary people are responsible to future people—and a justice horizon—contemporary decision-makers are responsible to people vulnerable to financial exploitation and environmental destruction—then how can contemporary participants understand themselves as Muslim, submitting to God's will, unless they also consider eco-halal financial ethics that restore balance (*mīzān*) for our earthly home on loan from the Creator to people who act as trustees or viceregents (*khalīfa*)? In what ways can *zakāt*, charity or taxation, offer a generous view of current responsibility for future flourishing with the specter of global climate change? Although this essay only begins to consider these questions, religious ethical roots can be amplified toward inclusive wellbeing for contemporary and future people.⁶⁴

The Qur'an provides precedents for protecting vulnerable people from extractive debt collectors, perhaps even when those assessing debts are divided in time from future debt payers. The earth's livability, the potential for human and all of life's flourishing, represents an inheritance in trust from the Creator to each generation. Misusing that inheritance translates to extracting excess interest from future generations, as well as current vulnerable people, such as those named in the Qur'an deserving of charity: family, travelers, the poor. Muslim institutions have adjusted to provide halal foods and Islamic finance in Muslim-minority regions, so why not also support non-usurious opportunities in relation to climate debts? Clear empirical research projects serious future problems directly linked to common economic practices, thus, to avoid a world where the *ḥajj* is rendered hazardous, instead of blessed, concrete economic, ethical actions can reinvigorate Muslim environmental ethics. While people face the sky, asking why God brings frightening weather, or engage in resource conflict along religious lines, a multitude of actions can ameliorate present and future climate problems through industry and government shifts in the energy economy, reforestation and slowing deforestation, and whole-

64 Engaging in comparative religious ethics, I acknowledge that scholars identify problematic misuse of language, for example, by weaponizing Arabic words to serve divisive political interests. In contrast, this essay invites readers to consider ways to further peaceful, life-giving engagement with meaning and tradition, including attempts to understand Arabic words and Muslim traditions in context, in order to consider faithful reimagining of traditional meaning toward contemporary, timely issues. For more on politicized misappropriation of Arabic terminology, see Nathan Lean, "Chapter 4: The Misappropriation of Arabic Words," *Understanding Islam in the West* (New York: Rowman and Littlefield, 2018), 79–95.

some (*tayyib*) eco-halal consumer demand and producer adjustment to produce institutions toward climate flourishing.

Can we conceive a world where we do not leave our debts for future generations to pay with unreasonable interest? Can this generation prevent abusive extraction of usurious interest from the future's increasingly empty pockets as we wait to act decisively and preventatively? Can the current generation agree that rendering the *hajj* impossible for future generations, due to climate intensification, is unacceptable in Muslim ethics? Can current people locate levers of moral accountability toward not our own finite flourishing, but the interdependent flourishing of the living world now and into the future? Instead of borrowing against the future, people alive today can lean on financial and religious levers of change to ensure that the current generation can pay our debts in full. Can we prepare for a future in which we, as ancestors to future generations, may not only be forgiven, but provide the means toward future flourishing? Our accountability will be measured, one way or another, encouraging those who reflect on their participation in destructive systems to consider changing course to offer more wholesome, life-giving actions on behalf of current vulnerable people, future human wellbeing, and earth's ongoing capacity to support life. A Muslim proverb asserts, "The one who has food is debtor to the one who has none." Similarly, a hadith from Muslim, al-Tirmidhī and others reads, "When a person dies his works end, except for three: ongoing charity, knowledge that is benefited from, and a righteous child who prays for him."⁶⁵ Through systemic and individual shifts from climate debt to climate equitable practices, from climate usury to climate charity, from individualistic greed to theocentric accountability, perhaps today's people can meet their maker after a wise and charitable life, avoiding usury and forgiving debt, and rendering the future's righteous children more likely to pray for us.

65 Sunan an-Nasa'i 3651, attributed to the Prophet Muhammed, narrated by Abu Hurairah, "Chapter: The Virtue of Charity Given on Behalf of the Deceased," The Book of Wills, Vol. 4, Book 30, Hadith 3681.

أَخْبَرَنَا عَلِيُّ بْنُ جُبَيْرٍ، قَالَ حَدَّثَنَا إِسْمَاعِيلُ، قَالَ حَدَّثَنَا الْعَلَاءُ، عَنْ أَبِيهِ، عَنْ أَبِي هُرَيْرَةَ، أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ "إِذَا مَاتَ الْإِنْسَانُ انْقَطَعَ عَمَلُهُ إِلَّا مِنْ ثَلَاثَةٍ مِنْ صَدَقَةٍ جَارِيَةٍ وَعِلْمٍ يَنْتَفَعُ بِهِ وَوَلَدٍ صَالِحٍ يَدْعُو لَهُ".

It was narrated from Abu Hurairah that the Messenger of Allah said: "When a man dies all his good deeds come to an end except three: Ongoing charity (Sadaqah Jariyah), beneficial knowledge and a righteous son who prays for him." Accessed 21 July 2022. Accessed online: <https://sunnah.com/nasai:3651>; internet.

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Senegalese Responses to Climate Change: An Ethical Analysis

Jonathan E. Brockopp

Introduction¹

In 1965, US President Lyndon Johnson addressed Congress, saying, “This generation has altered the composition of the atmosphere on a global scale through radioactive materials and a steady increase in carbon dioxide from the burning of fossil fuels.”² He had been briefed on the issue by scientists who had established an atmospheric observatory on Mauna Loa in Hawaii in the 1950s. From 1958 to 1965, atmospheric carbon dioxide concentrations had inched up from around 315 parts per million (ppm) to almost 320, precisely as scientists had feared and well above pre-industrial levels of 180–280 ppm. But they continued to study the issue until the Carter administration tasked the National Academy of Scientists with reviewing these studies and coming up with a definitive finding, which they made in 1979 in a report entitled, *Carbon Dioxide and Climate: A Scientific Assessment*.³ At this point, atmospheric carbon dioxide concentrations had reached 335 ppm, but action was delayed under the Reagan administration. Scientists across the world, however, continued to apply pressure,⁴ until finally President George H.W. Bush promised action on climate change

1 This essay was first presented at the conference “Islam, Environmental Science, and Conservation,” sponsored by the Muslim Studies Program at Michigan State University in November, 2020. I presented another version at the Comparative Religious Ethics unit at the Annual Meeting of the American Academy of Religion in Denver in November, 2022. I am grateful to the participants at those events, especially Mohammad Khalil and Sami al-Daghistani, for their comments and suggestions on those earlier drafts.

2 Lyndon Johnson, “Special Message to Congress on Conservation and Restoration of Natural Beauty, February 8, 1965” in *Public Papers of the Presidents of the United States: Lyndon B. Johnson, 1965*, p. 54.

3 Ad Hoc Study Group on Carbon Dioxide and Climate, “Carbon Dioxide and Climate: A Scientific Assessment.” Woods Hole, MA: National Academy of Sciences, 1979. <https://nnap.nationalacademies.org/catalog/12181/carbon-dioxide-and-climate-a-scientific-assessment>, accessed Nov. 13, 2022.

4 For example, Dr. Carl Sagan’s testimony to Congress in 1985 is available for viewing on YouTube, <https://www.youtube.com/watch?v=Wp-WiNXH6hI>, accessed Nov. 27, 2022.

and convinced the U.S. Senate to ratify the United Nations Framework Convention on Climate Change (UNFCCC) in 1992. Atmospheric carbon dioxide concentrations were now above 350 ppm.

I recount this history because any ethical analysis of one country's response to climate change, particularly a country such as Senegal that has contributed almost nothing to world carbon emissions, must recognize the tragic moral failures of high-emitter countries that have brought us to this point. It is easy to forget that we have known about the threat of human-induced climate change for more than fifty years, and that the world committed to international action in 1992. Now, thirty years after the United States entered the UNFCCC, atmospheric carbon dioxide concentrations are north of 415 ppm, temperatures are on the rise, and climate-driven disasters are multiplying every year. Given this dire situation, most work in the new field of climate ethics tends to focus on convincing thought leaders in the industrial world to lead an energy transformation away from fossil fuels and toward renewable sources.⁵ A second major focus is researching the most effective solutions for adapting to new threats from climate change.⁶ These are important and urgent applications of ethical injunctions, but the perspective is squarely on duties of major fossil fuel-based economies toward the rest of the world. Far less well researched is the ethical position of those countries that have contributed very little to the global climate crisis and yet are poised to suffer the most.

Analyzing the ethical position of others could entail rendering a judgment on their actions; this is the purview of normative ethics and not my interest in this paper. Rather, I am undertaking a descriptive analysis, paying attention to the larger ethical landscape that constricts the possibility of action in the small-emitter countries of the world, using the West African nation of Senegal as an example. After a brief overview of Senegal's fossil fuel use and exposure to climate-induced harms, I will consider Senegal within the contexts of the Paris Agreement, Muslim responses to climate change, and the radical changes that we all will face if we are going to prevent some of the most damaging future harms. It is my contention that countries like Senegal, often disregarded in international negotiations, have a significant role to play both in inspiring

5 See, for example, the writings of environmental lawyer Donald A. Brown going back more than twenty years, including *Navigating the Perfect Moral Storm: Climate Change Ethics in Light of a Thirty-Five Year Debate*, Routledge-Earthscan, 2012 and his blog at ethicsandclimate.org.

6 This is the focus of work by Klaus Keller, Nancy Tuana, and others at Penn State, first the SCRiM project and now CLIMA, the Center for Climate Risk Management, <https://www.clima.psu.edu/>.

their own citizens and in pointing the rest of the world toward a post-carbon future. Yet these inspiring stories cannot erase the fact that the utter failure of large-emitter countries to take meaningful action on climate change means that countries like Senegal suffer severe effects of carbon pollution now and will continue to do so for many years to come.

The incomprehension of this moral failure is one of the things that makes climate change such an intractable problem: both the causes and the solutions are tied up with unjust structures so deeply woven into the fabric of our societies as to be invisible. For example, the emissions that cause irreversible damage across the globe have been produced by only a small sliver of the human population. This holds true even within high-emitter countries, where the poor have far smaller carbon footprints than do the rich. When I mention these facts to my students at the Pennsylvania State University, they find it easy enough to understand the words but much harder to realize that they are the rich. Simply by living the lives expected of them—flying to Florida for spring break, flying overseas for a semester abroad, driving home for Thanksgiving—they burn fossil fuels at a rate that is completely unsustainable, a rate that almost no one else in the world can match. But it is the other side of these statistics that I wish to explore in this essay. The ethical onus upon high-emitter countries is crystal clear, but the ethical position of the majority of humanity has been under-theorized.

A recent Oxfam study suggested that half the world's population uses only 10% of fossil fuels, and the poorest one-quarter, nearly 2 billion people, burns almost no fossil fuels at all,⁷ meaning they already live that zero carbon lifestyle that seems to impossible for my relatively wealthy students to imagine.⁸ Climate change also tracks along racial and colonialist structures, since the main beneficiaries of this fossil fuel use have long been white North Americans and Europeans, while black and brown people—even those within industrialized

7 Tim Gore, "Confronting carbon inequality: Putting climate justice at the heart of the COVID-19 recovery," Oxfam Media Briefing, Sept. 20, 2020. <https://www.oxfam.org/en/research/confronting-carbon-inequality> (accessed Nov. 13, 2022). Among the shocking findings: "Annual emissions grew by 60 percent between 1990 and 2015. The richest 5 percent were responsible for over a third (37 percent) of this growth. The total increase in emissions of the richest one percent was three times more than that of the poorest 50 percent." Ten percent of US households have enough wealth (around one million dollars in assets) to be counted among the world's wealthiest 1%.

8 Consider, for example, this breathless review of all the things the wealthy would have to give up: Bas Fransen, "What Does it Mean to Live a Net Zero Carbon Lifestyle?" Blog post, Sept. 6, 2021, at <https://www.ecomatcher.com/what-does-it-mean-to-live-a-net-zero-carbon-lifestyle/>, accessed Nov. 13, 2022. While we can all learn from this lifestyle, we should not romanticize it, since it is often accompanied by deep poverty, injustice, and suffering.

nations—are suffering the most and will suffer more as climate disruption increases. Christianity is implicated in colonialist and post-colonialist structures, and so it is no surprise that majority Christian countries have contributed far more to rising carbon dioxide levels, than have majority Muslim countries or majority Buddhist countries.⁹

Description and analysis of these unjust societal structures is fundamental to any ethical analysis and is central to a class I teach on the Ethics of Climate Change, yet it can also make a just response difficult to imagine. I find that focusing on climate change in the small countries of the world is an attractive way for me to break down, humanize, and internationalize the challenge of climate change for my students.¹⁰ I also find that important and inspiring developments in these countries help to reverse the dismal narrative of US and corporate intransigence well-known to my students, because much of the world has already moved past the scientific “debate” and toward implementing effective responses.

1 Senegal and Climate Change

Some empirical data to ground our analysis: with a population of 15.9 million and a land mass of 75,955 square miles, Senegal is a middle-sized nation, near the world median of 195 countries.¹¹ Its GDP per capita of \$1,600 in 2021, however, ranks it among the world’s poorest (158 of 195),¹² though Senegal is wealthier than its immediate West African neighbors. Therefore, it is not surprising that Senegal depends almost entirely on foreign investment to supply its energy sector, consisting largely of privately owned power companies, dependent on imported fossil fuels that sell their electricity to a centralized grid, known as

9 These figures focus on the burning of fossil fuels, not their production, but of course the role of British and American companies in developing and exploiting fossil fuel deposits in other countries is well known. By far the largest current emitter is China, but the US and Europe have together contributed eight times China’s historical emissions. See the helpful graphs at <https://ourworldindata.org/contributed-most-global-co2>, accessed November 27, 2022.

10 For the past eight years, I have taught an interdisciplinary class on the Ethics of Climate Change at Penn State, with many of the lectures now on my YouTube channel, <https://www.youtube.com/channel/UCoAoLzYMW42qcX5pkEf6FfQ>.

11 Its population puts it at 68th of 195 nations and its land mass at 86th.

12 As a comparison, 2021 figures are \$69,287 for the US and \$47,334 for the UK. https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?most_recent_value_desc=false, accessed November 27, 2022.

Senelec.¹³ Recently, however, certain choices have been made that help to outline the (limited) room that Senegal has in responding to this new challenge. About ten years ago, for example, Senegal was slated to build a 125-megawatt coal-fired power plant with Swedish investment, but recently abandoned this in favor of a plant run on natural gas.¹⁴ An agreement in 2012 with Jindal Power, an Indian company, to build an even larger coal-fired power plant also appears to have been abandoned in favor of natural gas.¹⁵ While natural gas is still a fossil fuel, it is both locally sourced and produces about half the greenhouse gases as compared to imported coal. Large, gas-fired power plants, however, still reproduce the problems fundamental to a centralized electrical grid.

Centralized grids are less efficient for far-flung rural areas, where Senegal's abundant sun provides an ideal power supply. A rural electrification project, jointly sponsored by the West African Development Bank and the Green Climate Fund, is now in process with a goal of providing electricity to 1,000 rural villages via solar-powered micro grids.¹⁶ The electricity is not free, but financing provides the capital to set up the micro-grids, which villagers use to power lights and charge phones, paying about 5 cents per kilowatt hour. In addition, the World Bank has financed two large solar farms for a total of 60 megawatts in central Senegal near Touba,¹⁷ and CNN reports that a new wind farm in the north of the country is slated to provide up to 15% of grid electricity needs.¹⁸

All these agencies work closely with Senegalese Comité National sur les Changements Climatiques (the National Committee on Climate Change, or COMNACC), which is Senegal's primary representative to the UNFCCC, devoted

13 <https://www.iea.org/data-and-statistics/charts/senegal-gas-demand-and-production-by-scenario-2010-2040> accessed November 27, 2022.

14 Agence Ecofin, "Sénégal: le gouvernement échange la centrale à charbon de Sendou contre une centrale à gaz," December 12, 2019. <https://www.agenceecofin.com/centrale/1212-72073-senegal-le-gouvernement-echange-la-centrale-a-charbon-de-sendou-contre-une-centrale-a-gaz> and https://en.wikipedia.org/wiki/Sendou_power_station accessed November 27, 2022.

15 Senegal, Africa (2 × 175 MW coal-based power project at Senegal, Africa), Accessed November 27, 2022. <https://www.jindalpower.com/350-mw-senegal-africa.html>.

16 <https://www.greenclimate.fund/document/environmental-and-social-safeguards-ess-report-fp138-aser-solar-rural-electrification>, accessed November 27, 2022.

17 Jean Marie Takoulev, "SENEGAL: MIGA issues \$6.9 million guarantee for Kael and Kahone solar parks." Afrik21, September 17, 2019. <https://www.afrik21.africa/en/senegal-miga-issues-6-9-million-guarantee-for-kael-and-kahone-solar-parks/>, accessed November 27, 2022.

18 Aisha Salaudeen, "Senegal launches wind power plant as part of its commitment to renewable energy" CNN Marketplace Africa, February 25, 2020. <https://www.cnn.com/2020/02/25/africa/west-africas-largest-wind-plant/index.html>, accessed November 27, 2022. It has a capacity of 158 megawatts.

to coordination, education, and management of various activities associated with the UNFCCC.¹⁹ In addition to promoting clean energy and carbon sequestration, the COMNACC has identified conservation of soils, water, and biodiversity as areas of major concern.²⁰ These concerns are echoed in an assessment from ClimateLinks, an information portal for the United States Agency for International Development, which has determined:

Senegal remains vulnerable to environmental shocks including recurring natural disasters (particularly floods and droughts) that will increase in magnitude and extent due to increased climate variability. Roughly 67 percent of Senegal's population resides in the urban coastal zone, also the location of 90 percent of Senegalese industrial production. This coastal area is characterized by low-lying, rapidly expanding, high population suburbs, high water tables and poorly planned drainage systems. In addition to extreme events, rising sea levels place much of the coastal population, infrastructure and ecosystems at risk from flooding and erosion. Climate change will also impact climate sensitive sectors such as agriculture (70 percent of production is rainfed), livestock and fisheries, which account for 20 percent of GDP and employ a majority of the workforce.²¹

Again, it is worth pointing out that this vulnerable coastal area is also the location of both fossil fuel-based power plants and Senelec's grid.

Senegal's overall climate is warm and dry, with rainfall that varies significantly across the country: an average of 760 mm per year in the south but only 330 mm per year in the north. In all, then, Senegal remains vulnerable to numerous environmental threats from a warming planet, including reduced fishing and agricultural yields; higher temperatures and uncertain rainfall patterns; increased coastal flooding; and threats to water and soil. On the emissions side, the country remains dependent on imported oil and coal,²² but it has also been able to invest heavily in cleaner electricity production, flattening its car-

19 <https://comnacc.org/mission/>, accessed August 30, 2021.

20 <https://comnacc.org/domaines-d'intervention/>, accessed August 30, 2021.

21 ClimateLinks "curates and archives technical guidance and knowledge related to USAID's work to help countries mitigate and adapt to climate change." "Climate Risk Profile: Senegal." Global Climate Change, accessed November 27, 2022, <https://www.climatelinks.org/resources/climate-risk-profile-senegal>.

22 Natural gas makes up only a tiny portion of its current emissions, but is due to expand "CO₂ Emissions by Fuel or Industry Type," Our World in Data, accessed November 27, 2022, <https://ourworldindata.org/grapher/co2-by-source?country=~SEN>.

bon footprint, even while increasing its GDP. However, it is important to keep in mind that Senegal's overall carbon footprint is only one ten-thousandth of world historical emissions.

2 Ethical Analysis—Preliminary Remarks

This descriptive ethical analysis engages three contexts: Senegal, the Muslim world, and the implications for high-emitting nations such as the United States. I will argue that while the situation for countries such as Senegal is untenable, the Paris Agreement has significantly improved it, primarily as an unintended consequence of the rejection of the “differentiated responsibilities” principle. Regarding the Muslim world, I will argue that the example of Senegal further reinforces Anna Gade's critique of “Islam and the Environment” in demonstrating the marginal role of religion in climate discussions. Finally, I will suggest that the vast disparities between nations in terms of wealth, resources, and carbon footprint should allow Senegal to serve as both a proving ground and a source of hope that a post-carbon future is achievable.

The specific example of Senegal helps to concretize and clarify the specific ways that unjust societal structures adversely impact low-emitter nations. For example, policy embedded in early climate negotiations actually led to an increase in carbon emissions in Senegal because of the tacit acceptance of the notion that “development” was intrinsically tied to fossil fuel consumption. From the perspective of delegates to the Rio Earth Summit in 1992, requiring all nations to begin abandoning fossil fuels would mean demanding that some nations, such as China, shelve their plans for industrialization. The burden of decarbonization, it was argued, should rest on those countries, especially the United States and Europe, that caused the problem to begin with. This became a founding presumption of the UNFCCC, that justice requires a distinction between 1) the responsibilities that should be borne by industrialized nations to reduce their greenhouse gas production and 2) the responsibilities borne by less industrialized nations.

This concern for China and other developing nations, however, became a rallying cry for Republicans in the United States Senate, who blamed the Kyoto Protocol of 1997 for its attempt to enforce this notion of differentiated responsibilities.²³ But often overlooked in this discussion is the fact that differentiated

23 Helen Dewar and Kevin Sullivan, “Senate Republicans Call Kyoto Pact Dead,” *Washington Post*, December 11, 1997; Page A37 <https://www.washingtonpost.com/wp-srv/inatl/longterm/climate/stories/clim121197b.htm>, accessed November 27, 2022.

responsibilities were already enshrined in the UNFCCC treaty, which had been ratified by the US Senate, under a Republican administration, in 1992. That Framework Convention explicitly states:

Each of these Parties [viz. industrialized nations] shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emission.²⁴

But while the United States failed to ratify Kyoto, other nations embraced it, leading to an overall pause in the rise of carbon emissions as well as some surprising consequences. In the case of Senegal, for example, this policy led to a new market for the building of fossil fuel-based power plants just when these markets were disappearing in Europe. This may help to explain why Swedish company Vattenfall proposed to build the above-mentioned coal-fired power plant in Senegal in the first place. In the logic of foreign development aid, a “donor” nation helps to improve electrical power production in Senegal while also creating a market for their own products. Sweden, in this example, was simply following the principle of differentiated responsibilities, helping Senegal industrialize while reducing fossil fuel use in Sweden. Seen another way, however, the ethics of building electrical generation plants based on imported fossil fuels, particularly coal, is questionable at best, because it either assumes a long-term increase in the use of imported coal by Senegal or that the power plant would quickly become obsolete. It is important to note here that Senegalese coal consumption, while comparatively tiny in 2017, was non-existent previous to 2002; in other words, all its coal-fired power plants were built with the help of “donor” nations only after the establishment of the Kyoto Protocol.

Second, if the policy of differentiated responsibilities led to a worsening emissions profile in Senegal, the language of Nationally Determined Contributions (NDCs) in the Paris Agreement also appears to ignore the situation in countries with few resources. Ostensibly, NDCs are decided by each country

24 Text of the convention, Article 4, paragraph 2a. This can be found at: United Nations Framework Convention on Climate Change—UNFCCC. Accessed November 27, 2022, https://unfccc.int/sites/default/files/convention_text_with_annexes_english_for_posting.pdf.

on its own.²⁵ Small countries such as Senegal, however, are not actually free to choose among energy sources, because they often do not control the companies that invest in them and build them. This means that Senegal's decision to abandon two schemes to build yet more coal-fired plants more likely reflects growing international pressure to switch to less polluting resources rather than any internal initiative based on environmental, faith-based, or other moral values.²⁶ As the Covid-19 pandemic and COVAX vaccination campaign have shown, to be a citizen of a small country often means to be subject to the whims of the international community, for better or for worse. Senegal simply does not have the resources to build either vaccines or industrial scale power infrastructure. Rather, its new Taiba N'Diaye wind farm was designed by British energy firm Lekela and uses Danish turbines; its gas fields are being developed by British Petroleum and American company Kosmos Energy.²⁷

None of this is to suggest that the Senegalese have no agency, but rather that their ability to choose is greatly constricted by their geo-political situation. Therefore, what may seem to be a choice among energy sources can also be seen as choosing British and Danish alliances over Swedish and Indian ones. In the broader picture, it can be said that Senegal is benefitting from a world where international economies built on fossil fuel production and consumption are now slowly shifting toward international alliances aiming at responding to the threat of climate change—this is surely a positive development, but the notion that this shift reflects Senegal's "Nationally Determined Contribution" misrepresents the country's moral agency.

The Paris Agreement succeeded where other climate accords failed, in part, because it abandoned the notion of justice, enshrined in the UNFCCC, one that placed the responsibility upon highly industrialized nations to make the first and largest contributions to address the root causes of climate change by reducing their production of greenhouse gases. In contrast, the size and

25 Unfccc.int. Accessed November 27, 2022, <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs>.

26 Gwladys Johnson Akinocho, "Sénégal: le gouvernement échange la centrale à charbon de Sendou contre une centrale à gaz" *Agence Ecofin*, December 12, 2019. The news article simply states that the director of Senelec, Papa Mademba Bitèye, desired to conform to the agreements decided at the COP 21 meeting in Paris. <https://www.agenceecofin.com/centrale/1212-72073-senegal-le-gouvernement-echange-la-centrale-a-charbon-de-sendo-u-contre-une-centrale-a-gaz>, accessed November 27, 2022.

27 <https://www.bp.com/en/global/corporate/what-we-do/bp-worldwide/bp-in-senegal.html>. "Senegal—Kosmos Energy: Deepwater Exploration and Production." Kosmos Energy Deepwater Exploration and Production, May 3, 2023. <https://www.kosmosenergy.com/senegal/>.

extent of Nationally Determined Contributions are not decided on the basis of any predetermined formula, with the hope that countries would be encouraged to compete with one another and shame large emitters into making more significant changes. In other words, the very idea of just action on climate change has shifted from “those who broke the system should fix it” to “every nation should do its part.” The politics of these decisions have been widely debated,²⁸ but the effects of this new definition of justice on the situation of less industrialized countries, such as Senegal, has not been fully appreciated. Again, part of the reason why little attention has been paid to the ethical position of these countries is that they have not and will not contribute much to world greenhouse gases; therefore, their action or non-action is, practically speaking, irrelevant to world emissions goals. However, not only is this patronizing, it reinforces the very structures of exploitation that, arguably, caused the problem to begin with. By continuing to pay more attention to the actions of millions of wealthy individuals in high-emitter countries, these international agreements effectively devalue the actions of billions of individuals in low-emitter nations, as if they are irrelevant to an ethical response to climate change. A better approach, I will argue below, is to focus on climate justice as a positive moral vision. Rather than depend on fossil fuels to achieve development goals, low-emitter nations like Senegal can leapfrog outdated fossil fuel-based energy infrastructure and become leaders in a post-carbon economy.

3 The Islamic Ethics of Climate Change

Religion remains a powerful influence in Senegal, as it is in other majority Muslim countries, and so it is reasonable to ask what role Islam may play in determining Senegalese responses to climate change. Yet we must be cautious when discussing any Muslim response to climate change, given the vast disparities among majority Muslim countries, two of which are among the top ten emitters worldwide, while others have astonishingly high per capita rates of fossil fuel use.²⁹ Similarly, while all countries will eventually face climate-induced harms,

28 A helpful analysis of some of the issues can be found in this 2015 article by Sophie Yeo and Simon Evans, “Explainer: Why ‘differentiation’ is key to unlocking Paris climate deal.” Carbon Brief, December 7, 2015. <https://www.carbonbrief.org/explainer-why-differentiation-is-key-to-unlocking-paris-climate-deal>.

29 Per capita emissions in the United Arab Emirates, for example, are among the highest in the world at 22 metric tons CO₂e, fifty percent higher than in the United States. This

some majority Muslim countries face imminent and existential threats; Island nations such as the Maldives and Comoros Islands, and river deltas in Egypt, Pakistan, and Bangladesh, are especially vulnerable to even small rises in sea level. To transcend these disparities, some have pointed to transnational efforts, such as the so-called “Islamic Declaration on Global Climate Change,” a 2015 document signed by some 60 “Islamic leaders” at the close of an International Islamic Climate Change Symposium held in Turkey. Another source of inspiration could be Muslim narratives of exemplary individuals, including both local saints and the Prophet Muhammad himself that offer important exemplars of how to live an ethical life. Finally, the Qur’an provides many examples of the importance of the natural world as God’s creation.³⁰ With all these resources, one might expect religious language, and Muslim moral precepts, to appear in official government documents, or at least in cultural impact studies. Yet my research thus far has failed to find any such use of religiously inflected language in Senegal by those responding to climate change.

In contrast, statements by Muslim NGOs appeal impressively to deeply held values, authoritative texts, and the urgency of the moment, quoting the “Islamic Declaration on Global Climate Change” which states:

we affirm that our responsibility as Muslims is to act according to the example of the Prophet Muhammad (God’s peace and blessings be upon him) who ... prohibited killing living beings for sport, guided his companions to conserve water even in washing for prayer, forbade the felling of trees in the desert, ordered a man who had taken some nestlings from their nest to return them to their mother, and when he came upon a man who had lit a fire on an anthill, commanded, “Put it out, put it out!”

Further on in this document, it sharpens this rhetoric with a call to action:

We particularly call on the well-off nations and oil-producing states to lead the way in phasing out their greenhouse gas emissions as early as possible and no later than the middle of the century.³¹

wealth allows such privileges as Ski Dubai <https://www.skidxb.com/>. Also, both Iran and Indonesia are among the world’s top ten emitter nations.

30 Recent research has suggested that the Qur’an is not really anthropocentric and recognizes and values non-human creation; see Sara Tlili, *Animals in the Qur’an*. Cambridge: Cambridge University Press, 2012.

31 The Declaration can no longer be accessed at its original site, but it appears many places on the web; for example, The Australian Religious Response to Climate Change quotes it

The NGO Islamic Relief Worldwide quotes this Islamic Declaration and itself avers that its “Global Strategy for 2017–2021 aims for Islamic Relief to be recognised as the foremost Muslim agency providing leadership on tackling climate adaptation and mitigation.” This action is taken explicitly as part of its campaign to “encourage Muslims to tackle climate change following the Islamic Declaration.”³²

Yet neither in Senegal nor in other majority Muslim states I have examined thus far do we see a use of this religious language in national statements on climate change,³³ raising serious questions about the production and use of this document. For example, the symposium that resulted in the Islamic Declaration was sponsored by the very NGO that quotes it so freely, Islamic Relief Worldwide, along with GreenFaith and the Islamic Foundation for Ecology and Environmental Sciences.³⁴ The declaration itself appears to be an attempt to respond to Pope Francis’ encyclical on climate change, *Laudato Si’*,³⁵ yet the original document is no longer maintained and now can only be found on various interfaith websites where it is quoted at length. This suggests that this declaration may be less a reflection of ongoing discussion and debate among Muslim thought leaders and more an attempt to extract Muslim values toward climate change and other environmental challenges from Islam’s authoritative texts for the purpose of presenting Muslims as “on board” with international norms.³⁶ This characterization may seem harsh, but it matches evidence pre-

in full: “Islamic Declaration on Global Climate Change.” ARRC. Accessed November 27, 2022. https://www.arrcc.org.au/islamic_declaration.

32 “Working for Climate Justice.” Islamic Relief Worldwide, May 9, 2022. <https://islamic-relief.org/news/working-for-climate-justice/>.

33 This includes a survey of publications by the Senegalese Comité National sur les Changements Climatiques and other Senegalese government documents, as well as the extensive cultural impact studies put out by the Green Climate Fund operations in Senegal. Correspondence with other researchers in Senegal who work directly on these areas also failed to turn up any leads (private correspondence with Prof. Leo Villalon and Dr. Mamadou Badian, November 30 and December 1, 2020).

34 “Muslim Leaders Deliver Islamic Climate Change Declaration.” Islamic Relief Worldwide, May 9, 2022. <https://www.islamic-relief.org/muslim-leaders-deliver-islamic-climate-change-declaration>.

35 This, at least, is how some Catholics saw the declaration. See: “Istanbul: Islamic Climate Declaration calls for fossil fuel phase out.” Independent Catholic News. Aug 18th, 2015, <https://www.indcatholicnews.com/news/28106>, accessed November 27, 2022.

36 For a contrasting view and some additional references, see Antar Abdellah, “The Islamic Declaration on Global climate change; An Ideological Discourse Analysis.” *Middle Eastern Journal of Research in Education and Social Sciences*, 1.2 (2020), 77–93; available open access at <http://bcsdjournals.com/index.php/mejr/issue/view/66/23>, accessed June 14, 2023.

sented by Anna Gade in her trenchant critique of similar practices by NGOs in Southeast Asia. She points out that such attempts often fail to appreciate the complex lived experiences of Muslims themselves as they grapple with overwhelming societal, political, and economic pressures that are sometimes reduced by observers to what “Islam says” about a specific topic.³⁷ Indeed, Gade’s recent book *Muslim Environmentalisms* provides a unique counter-narrative and serves as an important warning to anyone who would wish to see either these documents or specific national plans to address climate change as evidence of a Muslim response to climate change. As Gade points out, systems of patronage and prestige can easily blur the lines between religious and non-religious motivations. She writes:

When Muslim teachings are extracted by non-Muslims, however, in order to be subordinated to environmentalists’ programs, this represents value that is intentionally structured or scripted into local contexts according to institutional power and interest.³⁸

Gade’s critique helps illuminate the problems with any generic discussion of religion and environment. First, what exactly shall we take as a mark of religion (authoritative texts such as Qur’an, hadith, Islamic law? Individuals? Observed practice?)? Second, once we select this exemplary religious authority, where would we expect to see it cited (national strategies? appeals for support for specific projects?)?³⁹ A third and particularly thorny problem is the intersectional nature of identity.

To illustrate this, consider the example of “Bintou” who is installing solar panels on her house. How would we know that this is out of religious motivation? It seems precipitous to assume that religion plays a role, just because Bintou is a Muslim, but is it enough for her to say that religion was a key part of her decision, or do we need her to cite the Prophet’s example or a Qur’anic injunction to care for her fellow creatures? Even if we accept all of these markers as evidence of religious influence, we must pay attention to the fact that Bintou has a complex set of identities. Simply focusing on markers of religious motivation runs the risk of devaluing political affiliations, nationality, gender, economic status, and other important influences on actions. With these prob-

37 Anna M. Gade, *Muslim Environmentalisms: Religious and Social Foundations*. New York: Columbia University Press, 2019, 4.

38 Gade, *Muslim Environmentalisms*, 70.

39 My colleague, Faisal Husain, pointed out to me that Egyptian irrigation methods are based on custom, not on Qur’an.

lems of defining roles for Islam, the environment, and balancing intersectional identities clearly in mind, analyzing Senegal's recent history in responding to climate change presents a cautionary tale for those looking for a specific role for Islam in the climate crisis.

Just as in my example with Bintou, we should not assume that Senegal's actions regarding climate change are religiously motivated, simply because it is a majority Muslim country. Nor is Senegal making such a claim, since, as mentioned above, there are no explicit references to the Islamic Declaration on Global Climate Change in national plans to mitigate carbon emissions, nor any reference to religious authorities. In contrast, we have already seen that political and economic factors have played a leading role in Senegal's energy decisions. It is true that religious principles may play a more significant role in the ethics of adapting to climate induced harms, but here also the international context is important. For example, NGOs such as Islamic Relief Worldwide want to be part of an international effort to reduce a scourge faced by all of humanity, and they do so by appealing to major Muslim emitter nations to care for their Muslim sisters and brothers who are suffering by directing their *zakāt* (charity) dollars to these projects.⁴⁰

Charity is certainly a central Muslim value, but admirable as it is, the framework of charity still places a country such as Senegal squarely in the position of receiving excess wealth, dependent upon others. Both the questions of how to direct donor dollars and which potential projects should receive funding are often determined by donors, not recipients. For example, why focus on clean energy when people are dying from a lack of food or water? Is it more urgent to cut the carbon footprint in a small-emitter country such as Senegal or to deal with flooding risks and build a more resilient agricultural sector? As I will discuss below, including climate justice concerns can help to reorient the focus to highlight Senegal's potential as an example to others of how to build a post-carbon economy. In turn, this helps to subvert the colonialist paradigm of making Senegal dependent on outside resources, such as wealth, oil, and coal.

4 Senegal in International Perspective

As Senegal is now moving from dependence on foreign oil and coal to cleaner, locally sourced energy, we need to confront painful facts. On the one hand,

40 See its 2017 document on its Climate Champions program. <https://www.islamic-relief.org/wp-content/uploads/2017/11/Climate-Champions.pdf>, accessed November 27, 2022.

there is nothing bad about this tale—Senegal is extending electricity to rural areas, potentially raising the standard of living among the rural poor and easing pressure on urban areas. But on the other hand, even at its peak in 2011 Senegal only ever produced 32 MMtCO₂e a year⁴¹ and is now down to 25. As a comparative, the US state of Michigan, with two-thirds the population of Senegal, has *six times* the carbon footprint. So, even if Senegalese reduced their carbon footprint to zero, it would not make as much of an impact on world carbon emissions as Michiganders would if they made a few simple changes to stop wasting so much energy.⁴² A more specific example in the United States is the campaign to keep incandescent light bulbs. A 2019 move to reverse energy standards for light bulbs will increase “energy costs by \$14 billion a year and ... generate 38 million tons of carbon dioxide annually.”⁴³ In other words, if we in the United States simply phased out incandescent bulbs, as we’ve been trying to do for ten years now, we would cover the entire annual carbon footprint of Senegal, The Gambia, and Guinea-Bissau combined.⁴⁴ We would also save fourteen billion dollars every year, which is seven times the entire annual budget of the Green Climate Fund.

This enormous disparity between a country like the United States and a country like Senegal is precisely what informed the justice model of the UNFCCC. However, the recent experience of Senegal exposes the colonialist paradigm of that model of justice. While it is true that the cold, hard logic of physics means that whether Senegal bases its electricity on coal or on wind will have virtually no impact on climate change, it is also true that doing nothing while industrialized nations decide the fate of your coastlines, forests, and fields is a recipe for despair. Moreover, a more sustainable energy infrastructure can have multiple positive effects. For example, poorer countries are in a better position to effect real change in energy production, because they do not have as many sunken costs in energy infrastructure (power plants, but also cars, gas stations, etc.). A decentralized power supply can also reduce urbanization pressure and allow more work on soil conservation and the rebuilding of forests that itself can have multiple benefits for the climate.

41 MMtCO₂e is a standard unit in carbon emissions; it means Million Metric Tons Carbon Dioxide equivalent.

42 Estimates for energy waste in commercial buildings alone are 40%.

43 Juliet Eilperin and Steven Mufson, “The Trump administration just overturned a ban on old-fashioned lightbulbs.” *Washington Post*, December 20, 2019. <https://www.washingtonpost.com/climate-environment/2019/12/20/trump-administration-just-overturned-ban-on-old-fashioned-lightbulbs/>.

44 2017 numbers for these countries are 25, 7, and 2 MMtCO₂e, but Senegal’s emissions are going down.

But Senegal's COMNACC is not alone in making these efforts; it has powerful allies in international aid agencies, such as the World Bank and the West African Development Bank, long-time players in development schemes in Senegal and other countries that have not always had the best of intentions. However, the Green Climate Fund (GCF) is different, representing one of the most important instruments of climate justice arising out of the UNFCCC.⁴⁵ The GCF is based on several principles that ensure its work is effective and transformative. For example, it considers the social and environmental impact of its own projects and explicitly pays attention to both indigenous knowledge and gender equity.⁴⁶ Even though it is woefully underfunded, hundreds of GCF projects are already in the implementation phase and many are in majority Muslim countries, such as Tunisia, Egypt, Pakistan, and Bangladesh. One would hope that wealthy Muslim countries—particularly those that have made their fortunes extracting and selling fossil fuels—would do more, but as of now, the only public contributor to the UNFCCC's Green Climate Fund among majority Muslim nations is Indonesia.⁴⁷ However, the success of GCF projects should add momentum and result in greater donor involvement.

The specific focus on Senegal helps to bring clarity to climate justice issues by paying greater attention to specific harms to Senegal's environment and economy; therefore, it also necessitates the incorporation of Senegalese priorities in developing resilience strategies. This is a very different strategy than that adopted in the 1990s by the UNFCCC and the Kyoto Protocol, perhaps because at that point the damages from climate change were still far in the future. Thirty years later, the world has seen direct evidence of the environmental damage caused by rising temperatures and rising seas, with much more already baked into the system. Poorer countries with both a large coastal population, river deltas, and areas of marginal rainfall, like Senegal, are at the frontlines of

45 Again, the US is an official signatory of the UNFCCC with treaty obligations; it contributed significantly to the founding of the GCF during the Obama administration, but has not renewed that commitment, though the Biden administration has signaled that it will push for new investment in the current budget cycle. <https://www.greenclimate.fund/news/us-climate-envoy-supports-indispensable-gcf-role-during-climate-forum> (accessed November 27, 2022).

46 Green Climate Fund. "Project Safeguards." Green Climate Fund, April 19, 2023. <https://www.greenclimate.fund/projects/safeguards>.

47 Green Climate Fund, "Status of Pledges and Contributions made to the Green Climate Fund" Status Date: 31 July 2020. The Gulf Cooperation Council is said to have also made a contribution, though this has not been made public. At the American Academy of Religion meeting in Denver, Dr. Sarah Robinson presented on the work of the Islamic Development Bank, which has a strong focus on Climate Change and may be a preferred investment instrument; see <https://www.isdb.org/climate-change>, accessed, November 28, 2022.



FIGURE 1 Gas station outside Touba, Senegal
PHOTO: JONATHAN BROCKOPP

climate-induced harms. Justice is now not only a matter of the differentiated responsibilities of industrialized nations that have caused the problems, but of adaptation to differentiated harms.

But another, more positive result of this focus is realizing the potential of these smaller countries as exemplars of a post-carbon future. With new tools like the Green Climate Fund and a new international focus on renewable energy projects, Senegal is well-positioned to exemplify the benefits of a zero-carbon economy based on locally sourced wind and solar energy. As this new economy begins to grow, it may well take on religious characteristics. Fifteen years ago, while I was on a research trip to Senegal, I passed by a gas station run by the Hizbut Tarqiyyah, an influential Muslim youth organization.⁴⁸ It is not hard to imagine an electric vehicle charging station run by the same group fifteen years from now. That is to say, once decisions on climate adaptation have been made, we can expect religious organizations to adapt to this new landscape and to help people understand and interpret these fast-moving changes. Those of us in the industrialized world of major-emitter nations would do well to pay close attention to this process of adap-

48 See, for example, Leonardo A. Villalón, "Generational Changes, Political Stagnation, and the Evolving Dynamics of Religion and Politics in Senegal," *Africa Today* 46.3–4 (1999), 129–147.

tation, as innovations in small countries like Senegal may well produce ideas and strategies that we can adopt in our own efforts to build a more sustainable world.

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Recovering Environmental and Economic Traditions in the Islamic World is an interdisciplinary volume that interrogates varied approaches to environmental and economic thought in classical Islam and in a few contemporary case studies. The contributions in this volume critique the dominant economic system and its perspective on the environment as a commodity across the boundaries of multiple intellectual traditions and academic fields. The book analyses both historical trajectories and modern schools of thought while simultaneously exploring ethical applications to environmental and economic discourses as a tool of critique. In this context, the authors conceptualize and treat these discourses as polyvalent and enmeshed with various political, ethical, and cosmological perspectives and vistas.

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