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Climate Change: Aristotelian Virtue Theory, the Aidōs Response and Proper Primality

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Climate Change: Aristotelian Virtue Theory, the *Aidōs* Response and Proper Primality

by

John W. Voelpel

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
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Dedication

This dissertation is dedicated to (1) Dr. Martin Schönfeld, and the other past and present Committee members; Dr. Alex Levine, Dr. Joanne B. Waugh, Dr. William M. Goodwin and Dr. Thomas Williams (and also the entire Philosophy Department, Faculty, Staff and Students), and to my wife, Deborah A. Getzoff, and my friend and colleague, E. Lee Worsham, for their inspiration, support and encouragement; and (2) also to my Grandsons, Adam G. Duvall and Ryan W. Duvall.

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Abstract

Climate change is the first anthropogenic alteration of a global Earth system. It is globally catastrophic in terms of food production, sea level rise, fresh water availability, temperature elevation, ocean acidification, species disturbance and destruction to name just a few crisis concerns. In addition, while those changes are occurring now, they are amplifying over decadal periods and will last for centuries and possibly millennia. While there are a number of pollutants involved, carbon dioxide (CO₂) which results from the combustion of any fossil fuel is the primary pollutant. It has not been considered a pollutant until recently because of its natural dissociation into oxygen and carbon compounds like wood. However, because of its molecular durability and ability to acidify water, it has become the primary pollutant as a result of the exponential increase in fossil fuel use for the production of energy by Earth's population that has doubled over the last six decades. That increase has exceeded Earth's ability to handle humanity's waste CO₂. Obviously, the involved changes detrimentally affect all life on Earth. Because of the evolving nature of the changes, climate change is presently denied primarily in the United States because of the costs of eliminating our carbon addiction. Because no similar global natural or anthropogenic situation has previously occurred during the lifetime of Homo sapiens, our extant ethical theories are incapable of confronting the crisis. Consequently, new ethical paradigms are necessary. This dissertation attempts to provide thoughts about the use of Aristotelian ethical theory, the *aidōs* feeling, Aquinian psychology and a possible new virtue of proper primality in an effort to further nurture the growth of the new climate change ethics.

Part I Introduction

Chapter 1 - The Anthropogenic Phenomenon of Climate Change

Today we face the possibility that the global environment may be destroyed, yet no one will be responsible. This is a new problem. It takes a great many people and a high level of consumption and production to change the earth's climate. It could not have been done in low-density, low-technology societies.

—Dale Jamieson (Jamieson, 1992, 149)

This dissertation addresses the anthropogenic phenomenon of climate change and a possible modification of present philosophical virtue ethical theory toward a means of reaching adaptation and some mitigation of climate change. I argue the need for a possible modification of that theory through the use of a new or revised virtue - something like *proper primility* which is defined and recommended in this dissertation, or some other word or short phrase that is either new or presently not in use in order to emphasize the dire need for that adaptation and mitigation.

Since environmental ethics became a recognized philosophical subject in about 1970, one of its purposes has been the extension of ethical consideration beyond human animals. That "beyond" has obviously involved nonhuman animals, plants, ecosystems upon which life depends, and, of primary importance, the planet Earth generally because so far human life has not been capable of existing beyond Earth for more than a few months and then only in spacecraft.

With the advent of climate change, the extension of ethical consideration to future generations is critical. Those human animals, of course, are those that do not presently exist but will exist in the future - the future generations of human animals. I argue that these future

generations must also include future generations of all of life and need to be addressed not only for their own sake but also for the sake of the present generation and Earth generally.

Ethical consideration for unborn generations of humans specifically has been peripherally discussed in the past with arguments both for and against that extension. Because climate change is a different concern than any that has ever existed for *Homo sapiens*, ethical theory must now include these future humans and future generations of all life. Climate change is a historically unique phenomenon (1) because it is caused by us humans, (2) because its impact is global, (3) because its effects are only clearly recognized over decades, centuries, and millennia, and (4) because of the present addiction of us humans to its causes.

Further, environmental ethics has, of course, been focused on a number of other tasks such as pollution prevention and control through any available avenues but has been most successfully addressed through the avenue of legislative and administrative regulation. Of course, pollution control is extremely important not only to human animals but to all other life and activity of that life on Earth. It has been extremely important since about 1969 in the United States of America ("United States") at the federal legislative and regulatory level because prior to that time it became painfully obvious that the States comprising the United States could not adequately control pollution of the air, water and land primarily for two reasons. The first, as Martin Schönfeld points out, is ecological overshoot which has occurred for a number of reasons but primarily because of what has become a worldwide addiction to economic growth where that growth has become dependent upon a rapid increase of population and, with that population increase, the rapid increase in consumerism which is primarily due to planned obsolescence within the marketplace.

The second reason, which in large part results from the first, is the exponential increase in transportation miles travelled and labor saving technology both of which have caused an

exponential increase in, and addiction to, electrical energy produced from fossil fuels. This ecological overshoot results in pollution of the air, water and land because of the increased waste products of the relentless increase in population and the relentless increase in the waste that occurs from the requirements of economic growth and consumerism.

Also, over about the decade before 1969, we finally learned that pollution does not respect State and national boundaries (e.g., between the United States and Canada and Mexico) when pollution both industrial and residential was causing burning rivers, the pollution of those rivers, and polluted air where that pollution was impacting health in the United States and other countries many miles away. In the United States specifically when this was clearly recognized, the United States Congress, in 1969 and relying on the Commerce Clause of the United States Constitution, began enacting legislation for the regulation of the use of those resources of air and water through licensing of that use and through regulation of the disposal of the waste product from that use. However, that legislation has only been partially successful because we have in many cases not been able to find adequate means of disposal for a number of different wastes such as the waste from nuclear electrical generation facilities.

In addition, we have now become internationally painfully aware that not only does pollution refuse to respect State and nearby country boundaries, but it does not respect *any* national boundaries. As this recognition has become crystal-clear with the advent of anthropogenic global warming and its result, climate change, the national governments that make up our global community are unwilling to recognize the need for an international commerce clause to provide the necessary regulation of, and significant sanctions for, the pollution of the air, land and water from the production of carbon dioxide (“CO₂”) through the generation of energy from fossil fuels.

For example, the CO₂ that is now causing Earth's climate change has thus far been primarily the result of activity in the United States as has been proven and as is reviewed in this dissertation.

Because there is no meaningful regulation of, and substantial sanctions against, the generation of this pollutant CO₂ even in the United States, the pollution it (with the other greenhouse gases) is causing is continually increasing not only in the United States but throughout Earth. Moreover, of course, the United States has been and remains unwilling to take the laboring oar in the necessary mitigation of, and the adaptation to, climate change because our popular wisdom and short sighted political system fear that the cost will threaten economic growth and, thereby, the United States' lifestyle. This unwillingness of the United States continues to promote climate change because the United States refuses to recognize its guilt, if you will, in having thus far been the primary cause of climate change.

Not only is the United States the primary cause as a result of its continuing emissions and omissions but also because the United States' lifestyle is the primary cause of other national communities seeking a standard of living equivalent to that of the United States through the same means of the same constant need to continually keep the economy growing. That constant economic growth requires the use of fossil fuel energy because there is not presently any substitute for the quantity of energy necessary to support the perceived need for economic growth that is gripping most all of the national governments on Earth. And once again the constantly increasing use of that fossil fuel energy is the single most important cause of climate change as is shown below.

In Earth's present global community, only two primary types of governmental entities seem to be available for the creation of the necessary regulatory authority and significant sanctions for the mitigation of and adaptation to climate change. The first seems to be of the republic or

democracy genre. However, again, our presently elected officials especially in the United States are unwilling to embrace the scientific reality of climate change. Therefore, the challenge seems to be the development of legislators who are willing to accept that reality and the burden of its regulation.¹

The second type of extant governmental unit is the dictatorship which is clearly obvious in China and becoming ever more obvious in Russia. Both of these governments are promoting their dictatorial powers through the pacification of their respective populations through the promise of what might be called the American lifestyle. However, those two dictatorships must be differentiated because Russia and other similar dictatorships, while they have the power for implementation of regulation and sanctions, are also unwilling to embrace the science and the need for regulation. China though seems unique because it is apparently attempting to make a technological transition from coal to sun and wind (without oil/gas/fracking in between) and is now one of the world's largest, if not the largest, producer of post-carbon energy technology. Still, with no international governmental agency, where are we as Earth bound individuals and societies to turn for the necessary international regulation and sanctions?

From an ethical point of view, it would seem that we must look at the question of who our activities are actually harming. Obviously, they are harming all of Earth's present society by virtue

¹ Of interest is a February 22, 2015, article entitled "Polluted Air Cuts Years Off Lives Of Millions in India, Study Finds" in the New York Times by Gardiner Harris. The article reports that based on a study by researchers from the Universities of Chicago, Yale and Harvard, "altogether, 660 million Indians could lose 2.1 billion years as a result of air pollution at an enormous cost to the country's economy." Even though a World Health Organization study in 2014 "found that 13 of the 20 most polluted cities in the world are in India, with New Delhi's the world's worst air," the article reports that "India's government has made economic development its priority and has announced its intention to double the country's use of coal over the next five years, which is likely to worsen the country's air pollution." The article also reports that "a growing array of studies has shown that the costs of India's poor air are substantial. For instance, research has shown that India's air pollution problems may cut agricultural production by a third. That might explain why wheat and rice yields in India have begun to level off or even drop in some states after decades of growth." New Your Times International, Sunday, February 22, 2015, p.13. India is apparently the most populous democracy. <http://www.nytimes.com/2015/02/22/world/asia/polluted-air-cuts-years-off-lives-of-millions-in-india-study-finds.html> But see page 262 for recent information. India has changed course and quickly.

of that society's unwillingness to address what one might describe as sloth - the willingness to do relatively nothing but a sort of "greenwash" in order to preserve and increase its standard of living through economic growth. But climate change has been called the "Long Emergency"² because, while its effects are of crisis proportion, those effects are growing slowly but relentlessly and will continue to grow and be felt over centuries and possibly millennia. This crisis is not the type of the 1941 Pearl Harbor crisis or 1929 Wall Street crisis which are immediately recognized and which demanded an immediate response. The effects of climate change nevertheless represent a crisis and in a word are "climacteric".³

The Oxford English Dictionary as one of its definitions for crisis provides the following "A vitally important or decisive stage in the progress of anything; a turning-point; also, a state of affairs in which a decisive change for better or worse is imminent" ⁴ Chapter 12 of this dissertation argues that the appropriate location for finding the greatest meaningful experience in the world is in the out-of-doors. Martin Schönfeld seems to agree in his essay, "Landscape, Traveling, Falling Down a Waterfall: An Examination of Crisis"⁵ that relates the crisis of climate change to the crisis experience of falling down a forty-foot vertical waterfall in a kayak in the middle of the Canadian wilds with no one else within many miles after a failed attempt to cross the river above the waterfall. He dissects the experience into six different stages and realistically relates those stages to climate change. While experiencing hypothermia and somehow reaching shore with his kayak and paddle, he understands that he has survived only as a result of having

² James H. Kunstler, *The Long Emergency* (New York: Grove Press, 2005-6).

³ "having extreme and far-reaching implication or results, critical." *The New Oxford American Dictionary*, E.J. Jewell and F. Abate (eds.) (Oxford: Oxford University Press, 2001), p.320.

⁴ <http://www.oed.com.ezproxy.lib.usf.edu/view/Entry/44539?redirectedFrom=crisis&>

⁵ Martin Schönfeld, "Falling Down a Waterfall: An Examination of Crisis," forthcoming; *Comparative and Continental Philosophy*, 9 (2017); herein "Waterfall, p._".

taken the precaution to don a dry suit, boots, gloves, hockey helmet and life vest before undertaking the failed crossing.

In concluding the essay, Schönfeld reminds us, as is shown through Chapter 2 of this dissertation, that “the American five percent of the world population have effectively caused global climate change, in per capita, cumulative and political terms, such that anthropogenic climate change is really Amerigenic climate change such that the American dream has become in reality a climatological nightmare.” We in the United States needed to take action long ago but, in any event, must now act to mitigate and adapt in order to avoid serious consequences. Actually, he suggests that this action represents maturing and is necessary to avoid horrific consequences. That analogy of a forty-foot vertical drop in a kayak into icy waters and its aftermath should be retained through the remainder of this dissertation. In addition, we should understand that there are seven and one-half billion humans in that kayak who are also taking all of Earth’s other life forms with them vertically down that waterfall. The dissertation includes twelve Chapters summarized below.

Chapter 2 entitled “Climate Change: The Empirical Facts” begins with those facts which cover (1) the scientific awareness of the cause of anthropogenic climate change; (2) the explanation of the Intergovernmental Panel on Climate Change (“IPCC”); (3) the lifespan of greenhouse gases and particularly CO₂; (4) the effects of climate change, present, past and future; (5) the responsibility of the United States for climate change; (6) specifically the effects of climate change beyond 2100, its irreversibility and the possibility of abrupt changes; and (7) possible pathways for adaptation to and mitigation of climate change and the possibility of sustainable development. This portion of Chapter 2 relies heavily on the *Climate Change 2014: Synthesis Report* of the 5000 plus pages of the three volumes of the Assessment Report 5 of the IPCC’s Working Groups I, II and III.

Chapter 2 also covers the basic science of climate change which begins with John Tyndall's paper in 1859 that concludes that Earth will warm because of certain compounds that will collect in Earth's troposphere and there collect the thermal energy emitted by Earth (originally supplied, of course, by the Sun) and then reflect some of that energy back to Earth. The Chapter also provides a short summary the further works of the Swedish scientist, Svante Arrhenius (1859-1927); the English engineer, Guy Stuart Callendar (1898-1964); the Princeton University PhD in physics, Gilbert Plass (1920-2004); and Ilias M. Vardavas and Fred W. Taylor, both PhDs in physics. Even the United States government admitted in 2014⁶ that:

What is new over the last decade is that we know with increasing certainty that climate change is happening now. While scientists continue to refine projections of the future, observations unequivocally show that climate is changing and that the warming of the past 50 years is primarily due to human-induced emissions of heat-trapping gases. These emissions come mainly from burning coal, oil, and gas, with additional contributions from forest clearing and some agricultural practices.

While the White House apparently denies those facts, Rex Tillerson, the resent Secretary of State of the United States and the prior CEO of Exxon Mobil, apparently believes those facts.⁷

Chapter 3 reviews present human character and argues that anthropogenic climate change because of its global nature and because of its lifespan of centuries (and possibly millennia) needs the introduction of a new level of human character never before required or experienced. Improved human character, especially in the United States, is required.

⁶ Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds., 2014: *Climate Change Impacts in the United States: The Third National Climate Assessment*. U.S. Global Change Research Program, p.841. doi:10.7930/J0Z31WJ2; ISBN 9780160924026; p. 2; <http://nca2014.globalchange.gov/>. The New York Times stated on May 7, 2014 (Page A22 of the Thursday, May 8, 2014, New York Times as the lead editorial)

Apart from the disinformation sowed by politicians content with the status quo, the main reason neither Congress nor much of the American public cares about global warming is that, as problems go, it seems remote. Anyone who reads the latest National Climate Assessment, released on Tuesday, cannot possibly think that way any longer. The report is exhaustive and totally alarming.

⁷ Rex Tillerson apparently recommended that President Trump keep the United States in the Paris Accord before the President announced that the United States was withdrawing from that agreement. Michael Shear, New York Times, June 1, 2017; <https://www.nytimes.com/2017/06/01/climate/trump-paris-climate-agreement.html?action=click&content>

Chapter 4 very generally reviews the basics of the three present major ethical theories, Kantian duty theory, utilitarian theory and virtue ethical theory. Chapter 4 concludes that because of climate change and its causes, no present ethical theory is capable of providing the necessary improved human character. The general character of individuals and legislatures of present democracies, oligarchies and dictatorships must improve to a new level for the acceptable and legitimate happiness and utility of the citizens of Earth who include all of life on Earth. To achieve this, new and/or revised virtues and/or a revised virtue theory are necessary. Neither Kantian duty theory nor utilitarian theory provide the necessary foundation and, in fact, both require virtuous character for their implementation. For this reason, while present virtue ethical theory is insufficient, it does provide a better foundation for revised ethical theory than either of the other two.

Chapter 5 reviews basic Kantian duty theory and Chapter 6 reviews basic utilitarian theory and in both chapters, I argue that their respective authors, in fact, require virtuous character for instantiation of their ideals. Concerning virtue ethical theory, I argue that that theory obviously requires virtuous character for implementation of its ideal and, therefore, can provide the necessary foundation for improved human character. That improved character can provide both governmental and/or legislative bodies and individual human beings the resources necessary to begin to adequately address climate change mitigation and adaptation.

Chapter 7 through 9 investigate Aristotelian continency and incontinency, the *Aidōs* Response and the Aristotelian/Aquinian psychology, and Chapter 10 argues that those three concepts, in combination, are a method for the development and implementation of a new virtue or virtues for a revised virtue ethical theory. With all of the above in mind, Chapter 11 reviews the existing definitions for Aristotelian proper pride and also for Thomas Hill's proper humility as an

actual Aristotelian concept where both are offered as a yinyang concept for a new virtue, proper primality. Chapter 12 argues, based on the thoughts of Paul Woodruff and others, that proper primality can best be found in natural environments whose continued existence is required within the definition of proper primality.

Part II Climate Change and Character Improvement

Chapter 2 - Climate Change: The Empirical Facts

Weather is observable as a local, short-lived phenomenon, but climate, which describes regional meteorological averages over at least thirty-year time-spans, is not. I cannot ‘see’ climate because it is quantitatively a data-set and qualitatively a holistic structure. I cannot point to it, since it envelops me, not only in space, but also over time, in the past, at present and in the future.

—Martin Schönfeld (Schönfeld, 2016, 188)

The solar heat possesses ... the power of crossing an atmosphere; but, and when the heat is absorbed by the planet, it is so changed in quality that the rays emanating from the planet cannot get with the same freedom back into space. Thus the atmosphere admits of the entrance of the solar heat, but checks its exit; and the result is a tendency to accumulate heat at the surface of the planet.

—John Tyndall (Tyndall, 1859, 158)

A. Climate Change – Scientific Awareness of the Cause

It is not as though the international scientific community has failed to recognize the climacteric effects of climate change. Actually, the science of the cause of climate change is simple and has been recognized since the middle of the 19th century and is summarized in greater detail below. In a few sentences, certain gases, again primarily CO₂ (produced from burning fossil fuel) and a number of other gases, concentrate in our troposphere which is that portion of our atmosphere that is located from Earth’s surface to between about 5 and 12 miles above Earth's surface depending upon geographical location. In fact, certain levels of those gases, now normally called greenhouse gases, have always been and remain necessary for the climate that Earth has enjoyed and that, until recently, its life had enjoyed over the last tens of thousands of years.

While CO₂ has always been recognized as relatively chemically inert, it does react with thermal energy differently according to the wavelength of that energy. Of course, virtually all thermal energy upon which Earth now relies is or has been received from the Sun. Most of the Sun's thermal energy exhibits short wavelengths which pass relatively easily through the tropospheric gases on its journey to Earth. That energy is absorbed by Earth and then is, in part, returned back to the troposphere but in longer wavelengths. That longer wavelength energy is retained by the CO₂ and other greenhouse gases and a portion is returned to Earth. As the concentration of CO₂ and the other greenhouse gases increase in the troposphere, the amount of that energy that is returned to Earth increases and, thereby, raises the temperature of Earth and its constituents - air, soil, rock, water, etc. It is interesting that, as early as the nineteenth century, scientists had become concerned with the increasing levels of CO₂ in the atmosphere.⁸

The effects of this increase are manifold and monumental as is shown below. The initial fact involves the increase in Earth's population from 3 billion in about 1960 to about 7 billion presently. Again, the next fact is the exponential increase in the use of fossil fuel energy by all of those individuals over those decades. Every unit of fossil fuel burned, including natural gas, whether in power plants, internal combustion engines, cement manufacturing plants or wherever fossil fuels are burned, results in the generation of CO₂. Because of these factors, the level of just CO₂ in the troposphere has increased by about 30% since 1960 while the other greenhouse gases are increasing as well.

⁸ See pages 55-60 below.

B. The Intergovernmental Panel on Climate Change ("IPCC")

These increases have been recognized since about 1900⁹ and have recently been studied for over 30 years by a mammoth group of scientists from around the world known as the Intergovernmental Panel on Climate Change ("IPCC") which was established by the United Nations in 1988¹⁰ in response to concerns about these increases. The IPCC has issued assessment reports in 1990, 1995, 2001 and 2007 and has completed the release of its Fifth Assessment Report (herein "AR5") and is beginning work on the AR6. The release of the AR5 began in 2013 with the initial release by the IPCC Working Group I of the "Climate Change 2013: The Physical Science Basis" (herein referenced as "WGI") (now finalized and over 1500 pages) with a Summary for Policy Makers (about 30 pages; herein referenced as "WGI, SPM, p.__") and a Technical Summary (about 80 pages; herein referenced as "WGI, TS, p.__"). It was finalized only after multiple examinations by over 1000 reviewers from 55 countries and by 38 governments.¹¹

Since 2013, the IPCC has published three further AR5 reports. The first of these three and the second of the AR5 is "Climate Change 2014: Impacts, Adaptation, and Vulnerability" published by Working Group II in two parts, "Part A: Global and Sectoral Aspects" and "Part B: Regional Aspects" (over 1800 pages; herein referenced as "WGII, p.__") with a Summary for Policy Makers of about 30 pages and a Technical Summary of about 60 pages. The WGII report had over 2000 authors and expert reviewers (over 500 from the United States) from 84 countries and was reviewed by over 30 governments.

⁹ See Chapter 2.G.2. Climate Change - The Science at page 55 below.

¹⁰ http://www.ipcc.ch/organization/organization_history.shtml#.UuVmkaMo7zI. Of interest, at the end of 2007, the IPCC was awarded the Nobel Peace Prize.

¹¹ The 2013 IPCC AR5 WGI report (the "Physical Science Basis") is found in its entirety at www.ipcc.ch/report/ar5 and is referenced herein as "WGI." This report had over 800 authors (two from the University of South Florida, Dr. Robert H. Byrne and Dr. Don Chambers) and review editors (over 200 from the United States) from 39 nations, was based on 41 climate models, 2 million gigabytes of modeling data, and on 54,677 comments, and it cited 9200 papers.

The third AR5 report is "Climate Change 2014: Mitigation of Climate Change" published by Working Group III (over 1400 pages; herein referenced as "WGIII, p.__") with a Summary for Policy Makers of about 30 pages and a Technical Summary of about 75 pages. The WGIII had over 450 authors, editors and assistants (over 120 from the United States) and over 800 expert reviewers (over 140 from the United States) from over 50 countries and by 37 governments. The report was finalized after analysis of about 1200 scenarios of socioeconomic development.

The above three reports involved over 600 lead authors and over 1200 contributing authors and over 3500 expert reviewers from over 80 countries. The three reports received line-by-line approval by all 195 governments involved including the United States.

The fourth AR5 report is "Climate Change 2014: Synthesis Report" published by a core writing team of over 50 individuals from 27 countries which, as indicated, coordinates the other three reports. This report of about 169 pages (referenced herein as "SYR, p.__") includes a "Summary for Policy Makers" (herein referenced as the "SPM") of about 31 pages.¹² The SYR is, of course, based on the reports of the three AR5 Working Groups and provides an integrated view of climate change as the final part of the AR5. This report of about 169 pages or at least its SPM of about 31 pages is well worth the read and is used below to further summarize the immense impact that climate change has had, is having, and will have over the 21st century and beyond on Earth and all of its life.

The AR5 is used as the very best source of information about the cause and effect of climate change for the following reasons:

1. The AR5 is by far the most comprehensive environmental report ever developed by any group or country because it has been developed over about 35 years through each of the

¹² IPCC, 2015, *Climate Change 2014: Synthesis Report*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, [IPCC Core Writing Team and eds. R.K. Pachauri and L.A. Meyer], Geneva, Switzerland; WMO; 151 pp.; herein referenced as "SYR, p.__." The SYR is found at <http://ipcc.ch/report/ar5/syr/>

four prior reports where all five reports have each virtually increased all concerns associated with climate change.¹³

2. The AR5 is unique because never before has any such international group, especially of scientists, ever been assembled for any reason before climate change.
3. Climate change is unique because never before has there been any natural system which has been anthropogenically changed so dramatically and extensively as has Earth's climate system over the last 180 years but more importantly especially over the last 75 years.
4. Climate change is unique because there is no other natural system on Earth which affects the entire geographic area of Earth as does its climate system.
5. Climate change is unique because it dramatically and extensively changes Earth's processes for the production of food and, therefore, for Earth's propagation of virtually all of its life - all animals including humans, plants, bacteria and virtually all other organisms.
6. Climate change is unique because it impacts every square mile of Earth's surface through the changes that have occurred, are occurring and will continue to occur in Earth's patterns of sea level height, rainfall, snowfall, surface and ground freshwater systems, ice formation, permafrost formation, geographic disease, among other such patterns.
7. Climate change is unique because it has been reported that about 38% of climate change impacts result from household decisions.

And climate change is unique because it impacts all of the concerns reviewed below which are addressed in the IPCC's AR5 and its prior reports.

For the purpose of brevity, all specific references in this dissertation to the IPCC AR5 are given only to the involved Working Group ("WGI," "WGII," etc.) and the Synthesis Report ("SYR") and do not use the "AR5" acronym. However, any references to prior IPCC assessment reports are given as they are referenced in those Assessment Reports as follows: "FAR" (first AR), "SAR" (second AR), "TAR" (third AR), "AR4" (fourth AR).

¹³ The United States, in May 2014, issued its third "National Climate Assessment" which has not been printed but is available at the address below. *Climate Change Impacts in the United States: The Third National Climate Assessment*, JM Melillo, et al. (eds.) (2014: U.S. Global Change Research Program). referenced herein as "US3, p.____." The report is about 840 pages and not nearly as comprehensive as is the IPCC Report, but does include the following two adjacent sentences well into the pages of the report: "What is new over the last decade is that we know with increasing certainty that climate change is happening now. While scientists continue to refine projections of the future, observations unequivocally show that climate is changing and that the warming of the past 50 years is primarily due to human-induced emissions of heat-trapping gases."(US3, p.3; see also US3, p. 60,"Key Message#1 Traceable Account"). http://s3.amazonaws.com/nca2014/low/NCA3_Climate_Change_Impacts_in_the_United%20States_LowRes.pdf?download=1

This dissertation uses the Synthesis Report and particularly its SPM because of the great length and detail of the individual reports. Also, the SYR generally and its SPM both use the language, the tables, and the figures of the individual reports.

C. The Lifespan of Greenhouse Gases – Particularly CO₂

Of immediate importance, the lifespan of greenhouse gases in the troposphere is critical to the understanding of the crisis proportions of climate change. The three greenhouse gases of primary importance are carbon dioxide (“CO₂”), methane (“CH₄”), and nitrous oxide (“N₂O”) in that order. Of the three, CO₂ is of greatest concern both because of its lifetime in the atmosphere and because of the present amount emitted to the atmosphere. The SYR summarizes the cause of climate change as follows:

Anthropogenic greenhouse gas emissions have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. This has led to atmospheric concentrations of carbon dioxide [CO₂], methane [CH₄] and nitrous oxide [N₂O] that are unprecedented in at least the last 800,000 years. Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are *extremely likely* to have been the dominant cause of the observed warming since the mid-20th century.

(Italics in original, bolded emphasis added; SYR, p.4) As described below, the greenhouse gases once formed can be naturally removed from the atmosphere but over very long periods of time. The lifetime of CO₂ more so than any other greenhouse gas is of primary concern. The IPCC states as follows:

When emitted in the atmosphere, greenhouse gases get removed through chemical reactions with other reactive components or, in the case of carbon dioxide (CO₂), get exchanged with the ocean and the land. These processes characterize the lifetime of the gas in the atmosphere CO₂ is ... removed from the atmosphere through multiple physical and biogeochemical processes in the ocean and the land; all operating at different time scales. As a result of the significant lifetimes of major anthropogenic

greenhouse gases, the increased atmospheric concentration due to past emissions will persist long after emissions are ceased. Concentration of greenhouse gases would not return immediately to their pre-industrial levels [pre-1850] if emissions were halted. Methane concentration would return to values close to pre-industrial level in about 50 years, N₂O concentrations would need several centuries, while CO₂ would essentially never come back to its pre-industrial level on time scales relevant for our society.

(Emphasis added; WGI, FAQ [Frequently Asked Questions] 12.3, p.55)

Finally, the IPCC states in the AR5:

Emission of carbon from fossil fuel reserves, and additionally from land use change ... is now rapidly increasing atmospheric CO₂ content. The removal of all the human-emitted CO₂ from the atmosphere by natural processes will take a few hundred thousand years (*high confidence*) as shown by the timescales of the removal process ... (Archer and Brovkin, 2008).

(Emphasis added; WGI, Box 6.1, pp.472-73) Consequently, once formed, for example, from the burning of fossil fuels, the lifetime of CO₂ is of primary concern.

Therefore, as you read below the major concerns associated with climate change and also the science of climate change, always keep in mind that the CO₂ that we have emitted today and *since about 1850* through the generation of electricity from fossil fuels, through industrial processes, though the huge increase in number of the cars and miles driven, through the advent of air conditioning, etc. will continue to acidify the oceans and will remain in the atmosphere for “a few hundred thousand years (*high confidence*).” More importantly, keep in mind that what we emit tomorrow and in this twenty-first century will continue to acidify our oceans and also heat Earth and the future generations of life, humans and non-humans, for that same period.

D. Climate Change - Effect: Present, Past and Probable Future

In the AR5, its Synthesis Report (“SYR”) and in the quotes from those documents in this Chapter, "the certainty in key assessment findings is communicated as in the Working Group

Reports" as follows. Also, that certainty is based on "the author teams' evaluations of underlying scientific understanding and is expressed as a qualitative level of confidence (from *very low* to *very high*)" Also, when possible, it is expressed "probabilistically with a quantified likelihood (from *exceptionally unlikely* to *virtually certain*)." If appropriate, "findings are also formulated as statements of fact without using uncertainty qualifiers." (SYR, p.2) **Please see footnote 14 below** for a more specific explanation.¹⁴

Also, note that in this Chapter, the use of italics in quotations is always found in the original text and is not specifically recognized as emphasis in the citation of the quotation because, as noted in Footnote 14, information about "confidence qualifiers" and "assessed likelihood" is, within the AR5, "typeset in italics," for example, "*medium confidence*". Any emphasis that is added to these quotations is **bolded** and stated to be emphasis.

(1) Observed changes in the climate system and their causes

The first two sentences (beyond the explanation of structure) of the SYR are: "**Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on**

¹⁴ The following is a revision for readability of footnote 1 on page 2 of the SYR. "Each finding is" based on "an evaluation of the underlying evidence and agreement" of the involved evidence, i.e. various models. "In many cases, a synthesis of evidence and agreement supports an assignment of confidence."

The three summary terms for "evidence" are: (1) "limited", (2) "medium", or (3) "robust".

The three summary terms for "agreement" are (1) "low", (2) "medium", or (3) "high".

The five levels of confidence qualifiers are: (1) "very low", (2) "low", (3) "medium", (4) "high", and (5) "very high". Assessed confidence is **typeset in italics**, e.g., *medium confidence*.

The eleven "terms used to indicate the assessed likelihood of an outcome or a result" are: (1) "virtually certain 99–100% probability"; (2) "extremely likely 95–100%"; (3) "very likely 90–100%"; (4) "likely 66–100%"; (5) more likely than not >50–100%"; (6) "about as likely as not 33–66%"; (7) "more unlikely than likely 0–<50%"; (8) "unlikely 0–33%"; (9) "very unlikely 0–10%"; (10) "extremely unlikely 0–5%"; (11) "exceptionally unlikely 0–1%". "Assessed likelihood is **typeset in italics**, e.g., *very likely*." (For more details, see, "Guidance Note for Lead Authors of the IPCC Fifth Assessment Report on Consistent Treatment of Uncertainties," 2010; <https://www.ipcc.ch/pdf/supporting-material/uncertainty-guidance-note.pdf>). (Emphasis added; SYR, p.2)

human and natural systems." (Emphasis added; SYR, p.2; see WGI, p.15) Also, a few pages later:

The evidence for human influence on the climate system has grown since the IPCC Fourth Assessment Report (AR4). **It is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcings together.**

(Emphasis added; SYR, p.5; see also WGI, p.17) Human influence of at least “more than half” of the 1951 and continuing greenhouse gas emissions is beyond reasonable doubt.

Specific concerns are summarized below and reviewed in the following order - first, observed changes and causes; second, the present and projected future impacts of two major concerns, food security and sea level rise; third, the general climate change history of some remaining concerns past to present; fourth, greenhouse gas emissions by economic sector; fifth, greenhouse gas emissions by National responsibility; and sixth, the projected future of those concerns for the remainder of this twenty-first century.

Because anthropogenic greenhouse gases are "mainly driven by population size, economic activity, lifestyle, energy use, land-use patterns, technology and climate policy" (Emphasis added; SYR, p.8), **the AR5 uses “Representative Concentration Pathways” (“RCPs”) for developing projections based on those factors for four different twenty-first century pathways of greenhouse gases and their atmospheric concentrations, air pollutant emissions and land-use.** These RCPs represent, in reality, four different present choices that Earth's humanity will make during this decade, 2010 through 2019, about climate change. This is the third decade during which climate change has been fully recognized and choices for mitigation have been available.

The first decade was 1990 through 1999 during which the United Nations Framework Convention On Climate Change ("UNFCCC") was signed and yet virtually no meaningful response was adopted or implemented. The second decade was 2000 through 2009 during which the Third and Fourth IPCC Assessment Reports were published. Earth is now in its third decade of choices and, while some responses have reduced greenhouse gases, the continued addiction to fossil fuel energy and the increasing emissions of greenhouse gases have overwhelmed those small reductions and greenhouse gas emissions continue to grow year by year.

The AR5 includes the following RCP choices: the one ethical pathway choice (RCP2.6) and two unethical pathway choices (RCP4.5 and RCP6.0) concerning humanity's opportunities for mitigation of, and adaptation to, climate change. The AR5 also includes one further unethical pathway (RCP8.5) that ignores any meaningful human response to climate change and chooses "business as usual" in terms of the use of fossil fuel energy (as generally suggested by the American Petroleum Institute in order to support the continuing profitability of its members such as ExxonMobil and Chevron Texaco).

The AR5 choices included are described at great length in the SYR and are very briefly described as follows: "The RCPs include a stringent mitigation scenario (RCP2.6), two intermediate scenarios (RCP4.5 and RCP6.0), and one scenario with very high GHG emissions (RCP8.5)." Scenarios without further constraints on emissions ("baseline scenarios") "lead to pathways ranging between RCP6.0 and RCP8.5. RCP2.6 is representative of a scenario that aims to keep global warming *likely* below 2°C above pre-industrial temperatures" (see Figure SPM.5.a below). "The RCPs are consistent with the wide range of scenarios in the literature as assessed by WGIII." (SYR, p.8)¹⁵

¹⁵ The RCP number for each scenario represents the increase in radiative forcing from anthropogenic causes for that pathway in units of watts per square meter of Earth's surface at the year 2100.

If an ethical choice is defined as the present generation passing to future generations an Earth that is no more harmed than at present by climate change, then only RCP2.6 qualifies as ethical. Because the other three scenarios include continuing harm, they must be found to be unethical choices. This dissertation seeks to discover the problems with present ethical theory that seem to allow humanity to continue to make unethical choices concerning climate change and attempts to address those problems through an enhanced virtue theory. In light of that goal, it is necessary to further define climate changes causes and effects.

(2) Major concerns

As stated above, two major concerns are first reviewed as assessed in AR5 and as briefly described in the SYR. Those concerns are food security and sea level rise which are two main effect concerns of the IPCC. That Panel has stated the following concerning the benefits of mitigation: "The direct benefits of [mitigation in] climate policy include, for example, intended effects on global mean surface temperature, sea level rise, agricultural productivity, biodiversity," (WGII, p.64 & 232)¹⁶

Number 1 - Food security: Climate change's impact on Earth's food production processes has already been seen in the Somalian drought and its result of starvation in that area. Concerning present climate change effects, the SYR states:

Evidence of observed climate change impacts is strongest and most comprehensive for natural systems. In many regions, changing precipitation or melting snow and ice are altering hydrological systems, affecting water resources in terms of quantity and quality (*medium confidence*). ... **Assessment of many studies covering a wide range of regions and crops shows that negative impacts of climate change on crop yields have been more common than positive impacts (*high confidence*).**

¹⁶ Also, the IPCC has named sea level impact one of the three geophysical systems, including floods, droughts and sea level rise, that are a subset of impacts called "physical impacts" that, of course, all concern water. Water, further, is one of the three materials upon which food production depends and which has an enormous influence on real estate values and use as well.

(Emphasis added; SYR, p.6) Concerning future catch and crop impacts, climate change is expected to substantially decrease food security (see Figure 1(a) & 1(b) (SYR Figure SPM.9) below). Due to projected climate change by 2050 and beyond, worldwide marine species redistribution and marine biodiversity reduction in certain regions "will challenge the sustained provision of fisheries productivity and other ecosystem services (*high confidence*)". For wheat, rice, and corn/maize in tropical and temperate regions, climate change "without adaptation is projected to negatively impact production for local temperature increases of 2°C or more above late twentieth century levels, although individual locations may benefit (*medium confidence*)." Worldwide temperature increases of about 4°C or more¹⁷ "above late twentieth century levels, combined with increasing food demand, would pose large risks to food security globally (*high confidence*)." (SYR, p.13)

Climate change risks for food production

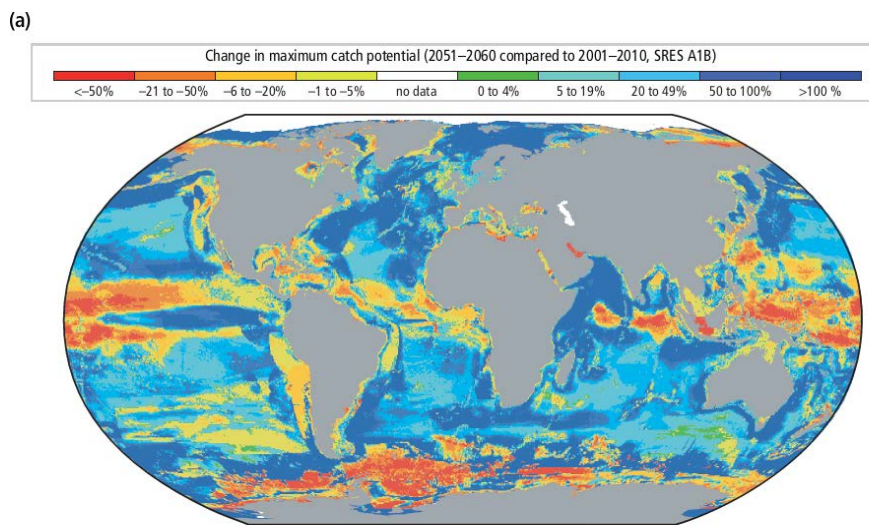


Figure 1(a): SYR Figure SPM.9 (p.15): Climate change risks for food production:

(a) Projected global redistribution of maximum catch potential of ~1000 exploited marine fish and invertebrate species. Projections compare the 10-year averages 2001–2010 and 2051–2060 using ocean conditions based on a single climate model under a moderate to high warming scenario, without analysis of potential impacts of overfishing or ocean acidification.

¹⁷ "Projected warming averaged over land is larger than global average warming for all RCP scenarios for the period 2081-2100 relative to 1986-2005." (SYR, p.13)

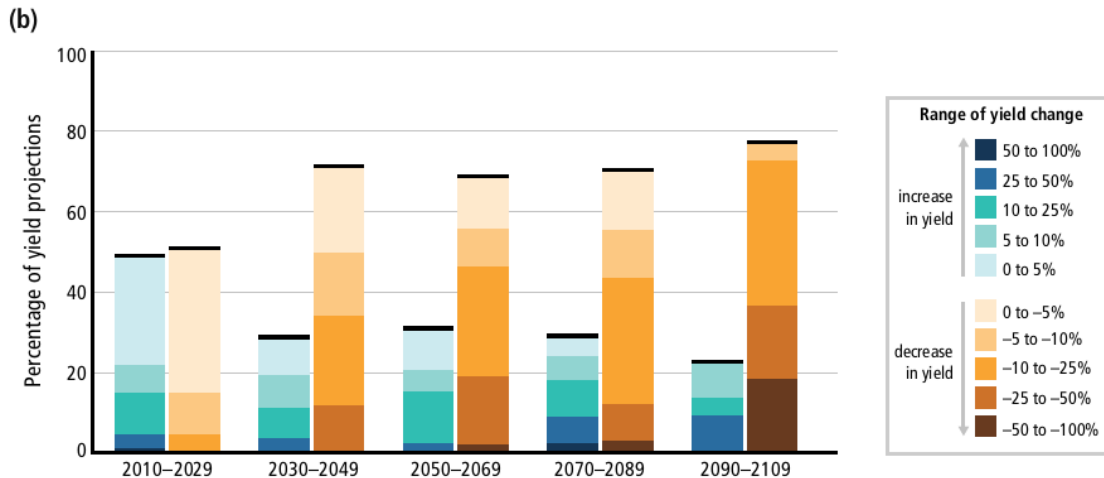


Figure 1(b): SYR Figure SPM.9 (p.15): Climate change risks for food production:

(b) Summary of projected changes in crop yields (mostly wheat, maize [corn], rice, and soy), due to climate change over the 21st century. Data for each timeframe sum to 100%, indicating the percentage of projections showing yield increases versus decreases. The figure includes projections (based on 1090 data points) for different emission scenarios, for tropical and temperate regions and for adaptation and no-adaptation cases combined. Changes in crop yields are relative to late 20th century levels. {Figure 2.6a, Figure 2.7}

(SYR, p.15) For example, for 2090-2109, the projected change is a decrease in about 78% of yields with only about a 22% increase. The result is an overall decrease of 56% suggests severe shortages. One of the many crop studies listed in AR5 is the 2009 study entitled "Nonlinear temperature effects indicate severe damages to U.S. crop yields under climate change" authored by Wolfram Schlenker and Michael J. Roberts¹⁸ which predicts as follows:

The United States produces 41% of the world's corn and 38% of the world's soybeans. These crops comprise two of the four largest sources of caloric energy produced and are thus critical for world food supply. We pair a panel of county-level yields for these two crops ... with a new fine-scale weather dataset that incorporates the whole distribution of temperatures within each day and across all days in the growing season. ... **Holding current growing regions fixed, area-weighted average yields are predicted to decrease by 30–46% before the end of the [21st] century under the slowest warming scenario [of 2⁰ C] and decrease by 63–82% under the most rapid warming scenario [of about 6⁰C] ...**

¹⁸ Wolfram Schlenker and Michael J. Roberts, "Nonlinear temperature effects indicate severe damages to U.S. crop yields under climate change," *PNAS*, vol.106, no.37, (9/15/2009) pp.15594–15598 referenced herein as "Schlenker 2009, p.____."

(Emphasis added; Schlenker, 2009, p.15,594) As projected, climate change will have a severe impact on global and regional food security.

Number 2 - Sea level rise: Over the period 1901 to 2010, global mean sea level rose by 0.19 [0.17 to 0.21] meters or .62 [.56 to .69] feet (Figure SPM.1.b below). **"The rate of sea level rise since the mid-19th century has been larger than the mean rate during the previous two millennia (*high confidence*)."** (Emphasis added; SYR, p.4)

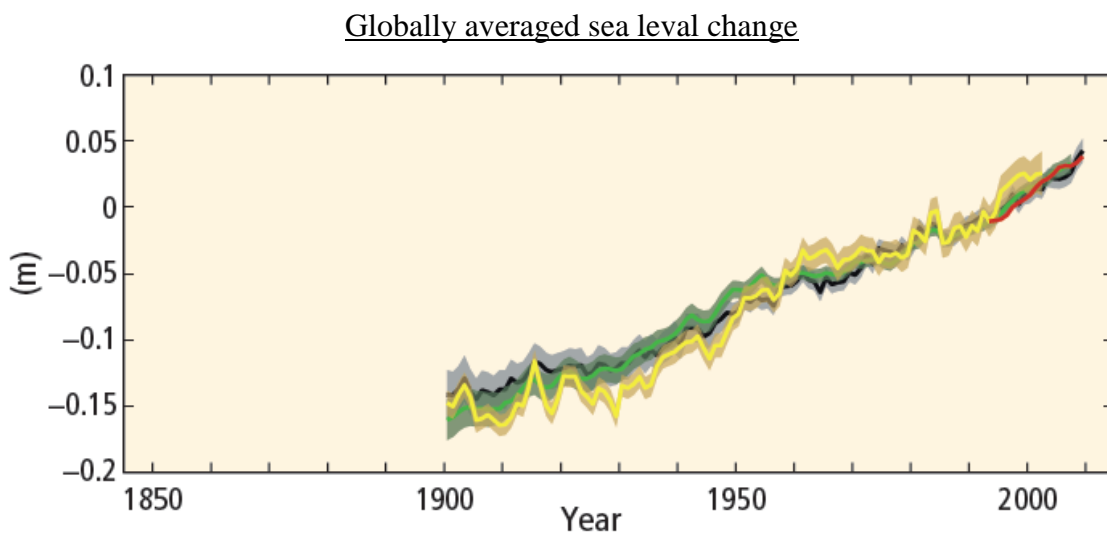


Figure 2: SYR Figure SPM.1(b) (p.3):

Annually and globally averaged sea level change relative to the average over the period 1986 to 2005 in the longest-running dataset. Colours indicate different data sets. All datasets are aligned to have the same value in 1993, the first year of satellite altimetry data (red). Where assessed, uncertainties are indicated by coloured shading.

(SYR, p.3) Worldwide mean sea-level rise will continue during the 21st century, "*very likely* at a faster rate than observed from 1971 to 2010". For 2081 to 2100 relative to 1986-2005, the total rise "*will likely* be in the ranges of 0.26 to 0.55 [meters][.85-1.8 feet] for RCP2.6, and of 0.45 to 0.82 [meters][1.5-2.7 feet] for RCP8.5 (*medium confidence*)". (SYR, p.13; Figure SPM.6.b)

Across regions, sea-level rise will be varied. "By the end of the 21st century, it is *very likely* that

sea level will rise in more than about 95% of the ocean area. About 70% of the coastlines worldwide are projected to experience a sea level change within $\pm 20\%$ of the global mean." (SYR, p.13)

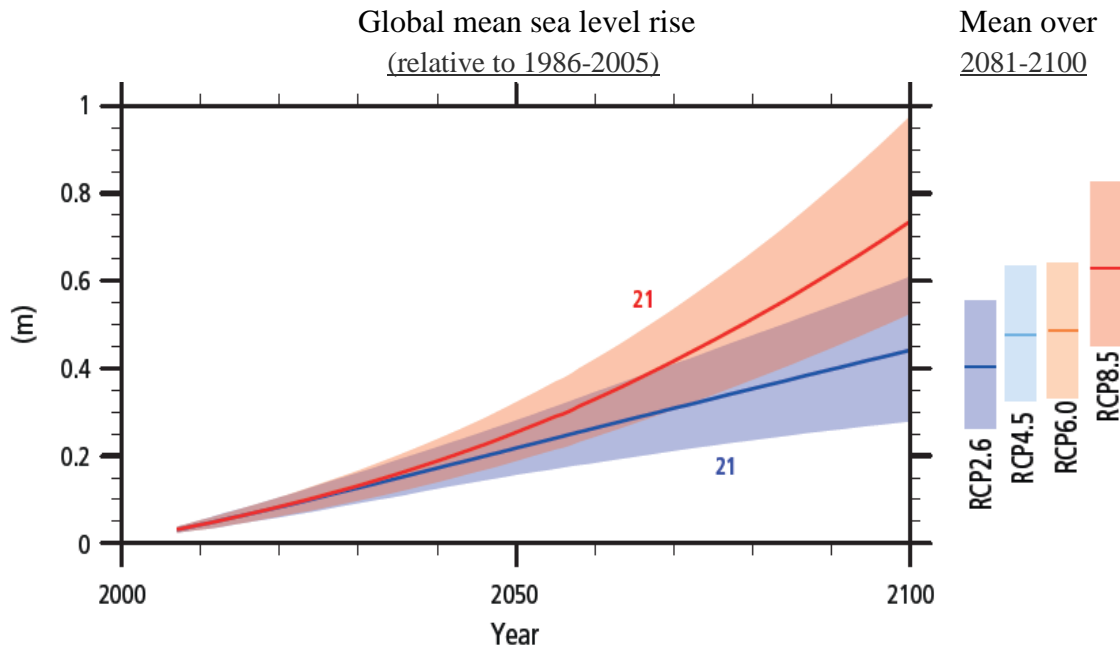


Figure 3: SYR Figure SPM.6(b) (p.11): Global mean sea level rise

“from 2006 to 2100 as determined by multi-model simulations. All changes are relative to 1986–2005.” Projections (time series) and uncertainty (shading) are shown for scenarios RCP2.6 (blue) and RCP8.5 (red). "The mean and associated uncertainties averaged over 2081-2100 are given for all RCP scenarios as coloured vertical bars at the right hand side of each panel." Twenty-one Coupled Model Intercomparison Project Phase 5 (CMIP5) models were used to calculate the multi-model means (red and blue lines).

(SYR, p.11) The RCP8.5 projection will provide a mean of about .69 [.53 to .96] meters or 2.3 [1.73 to 3.15] feet of sea level rise by about 2100.

The third United States report completed in 2014 is more pessimistic and makes the following prediction: "Global sea level ... is projected to rise another 1 to 4 feet by 2100" and

included a NOAA study that used a maximum sea level rise by 2100 of 6.6 feet.¹⁹ Based on a projection of 5 feet, the National Geographic Journal²⁰ in February 2015 published an article entitled "Treading Water" that included the following predictions:

Four southern counties [of Florida] - Monroe, Miami-Dade, Broward, and Palm Beach - are home to about one third of Florida's population, and about 2.4 million people live less than four feet above the high-tide line. ... By 2100 seas could rise as much as 6.6 feet. That would put much of Miami-Dade underwater. ... [At 4 feet], [w]e will not be able to keep freshwater above ocean levels, so we're going to have salt water intrusion into our drinking-water supply. ... Most [of the Florida Keys] are less than 5 feet above sea level.

(NGJ, pp.114-116,123) The article closes with a story about the Mayor of South Miami, Phil Stoddard (who is also a biology professor at Florida International University in Miami) who had recently attended a meeting where Hal Wanless, Chairman of the University of Miami's Geology Department, had delivered the following analysis:

[T]he accelerating disintegration of the ice sheets will lead to a more rapid rise of sea level - faster and higher than the federal government's projections. That night as Stoddard and his teenage daughter walked on moonlit Miami Beach, he shared what he'd heard. "She went silent, and then said to me, 'I won't be living here, will I?' And I said, 'No, you won't.' Kids get it. Do you think we should tell their parents?"

(NGJ, p.125) The AR5 has these further comments about the importance of sea level rise. If ice sheets continue to lose mass, sea level rise will be larger, and some part of that loss might be irreversible. "There is *high confidence* that sustained warming greater than some threshold would lead to the near-complete loss of the Greenland ice sheet over a millennium or more, causing global mean sea level rise up to 7 m[eters]." (WGI, p.29; see also p.72) Seven meters, of course, is

¹⁹US3, p.44.
http://s3.amazonaws.com/nca2014/low/NCA3_Climate_Change_Impacts_in_the_United%20States_LowRes.pdf?download=1

²⁰ Laura Parker, "Treading Water" *National Geographic Journal*, vol.227, no.2, Feb. 2015, pp106-127; herein referenced as "NGJ, p.____."

equivalent to about 23 feet which would put much of the present American coastline under water. Also, irreversibility will result in less albedo²¹ and additional warming.²²

In all RCP scenarios, the largest contributor to sea level rise is thermal expansion at about 30 to 55% of total. (WGI, p.99) Because of this it is "*virtually certain* that [global mean sea level] rise will continue beyond 2100 ... for centuries to millennia." (WGI, p.100) This time frame results from the continual warming that will continue for centuries from the greenhouse gases presently in the troposphere and the further addition of greenhouse gases under all RCPs and also from the centuries to millennia required for the oceans to reach equilibrium.²³ The IPCC calls this "committed climate change". Presently the energy from radiative forcing is being stored in the upper 6500 foot depth of the oceans. However, the oceans have an average depth of about 14,000 feet and, at the deepest point, are about 35,000 feet deep. Circulation of the entire ocean system is extremely slow, on the order of centuries and millennia. (WGI, pp.93,1186-1191) Consequently, sea level rise will continue for possibly 2000 years and its extent is currently estimated at 10 meters or about 32 feet. (WGI, pp.1189-1191) That would submerge all of Florida's beaches, most of Florida's and America's high priced real estate, Miami, Tampa, etc. It would also inundate the land on which TECO's Big Bend (Tampa) generation facility is located.

²¹ Albedo is defined as "The fraction of solar radiation reflected by a surface or object, often expressed as a percentage." (WGI, p.1448)

²² "During the last interglacial period [129,000 to 116,000 years ago], the Greenland ice sheet *very likely* contributed between 1.4 and 4.3 m[eters] to the higher global mean sea level, implying with *medium confidence* an additional contribution from the Antarctic ice sheet." (WGI, p.11)

²³ "Due to the long time scales of this heat transfer from the surface to depth, ocean warming will continue for centuries, even if [greenhouse gas] emissions are decreased or concentrations kept constant, and will result in a continued contribution to sea level rise (see Section TS5.7).{12.4.3, 12.4.7}" (WGI, p.93) "Due to the thermal inertia of the ocean and slow processes in the cryosphere and land surfaces, the climate would continue to change even if the atmospheric composition were held fixed at today's values. **Past change in atmospheric composition leads to a committed climate change, which continues for as long as a radiative imbalance persists and until all components of the climate system have adjusted to a new state.**" (Emphasis added; WGII, p.1760)

That degree of sea level rise would also cause losses of coastal wetlands with associated impacts on water birds and other wildlife species dependent on freshwater and, in addition, will cause major losses of hurricane protection from vegetation such as mangroves. (WGII, p.314) Thirty-two feet of sea level rise would have a substantial but unknown extent of salt water intrusion into the Floridan aquifer which is Florida's primary source of potable water and also impact sewer systems which could require different processes that can handle brackish waste water. (See WGII, p.746; WGII, p.253; WGIII, p.538) Coastal cliff retreat could be substantially increased. (WGII, p.377) Economic effects could include new requirements for high energy products needed for acclimation, for example, concrete needed for embankment and other infrastructure. (WGIII, p.764-65)²⁴

In any event, "it is *virtually certain* that global mean sea-level rise will continue for many centuries beyond 2100" (SYR, p.16) with the amount of rise dependent on present, past and future anthropocentric greenhouse gas emissions.

(3) The history of climate change

Again, the IPCC states that "[i]n recent decades, changes in climate have caused impacts on natural and human systems on all continents and across the oceans. Impacts are due to observed climate change, irrespective of its cause, indicating the sensitivity of natural and human systems to changing climate." (SYR; p.6) Many species, terrestrial, freshwater, and marine, have shifted their ranges, their activities both seasonal and migratory, their abundances, and their species interactions "in response to ongoing climate change (*high confidence*). Some impacts on human systems are also attributed to climate change, with a major or minor contribution of climate change

²⁴ No information could be found in either the AR5 or the US3 about the impact of climate change on the level of freshwater bodies such as the Great Lakes. However, the AR5 does state that "warming near the Great Lakes area of North America is projected to be about 50% greater than that of the global mean warming." (WGI, p.1257)

distinguishable from other influences." (SYR, p.6) Figure SPM.4 below summarizes these and other impacts which are primarily negative impacts as related by the reasons for the symbols found in WGII, Table SPM.A1 (included in Appendix A of this dissertation).²⁵ Shown by continent are impacts on physical systems such as glaciers, rivers and coastal erosion, impacts on biological systems such as ecosystems, wildlife and marine ecosystems and impacts on human and managed systems including food production, livelihoods, health and/or economics.

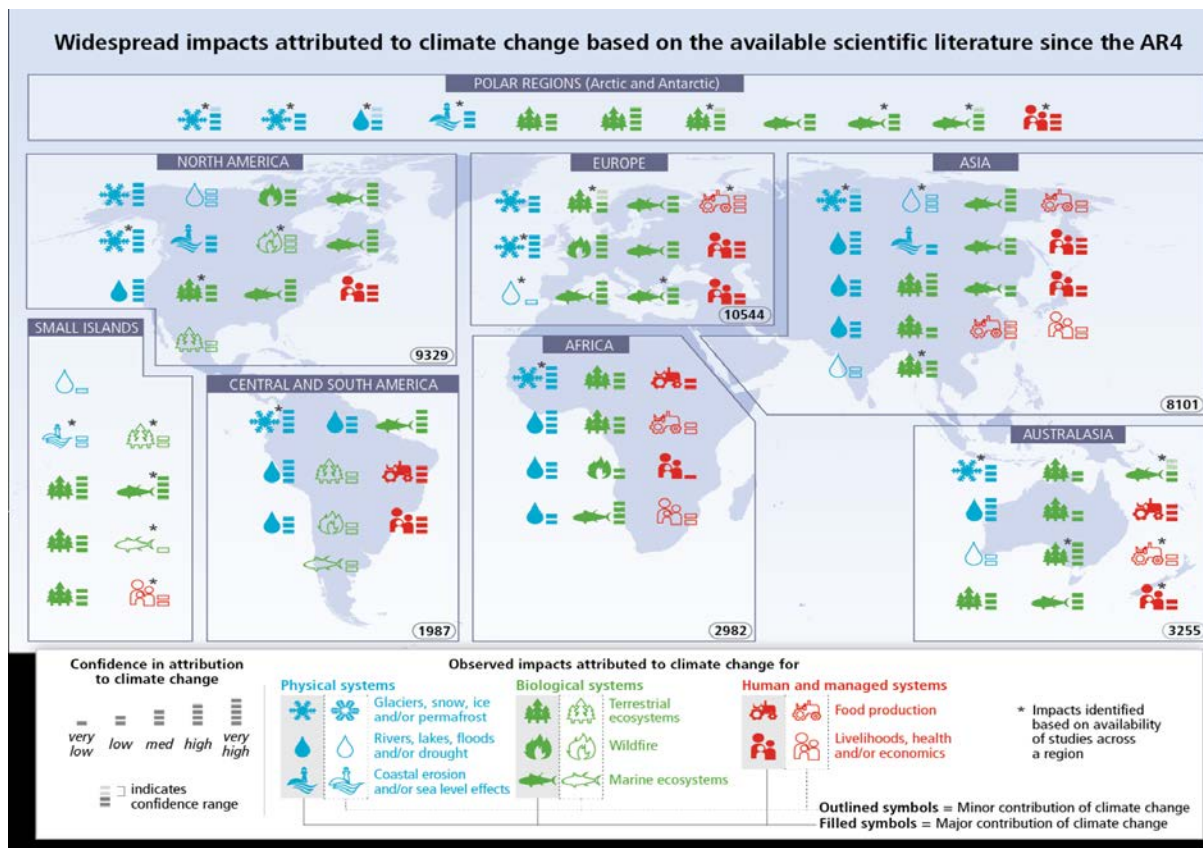


Figure 4: SYR Figure SPM.4 (p.7):²⁶ “Widespread impacts attributed to climate change”: Explaining Figure 4 takes more than a short sentence. The figure is based on the available scientific literature since that upon which AR4²⁷ relied and there are substantially more impacts in recent decades now attributed to climate change.

²⁵ WGII, SPM.A1, pp.30-32 (included in its entirety in Appendix A of this dissertation).

²⁶ The actual AR5 explanation for this figure is also included in its entirety in Appendix A of this dissertation.

²⁷ AR4 was, of course, published in 2007.

Attribution requires defined scientific evidence on the role of climate change. Absence from the map of additional impacts attributed to climate change does not imply that such impacts have not occurred. The publications supporting attributed impacts reflect a growing knowledge base, but publications are still limited for many regions, systems and processes, highlighting gaps in data and studies.

(SYR, p.7) The symbols used in the figure indicate "categories of attributed impacts, the relative contribution of climate change (major or minor) to the observed impact, and confidence in attribution. Each symbol refers to one or more entries in WGII Table SPM.A1, grouping related regional-scale impacts." (SYR, p.7) The numbers in the ovals indicate regional totals of climate change publications from 2001 to 2010²⁸ and provide an overall measure of the available scientific literature on climate change across regions.²⁹ (SYR, p.7)

That Earth's climate system has warmed is "unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia." The atmosphere and ocean have warmed, the amounts of snow and ice have decreased, and sea level has risen. "Each of the last three decades has been successively warmer at Earth's surface than any preceding decade since 1850. The period from 1983 to 2012 was *likely* the warmest 30-year period of the last 1400 years in the Northern Hemisphere, where such assessment is possible (*medium confidence*)." The globally averaged combined land and ocean surface temperature data, has warmed by "0.85 [0.65 to 1.06] °C {or 1.5 {1.2 to 1.9} °F} over the period 1880 to 2012, when multiple independently produced datasets exist (Figure SPM.1a)." (See page 32 below) (SYR, p.2)

While exhibiting strong multi-decadal warming, the globally averaged surface temperature exhibits variability over both annual and decade periods. (Figure SPM.1(a) below). "Due to this

²⁸ These totals are "based on the Scopus bibliographic database for publications in English with individual countries mentioned in title, abstract or key words (as of July 2011)." (SYR, p.7)

²⁹ However, the numbers "do not indicate the number of publications supporting attribution of climate change impacts in each region. The inclusion of publications for assessment of attribution followed IPCC scientific evidence criteria defined in WGII Chapter 18." Also, "[s]tudies for polar regions and small islands are grouped with neighboring continental regions. Publications considered in the attribution analyses come from a broader range of literature assessed in the WGII AR5. See WGII Table SPM.A1 for descriptions of the attributed impacts." (SYR, p.7)

natural variability, trends based on short records are very sensitive to the beginning and end dates and do not in general reflect long-term climate trends." As an example, the rate of warming over the period 1998-2012 was 0.05 [−0.05 to 0.15] °C per decade which is smaller than the rate calculated over the period 1951-2012 which was 0.12 [0.08 to 0.14] °C per decade. (SYR, pp.2-3)

Again, human influence evidence on the climate system has increased since the Fourth Assessment Report (AR4). "It is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcings together." The best estimate of the human-induced warming is similar to the observed warming over that period. (See Figure SPM.3 below). (SYR, p.5) Ocean warming dominates the increased energy that is stored in the climate system, amounting to "more than 90% of the energy accumulated between 1971 and 2010 (*high confidence*) with only about 1% stored in the atmosphere." (SYR, p.4)

That increase in warming results in the storage of the thermal energy in the climate system of which oceans are a large part. Globally, most ocean warming is near the surface, where the top 75 meters warmed by "0.11 [0.09 to 0.13] °C per decade over the period 1971 to 2010" and it is "*virtually certain* that the upper ocean (0–700 m[eters]) warmed from 1971 to 2010, and it *likely* warmed between the 1870s and 1971." Concurrent uptake of CO₂ by the oceans since about 1850, has resulted in ocean acidification where "the pH of ocean surface water has decreased by 0.1 (*high confidence*), corresponding to a 26% increase in acidity" (SYR, p.4)

The increase in warming has caused Earth's ice sheets to melt which lowers Earth's albedo because ice is reflective. Between 1992 to 2011,

the Greenland and Antarctic ice sheets have been losing mass (*high confidence*), *likely* at a larger rate over 2002 to 2011. Glaciers continue to shrink almost worldwide (*high confidence*). Northern Hemisphere spring snow cover has continued to decrease in extent (*high confidence*). There is *high confidence* that

permafrost temperatures have increased in most regions since the early 1980s in response to increased surface temperature and changing snow cover.

(SYR, p.4) "It is *virtually certain* that [by 2100] near-surface permafrost extent at high northern latitudes will be reduced ... with the area of permafrost near the surface (upper 3.5 m[eters]) projected to decrease by 37% (RCP2.6) to 81% (RCP8.5) ... (*medium confidence*)."

(SYR, p.12) Because CO₂ is held by permafrost, its reduction causes an increase in those emissions which again become trapped in the troposphere and increase Earth's radiative forcing.

Arctic sea-ice extent decreased "over the period 1979 to 2012, with a rate that was *very likely* in the range 3.5 to 4.1% per decade." Arctic sea-ice extent "has decreased in every season and in every successive decade since 1979 ... (*high confidence*)."

Antarctic sea-ice extent "*very likely* ... increased in the range of 1.2 to 1.8% per decade between 1979 and 2012. However, there is *high confidence* that there are strong regional differences in Antarctica, with extent increasing in some regions and decreasing in others." (SYR, p.4) The extent of sea ice is important, again, for many reasons including decreasing albedo because ice is much more reflective than open ocean.

All of the above is caused by the ever-increasing surface temperature resulting from the accumulation of greenhouse gases, primarily CO₂, in the troposphere from fossil fuel combustion.

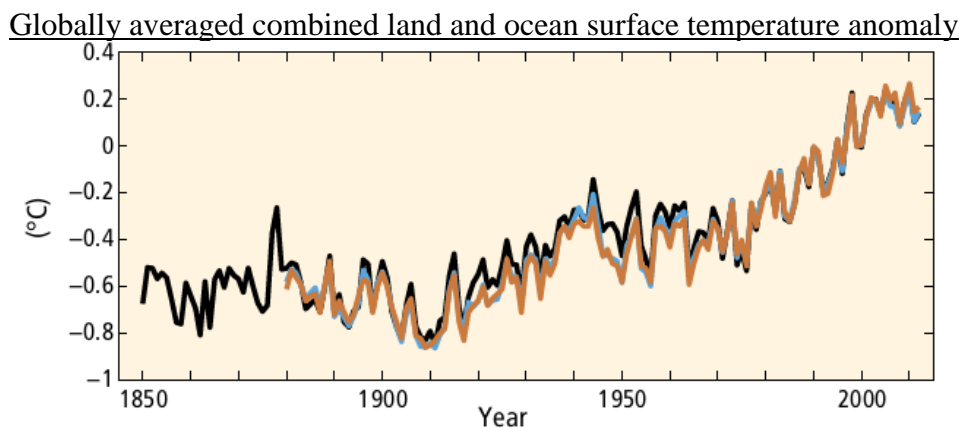


Figure 5: SYR Figure SPM.1(a) (p.3) (a) Annually and globally averaged combined land and ocean surface temperature anomalies relative to the average over the period 1986 to 2005. Colours indicate different data sets.

Concerning the causes of the above changes, again,

anthropogenic [greenhouse gases] have increased since the pre-industrial era, driven largely by economic and population growth, and are now higher than ever. **This has led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years.** Their effects, together with those of other anthropogenic drivers, have been detected throughout the climate system and are *extremely likely* to have been the dominant cause of the observed warming since the mid-20th century.

(Emphasis added; SYR, p.4) Anthropogenic greenhouse gas emissions since the pre-industrial era have resulted in large increases in the atmospheric concentrations of CO₂, CH₄ and N₂O (see Figure SPM.1c below). "Between 1750 and 2011, cumulative anthropogenic CO₂ emissions to the atmosphere were 2040 ± 310 GtCO₂." Just as a refresher, a gigaton ("Gt") is one billion (10⁹) tons. About 40% of these greenhouse gas emissions have remained in the atmosphere or 880 ± 35 GtCO₂ where the CO₂ and some others will stay for decades and possibly millennia. The remainder was removed from the atmosphere and has been stored on land in plants and soils and in the ocean. About 30% of these anthropogenic CO₂ emissions have caused ocean acidification. **"About half of the anthropogenic CO₂ emissions between 1750 and 2011 have occurred in the last 40 years (*high confidence*)"** (Emphasis added; SYR, p.4; see Figure SPM.1d below)

Total anthropogenic greenhouse gas emissions continued increasing between 1970 to 2010 "with larger absolute increases between 2000 and 2010, despite a growing number of climate change mitigation policies." In 2010, anthropogenic greenhouse gas emissions reached 49 ± 4.5 GtCO₂-eq/yr.³⁰ **CO₂ emissions from fossil fuel combustion and industrial processes accounted for "about 78% of the total [greenhouse gas] emissions increase between 1970 and 2010, with a similar percentage contribution for the increase during the period 2000 to 2010 (*high***

³⁰ "Greenhouse gas emissions are quantified as CO₂-equivalent (GtCO₂-eq) emissions using weightings based on the 100-year Global Warming Potentials, using IPCC Second Assessment Report values unless otherwise stated. {Box 3.2}" (SYR, p.5 fn3)

confidence)" (Emphasis added; SYR, p.5; see Figure SPM.2 below) "**Globally, economic and population growth continued to be the most important drivers of increases in CO₂ emissions from fossil fuel combustion.**" (Emphasis added; SYR, p.5) The contribution of population growth from 2000 through 2010 remained roughly identical to the previous three decades, while the contribution of economic growth has risen sharply. "Increased use of coal has reversed the long-standing trend of gradual decarbonization (i.e., reducing the carbon intensity of energy) of the world's energy supply (*high confidence*)." (SYR; p.5; see also SYR, pp.47-48)³¹

Globally averaged greenhouse gas concentrations

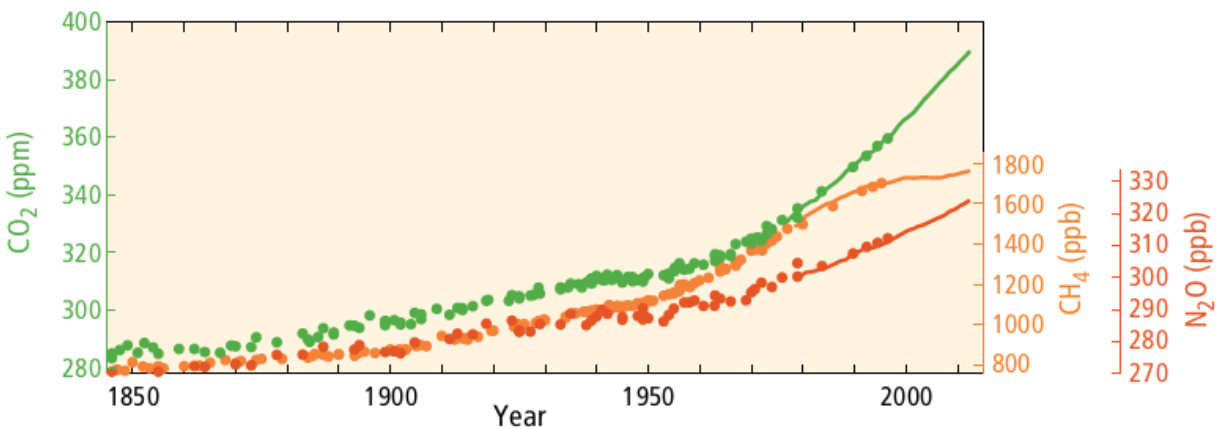


Figure 6: SYR Figure SPM.1(c) (p.3): Globally averaged greenhouse gas concentrations:

(c) Atmospheric concentrations of the greenhouse gases: carbon dioxide (CO₂, green), methane (CH₄, orange), and nitrous oxide (N₂O, red) determined from ice core data (dots) and from direct atmospheric measurements (lines).

(SYR, p.3) **Again, atmospheric greenhouse gas concentrations are at unprecedented levels in at least 800,000 years. In percentages, "concentrations of CO₂, CH₄ and N₂O have all shown**

³¹ See footnote 1 on page 5 above concerning India's decision to increase its use of coal, since reversed.

the following increases since 1750 (40%, 150% and 20%, respectively)" (Emphasis added; SYR, p.44)³²

Global anthropogenic CO₂ emissions

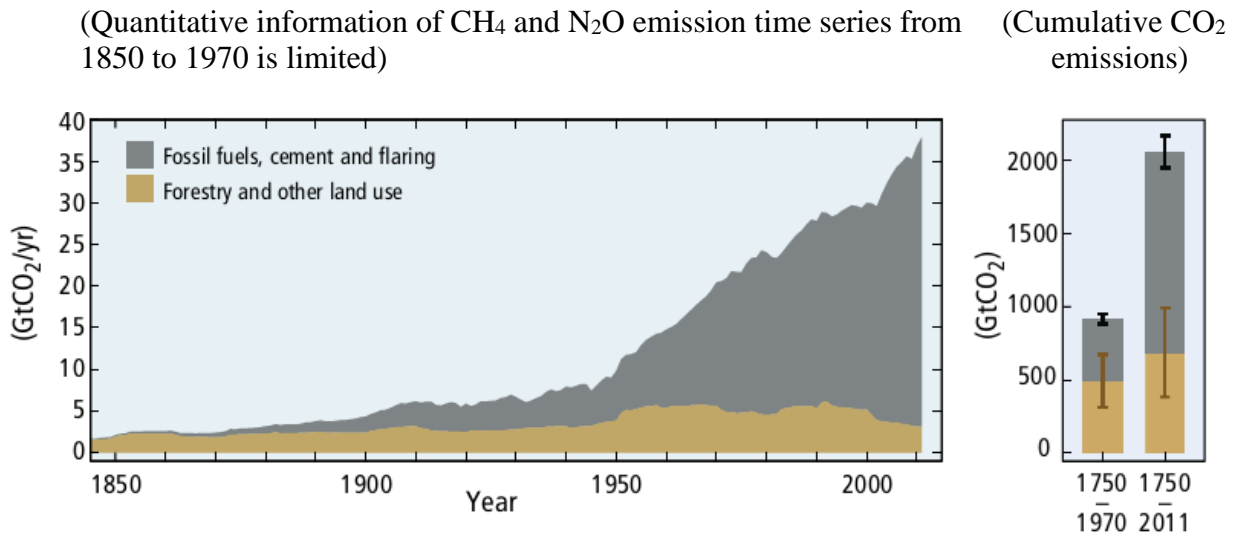


Figure 7: SYR Figure SPM.1(d) (p.3):

(d) Global anthropogenic CO₂ emissions from forestry and other land use as well as from burning of fossil fuel, cement production, and flaring. Cumulative emissions of CO₂ from these sources and their uncertainties are shown as bars and whiskers, respectively, on the right hand side.

(SYR, p.3) **Between 1970 and 2011, total CO₂ emissions (in gigatons) have more than doubled the total gigatons of CO₂ emissions between 1750 and 1970. About 28% of those emissions were United States' emissions.** See page 40 below.

The origination of the increase in annual anthropogenic greenhouse gases between 1970 and 2010 is instructive both for that period and the future and is shown in Figure SPM.2 (SYR, p.5) below.

³² "The total anthropogenic radiative forcing over 1750–2011 is calculated to be a warming effect of 2.3 [1.1 to 3.3] W/m² (Figure 1.4), and it has increased more rapidly since 1970 than during prior decades. [CO₂] is the largest single contributor to radiative forcing over 1750–2011 and its trend since 1970." (Emphasis added; SYR, p.44)

Total annual anthropogenic GHG emissions by gases 1970-2010

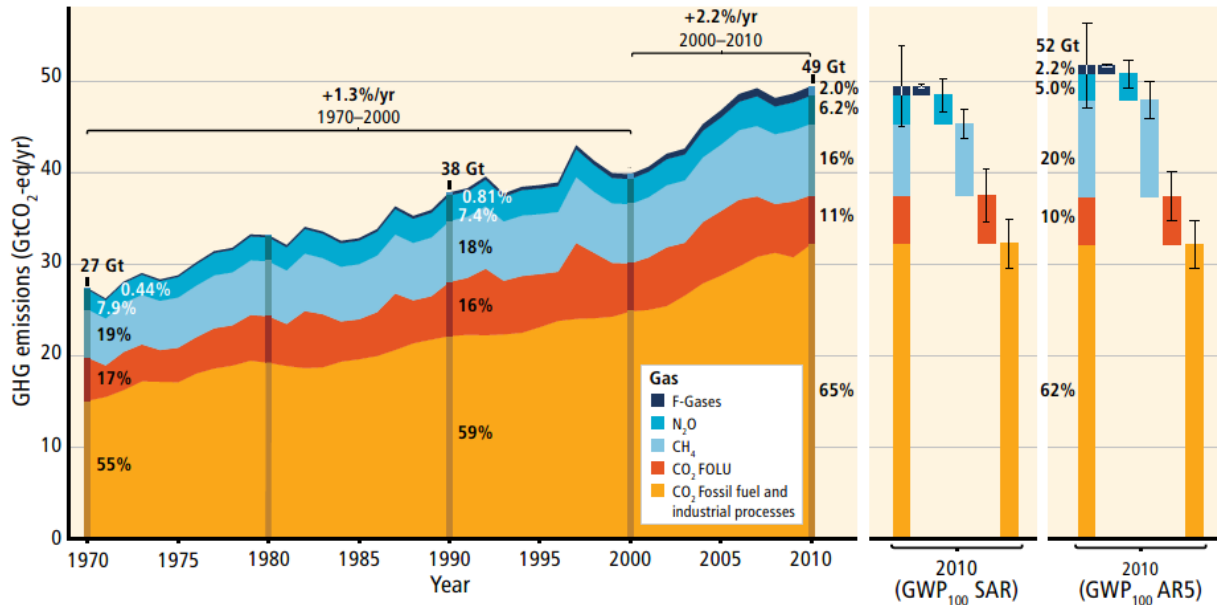


Figure 8: SYR Figure SPM.2 (p.5):

Total annual anthropogenic greenhouse gas (GHG) emissions (gigatonne of CO₂-equivalent per year, GtCO₂-eq/yr) for the period 1970 to 2010 by gases: CO₂ from fossil fuel combustion and industrial processes; CO₂ from Forestry and Other Land Use (FOLU);" CH₄, N₂O and Kyoto Protocol fluorinated gases (F-gases). "Right hand side shows 2010 emissions, using alternatively CO₂-equivalent emission weightings based on the Second Assessment Report (SAR) and AR5 values."³³

(SYR, p.5) It is noteworthy that the right-side bars show (1) that the predictions of the Second AR (1995) and the actual values (2010) of the AR5 (2014) are very close and (2) that the AR5 values are somewhat higher than the earlier predictions.

The rate of greenhouse gas emissions is increasing. The contributions to surface warming of the above anthropogenic greenhouse gases over a slightly different period, 1951 to 2010,

³³ The SYR explanation for SYR Figure SPM.2 continues as follows: "Unless otherwise stated, CO₂-equivalent emissions in this [AR5, WGI] report include the basket of Kyoto gases (CO₂, CH₄, N₂O as well as F [fluorinated] gases) calculated based on 100-year Global Warming Potential (GWP₁₀₀) values from the SAR Using the most recent 100-year GWP₁₀₀ values from the AR5 (right-hand bars) would result in higher total annual GHG emissions (52 GtCO₂-eq/yr) from an increased contribution of methane, but does not change the long-term trend significantly. {Figure 1.6, Box 3.2}" (SYR, p.5)

indicates that those greenhouse gases were the virtual cause of the surface temperature increase over that period as Figure 8 shows. (SYR, p.6)

Contributions to observed surface temperature change over the period 1951-2010

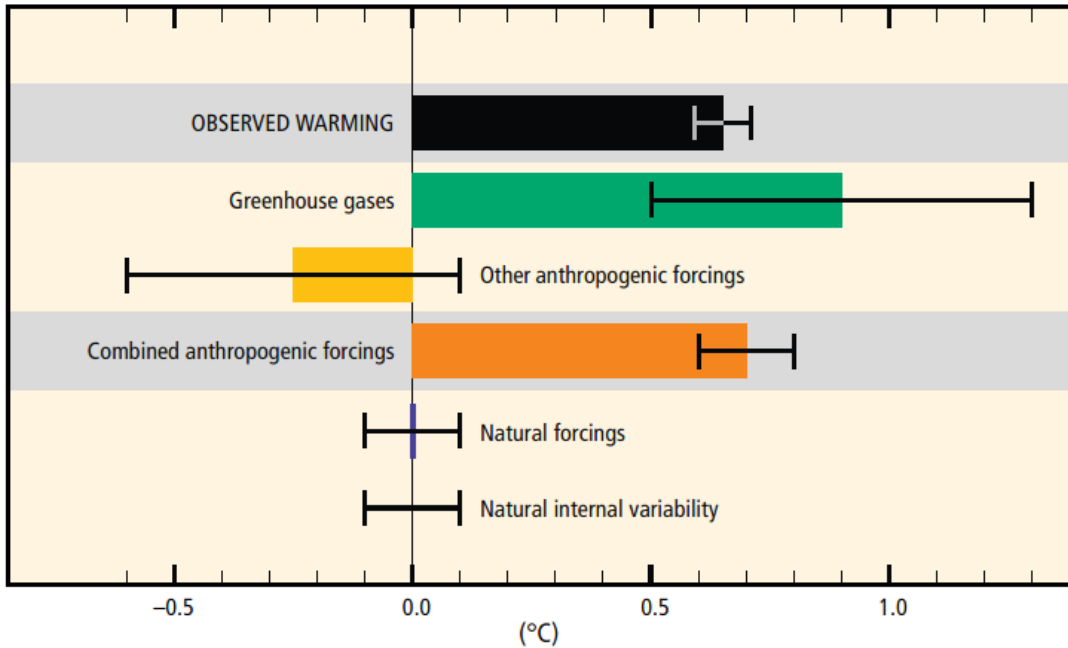


Figure 9: SYR Figure SPM.3 (p.6):

Assessed *likely* ranges (whiskers) and their mid-points (bars) for warming trends over the 1951–2010 period from well-mixed [greenhouse gases], other anthropogenic forcings (including the cooling effect of aerosols and the effect of land-use change), combined anthropogenic forcings, natural forcings, and natural internal climate variability that arises spontaneously within the climate system even in the absence of forcings).^{34 35} (SYR, p.6)

³⁴ "Natural internal climate variability" is "the element of climate variability that arises spontaneously within the climate system even in the absence of forcings." (SYR, p.5)

³⁵ The SYR explanation for SYR Figure SPM.3 continues as follows: "The observed surface temperature change is shown in black, with the 5 to 95% uncertainty range due to observational uncertainty. The attributed warming ranges (colours) are based on observations combined with climate model simulations, in order to estimate the contribution of an individual external forcing to the observed warming. The contribution from the combined anthropogenic forcings can be estimated with less uncertainty than the contributions from greenhouse gases and from other anthropogenic forcings separately. This is because these two contributions partially compensate, resulting in a combined signal that is better constrained by observations. {Figure 1.9}."

(4) Greenhouse gas emissions by economic sectors

Mitigation opportunities are, of course, directly tied to the source of emissions. Therefore, both the source of total greenhouse gas emissions and the source of increasing emissions are important. In 2010, direct emissions of greenhouse gases came from the following sources: 35% were released by the energy sector, 24% (net emissions) from agriculture, forestry, and other land use ("AFOLU"), 21% by industry, 14% by transport and 6.4 % by the building sector.³⁶ When electricity and heat production emissions are "attributed to the sectors that use the final energy (i.e. indirect emissions), the shares of the industry and building sectors in global greenhouse gas emissions are increased to 31% and 19%, respectively ..."³⁷ (SYR, p.46; see Figure 10 below)

Total annual anthropogenic greenhouse gas emissions have increased by about 10 GtCO₂-eq over the ten-year period between 2000 and 2010. "This increase directly came from the energy (47%), industry (30%), transport (11%) and building (3%) sectors (*medium confidence*). ... Since 2000, greenhouse gas emissions have been growing in all sectors, except in [AFOLU]" (SYR, p.47)

In summary, in 2010, about 70% of greenhouse gas emissions came from energy, industry and transport while that group accounted for about 88% of the increase between 2000 and 2010. Another important fact about climate change and greenhouse gas emissions regards the quantity of those emissions that result from household decisions such as the miles traveled, the temperature of the home, etc. Thomas Dietz, et al³⁸ report in their article, "**[d]irect energy use by households accounts for approximately 38% of overall U.S. CO₂ emissions**, or 626 million metric tons of

³⁶ The constituents of these sectors are defined in WGIII, Annex II.9.1 (pp.1302-1306).

³⁷ See "{WGIII SPM.3, 7.3, 8.1, 9.2,10.3, 11.2.} See also Box 3.2 for contributions from various sectors, based on metrics other than 100-year Global Warming Potential (GWP₁₀₀)." (SYR, p.46)

³⁸ T. Dietz, G. Gardner, J. Gilligan, P. Stern, and M. Vandenbergh, "Household actions can provide a behavioral wedge to rapidly reduce United States carbon emissions," *Proceedings of the National Academy of Sciences*, vol. 106, no.44, 2009, 18452-18456; herein referenced as "Dietz et al., p.____".

carbon (MtC) in 2005 ... approximately 8% of global emissions" (Emphasis added; Dietz, p.18452) G. Gardner and P. Stern seem to concur and report that:

Households and individuals, at home and in nonbusiness travel, consume 38.0 percent of total energy in the United States, more than the industrial sector alone (32.5 percent), and the commercial/service (17.8 percent) and nonhousehold transportation (11.7 percent) sectors combined. The percentage for households and individuals has increased from 32.4 percent in 2000.³⁹

Greenhouse gas emissions by economic sectors as reported in the SYR are:

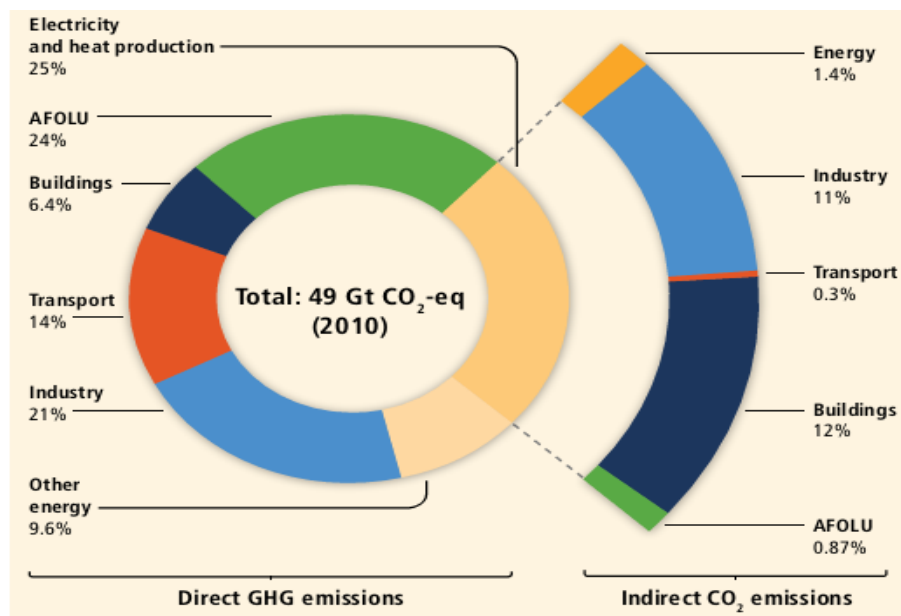


Figure 10: SYR Figure 1.7 (p.47):

Total anthropogenic greenhouse gases (GHG) emissions [(GtCO₂-eq/yr)] from economic sectors in 2010. The circle shows the shares of direct GHG emissions (in % of total anthropogenic GHG emissions) from five economic sectors in 2010. The pull-out shows how shares of indirect CO₂ emissions (in % of total anthropogenic GHG emissions) from electricity and heat production are attributed to sectors of final energy use.⁴⁰ (SYR, p.47)

³⁹G. Gardner & P. Stern, "The Short List: The Most Effective Actions Households Can Take to Curb Climate Change," *Environment: Science and Policy for Sustainable Development*, (2008), vol. 50, no. 5, pp.12-25; p.16 DOI: [10.3200/ENVT.50.5.12-25](https://doi.org/10.3200/ENVT.50.5.12-25).

⁴⁰The explanation for Figure 10 (SYR, Figure 1.7) continues as follows: "'Other energy' refers to all GHG emission sources in the energy sector as defined in WGIII Annex II, other than electricity and heat production {WGIII Annex II.9.1}. The emission data on agriculture, forestry and other land use (AFOLU) includes land-based CO₂ emissions from forest fires, peat fires and peat decay that approximate to net CO₂ flux from the sub-sectors of forestry and other land use (FOLU) as described in Chapter 11 of the WGIII report. Emissions are converted into CO₂ equivalents based on 100-year Global Warming Potential (GWP₁₀₀), taken from the IPCC Second Assessment Report (SAR). Sector definitions are provided in WGIII Annex II.9. {WGIII Figure SPM.2}." (SYR, p.47)

Dietz, et al. borrowed the phrase "behavioral wedge" from a 2004 article about climate change which defined that phrase as "an activity that reduces emissions to the atmosphere that starts at zero today and increases linearly until it accounts for 1 GtC/year of reduced carbon emissions in 50 years."⁴¹ Dietz, et al. reported that the change in household behavior outlined in the article could result in reductions of 123 MtC total per year or roughly 3 such wedges. (Dietz, et al., p.18455)

Consequently, mitigation through reduction of greenhouse gas emissions is both a point source problem, for example, through control of power plant CO₂ emissions (which is technologically possible but extremely expensive and, therefore, not presently used anywhere in the world), and a societal problem in terms of gallons of gasoline used and kilowatts of electricity used (which now is an ethical concern). Actually, power plant control is an ethical concern to the extent that cost is the basis for the corporate decision to refuse control of emissions. Another ethical concern involves the failure of those that have caused climate change to date, primarily the United States, to take responsibility for those past emissions.

(5) Greenhouse gas emissions - past and present National responsibility

As indicated above, the increase in greenhouse gases and particularly CO₂ began about the middle of the 19th century with the advent of the Industrial Revolution. Since then, tropospheric CO₂ concentrations (as shown in Figure SPM.1(c) above) have increased from about 280 ppm to about 390 ppm in 2010. The largest contributor to that increase has been the United States and its use of and now addiction to fossil fuel energy. Through 2010, the United States has been the largest

⁴¹ S. Pacala and R. Socolow, "Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies," *Science*, vol. 305, 968-972 (8/13/2004).

cause of climate change. The following figure shows the contribution of the major national contributors to that increase.

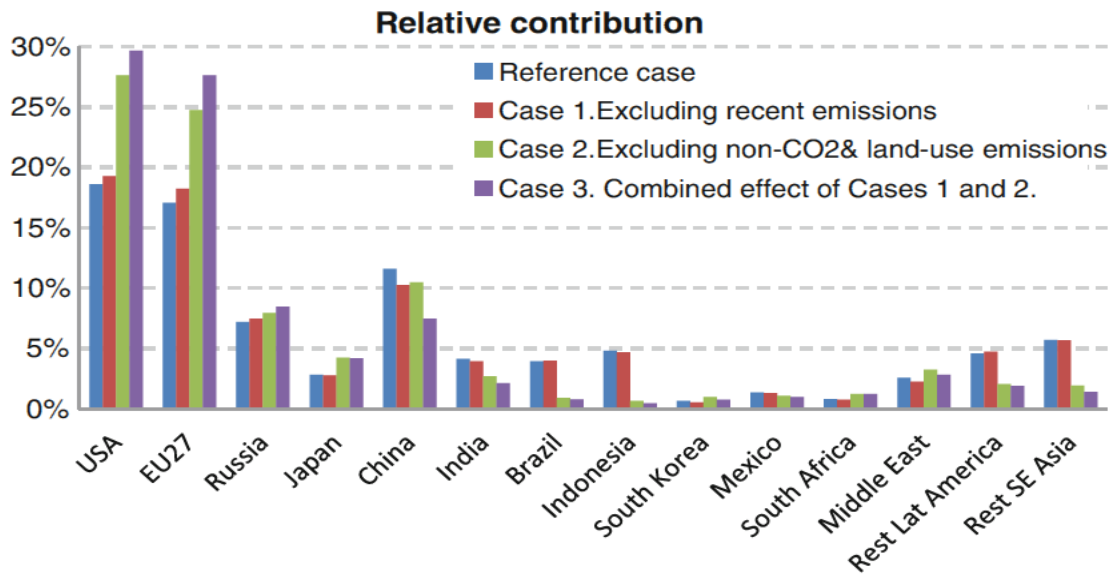


Figure 11: Relative contribution from various countries: Fig. 3 (CLC, p.404):

The effect of excluding recent (2000–2010) emissions, and non-CO₂ and land use emissions, on the relative contributions of selected countries and regions to cumulative global GHG emissions. The reference value includes all GHGs, from all emissions sources, over the period 1850–2010. [Also, "[n]ote that these reference values would not change much if emissions over the period 1750–1849 were included, as these are very small compared to recent emissions (Höhne et al., 2011)."]⁴²

(CLC, pp.401,404) Therefore, over the last millennia and through 2010, the United States "wins" in all categories with only the 27 EU countries close. In 2010, the United States had 4.5% of Earth's population while the 27 EU countries had 6.6% of that population. (CLC, p.406-407, Table 2) Further, the United States remains the largest major per capita contributor even though its

⁴² M.G.J. den Elzen, J.G.J. Olivier, N. Höhne & G. Janssens-Maenhout, "' Countries' contributions to climate change: effect of accounting for all greenhouse gases, recent trends, basic needs and technological progress" in *Climatic Change*, 2013, 121:397–412 (DOI 10.1007/s10584-013-0865-6), p.401,404; herein referenced as "CLC, p.____". Also, Höhne N, Blum H, Fuglestvedt J et al "Contributions of individual countries' emissions to climate change and their uncertainty" in *Climatic Change*, 2011, 106:359–391.

annual emissions were eclipsed by China in about 2007 which has about seventeen percent of Earth's population and a per capita contribution of about one-fifth of the United States.

As Schönfeld states in his recent essay, "American Disenlightenment, or Climate Change made in USA,"⁴³

[t]he real perpetrators of the climate crisis are the *cumulative perpetrators* - the highly developed nations. Great quantities of coal, oil, and gas have been burned far longer there than anywhere else. From 1850 to 2009, developed nations injected 76 percent of the total CO₂ emissions into the Earth system. The other 24 percent originated in developing nations such as China, all newcomers to the GHG club. According to recent calculations (2013) of historically accumulated carbon footprints, the [United States] is number one on the cumulative list: from 1850 to 2010, in terms of all GHG emissions, the [United States] contributed 18.6 percent to the total (all 27 countries of the more populous EU contributed 17.1 percent); in terms of energy CO₂ emissions, the [United States] contributed 27.6% of energy CO₂ emissions (24.8% for the EU).

(Emphasis in original; ADUSA, p.5; CLC, p.402, Table 1) While it is clear that the United States has been primarily responsible for the emissions that are causing climate change and while the United States can probably take credit for enticing the rest of the world into fossil fuel energy addiction, the United States has been unwilling not only to take responsibility for its portion of those emissions but also has refused to, in any meaningful way, address mitigation of its present and future emissions.

Please always recall the statements of the IPCC as quoted on pages 16 and 17 of this dissertation that:

As a result of the significant lifetimes of major anthropogenic greenhouse gases, the increased atmospheric concentration due to past emissions will persist long after emissions are ceased. Concentration of greenhouse gases would not return immediately to their pre-industrial levels if emissions were halted. ... **CO₂ would essentially never come back to its pre-industrial level on time scales relevant for our society.**

⁴³ Martin Schönfeld, "American Disenlightenment, or Climate Change made in USA," in *Environmental Ethics for Canadians*, 2nd edition, ed. B. Williston (Toronto: Oxford University Press, forthcoming); referenced herein as "ADUSA, p.____."

(Emphasis added; AR5, WGI, FAQ [Frequently Asked Questions]12.3, p.55) Never come back!

In addition and again, the IPCC in the AR5 states:

Emission of carbon from fossil fuel reserves, and additionally from land use change ... is now rapidly increasing atmospheric CO₂ content. The removal of all the human-emitted CO₂ from the atmosphere by natural processes will take a few hundred thousand years (*high confidence*) as shown by the timescales of the removal process ... (Archer and Brovkin, 2008).

(Emphasis added; AR5, WGI, Box 6.1, p.472-73) The United States is responsible for and, therefore, should ethically take its share of the responsibility for the world-wide mitigation of and the adaptation to climate change. Again, keep in mind that CO₂ that we emit today and have emitted in the past since about 1850 will continue to acidify the oceans and will remain in the atmosphere for “a few hundred thousand years (*high confidence*).”

It is interesting that the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980 (42 USC § 9601 et seq.; herein "CERCLA") imposes strict civil liability for the cleanup of past waste disposal where that disposal was, at the time it occurred, neither illegal under any law nor known to be detrimental to public health or welfare.⁴⁴ Criminal liability can be imposed for failure to cleanup and tort liability is available to those harmed. But, of course, there is no recognized United States federal or international law or sanction requiring cleanup of, or compensation for, the past or present disposal of CO₂ and other greenhouse gases. There is sufficient evidence to attribute national responsibility for about 18% of the last 150 years of greenhouse gas emissions to the United States.

However, United States corporate interests generally are not genuinely interested in climate change and certainly not in recognizing their own or the United States' responsibility for climate

⁴⁴ It is interesting that the airfields of the United States Armed Forces were, during the 20th century, one of the major causes of groundwater solvent pollution. The United States federal government has been required under CERCLA to undertake and pay for the millions (billions?) of dollars for the cleanup of those locations. (Personal knowledge).

change. As an example of important interest, Michael Bloomberg and others have organized what is called the “Risky Business Project” which is reported to be attempting to get the United States Congress and businesses to take climate change seriously and prepare for its impacts. One of the participants in this Project is Greg Page, Executive Director of Cargill, Incorporated, the huge agricultural conglomerate. He was quoted in the New York Times' article about the Risky Business Project as follows:

"It would be irresponsible not to contemplate [climate change]," Mr. Page said, bundled up in a wool sport coat layered over a zip-up sweater. "I'm 63 years old, and I've grown up in the upper latitudes. I've seen too much change to presume we might not get more." Mr. Page is not a typical environmental activist. He says he doesn't know — or particularly care — whether human activity causes [climate change]. He doesn't give much serious thought to apocalyptic predictions of unbearably hot summers and endless storms.⁴⁵

But, the article continues, he is spending time, effort and money to get Congress and corporate interests to plan for the effects of climate change. However, while he is correct that not contemplating climate change is irresponsible, it is also irresponsible to refuse to address the cause of climate change - human activity and specifically United States human activity. It is irresponsible because presently in most all countries, fault and guilt are the basis of the legal system as they certainly are in the United States. Fault matters and, for climate change, the United States is at fault and should address that fault responsibly. This is a part of the ethical concern that is involved.

(6) Future climate changes - risks and impacts

The IPCC reports that "[c]ontinued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems." Containing

⁴⁵ This “Climate Change’s Bottom Line”, Bert Helm, January 31, 2015, article also appeared in print on February 1, 2015, on page BU1 of the New York edition of the New York Times with the headline: “The Climate Bottom Line.” It also appears at www.nytimes.com/2015/02/01/business/energy-environment/climate-changes-bottom-line.html

present climate change requires "substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks. **Cumulative emissions of CO₂ [will] largely determine global mean surface warming by the late 21st century and beyond.**" (Emphasis added; SYR, p.8) Because anthropogenic greenhouse gas emissions are "mainly driven by population size, economic activity, lifestyle, energy use, land-use patterns, technology and climate policy," the projected greenhouse gas emissions included in the four RCPs, "vary over a wide range, depending on both socio-economic development and climate policy." (SYR, p.8)

Figure 12 below projects the results of the choice to be made between the four RCPs.

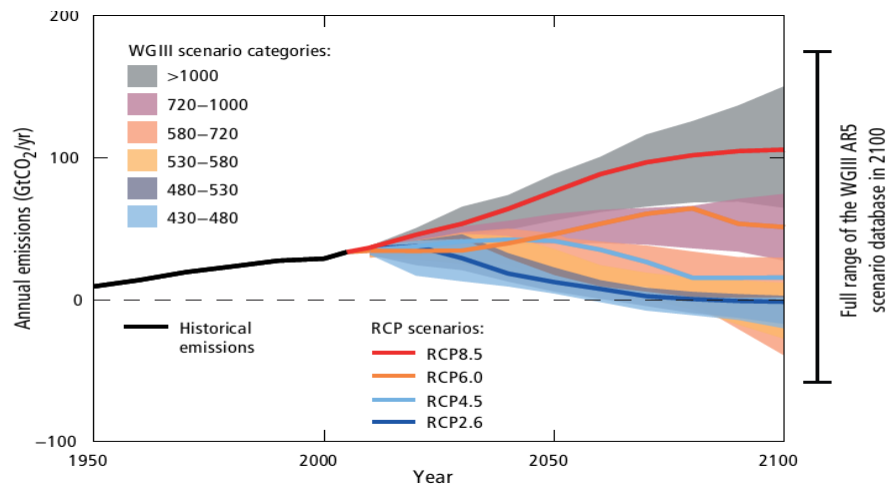


Figure 12: SYR Figure SPM.5(a) (p.9): Again, this Figure takes a somewhat lengthy explanation. The (a) portion above shows the time series for CO₂ emissions only for each of the RCPs (lines) and the associated scenario categories of GtCO₂ per year that are used in WGIII (colored shaded areas show 5-95% range across the distribution of individual models).^{46 47}

⁴⁶ "The WGIII scenario categories summarize the wide range of emission scenarios published in the scientific literature and are defined on the basis of CO₂-eq concentration levels (in ppm) in 2100. The time series of other greenhouse gas emissions are shown in Box 2.2, Figure 1[SYR, p.57]." (SYR, p.9).

⁴⁷ The entire explanation for Figure 12 (SYR Figure SPM.5(a)) follows: "(a) Emissions of carbon dioxide (CO₂) alone in the Representative Concentration Pathways (RCPs) (lines) and the associated scenario categories used in WGIII (coloured areas show 5 to 95% range). The WGIII scenario categories summarize the wide range of emission scenarios published in the scientific literature and are defined on the basis of CO₂-eq concentration levels (in ppm) in 2100. The time series of other greenhouse gas emissions are shown in Box 2.2, Figure 1[SYR, p.57]."

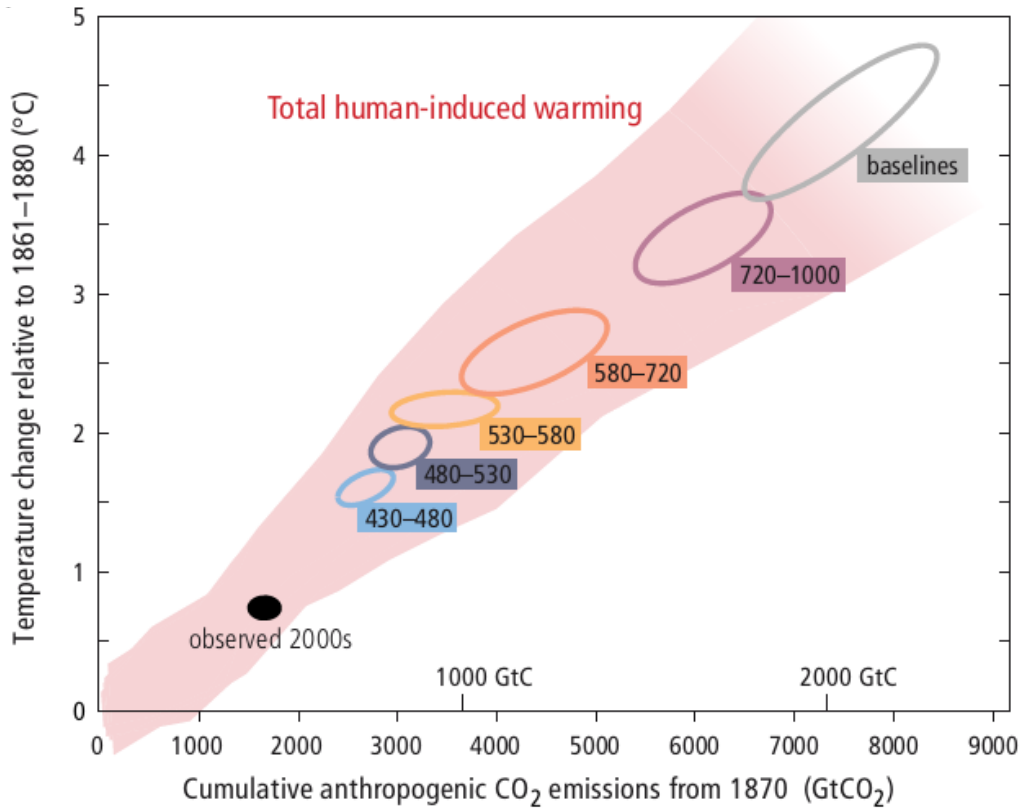


Figure 13: SYR Figure SPM.5(b) (p.9): The (b) portion of SYR Figure 5 above shows "global mean surface temperature increase at the time global CO₂ emissions reach a given net cumulative total, plotted as a function of that total, from various lines of evidence." The colored plume shows "the spread of past and future projections from a hierarchy of climate-carbon cycle models driven by historical emissions and the four RCPs over all times out to 2100." The plume fades with the decrease in the number of available models. The ellipses show "total anthropogenic warming in 2100 versus cumulative CO₂ emissions from 1870 to 2100 from a simple climate model (median climate response) under the scenario categories used in WGIII." Ellipses width regards temperature "caused by the impact of different scenarios for non-CO₂ climate drivers. The filled black ellipse shows observed emissions to 2005 and observed temperatures in the decade 2000-

2009 with associated uncertainties. {Box 2.2, Figure 1[SYR, p.57]; Figure 2.3}[SYR, p.63]" (SYR, p.9)⁴⁸

Specific projected changes in the climate system are as follows.⁴⁹ Surface temperature is projected to increase over the 21st century under all four assessed emission scenarios. "Future climate will depend on committed warming caused by past anthropogenic emissions as well as future anthropogenic emissions and natural climate variability." In addition, "[i]t is *very likely* that heat waves will occur more often and last longer, and that extreme precipitation events will become more intense and frequent in many regions. The ocean will continue to warm and acidify, and global mean sea level to rise." (SYR, p.10)

The global mean surface temperature change for 2016 through 2035 relative to 1986 through 2005 is much the same for all "four RCPs and will *likely* be in the range 0.3°C to 0.7°C (*medium confidence*)" assuming no major volcanic eruptions, changes in some natural sources (for example, CH₄ and N₂O), or unanticipated differences in total solar irradiance. By about 2050, the projected climate change is substantially affected by the RCP chosen and

[t]he increase of global mean surface temperature by the end of the 21st century (2081-2100) relative to 1986-2005 is *likely* to be 0.3°C to 1.7°C under RCP2.6, 1.1°C to 2.6°C under RCP4.5, 1.4°C to 3.1°C under RCP6.0, and 2.6°C to 4.8°C under RCP8.5 The Arctic region will continue to warm more rapidly than the global mean. (Figure SPM.6a, Figure SPM.7a). {2.2.1, Figure 2.1, Figure 2.2, Table 2.1}"

⁴⁸ The explanation for Figure 12 (SYR Figure SPM.5(b)) follows: "(b) Global mean surface temperature increase at the time global CO₂ emissions reach a given net cumulative total, plotted as a function of that total, from various lines of evidence. Coloured plume shows the spread of past and future projections from a hierarchy of climate-carbon cycle models driven by historical emissions and the four RCPs over all times out to 2100, and fades with the decreasing number of available models. Ellipses show total anthropogenic warming in 2100 versus cumulative CO₂ emissions from 1870 to 2100 from a simple climate model (median climate response) under the scenario categories used in WGIII. The width of the ellipses in terms of temperature is caused by the impact of different scenarios for non-CO₂ climate drivers. The filled black ellipse shows observed emissions to 2005 and observed temperatures in the decade 2000–2009 with associated uncertainties. {Box 2.2, Figure 1 [SYR, p.57]; Figure 2.3[SYR, p.63]}"

⁴⁹ The changes projected for 2081-2100 are relative to 1986-2005 unless otherwise indicated. (SYR, p.10)

(SYR, p.10) The IPCC projects that "a large fraction of species faces increased extinction risk due to climate change during and beyond the twenty-first century, especially as climate change interacts with other stressors (*high confidence*)" such as precipitation variations, habitat modification, lowered ocean oxygen levels, pollution and numbers of others. Most plant species cannot shift their geographical ranges fast enough to keep up with not only current but also the high projected rates of climate change in most areas. (SYR, p.13) In addition, most small mammals and freshwater mollusks will not be able to cope with the rates projected under RCP4.5 and above in flat areas during the twenty-first century.

Future risk is indicated as high

by the observation that natural global climate change at rates lower than current anthropogenic climate change caused significant ecosystem shifts and species extinctions during the past millions of years. ... Coral reefs and polar ecosystems are highly vulnerable. Coastal systems and low-lying areas are at risk from sea-level rise, which will continue for centuries even if the global mean temperature is stabilized (*high confidence*). {2.3[SYR, pp.64-73], 2.4[SYR, p.73-74], Figure 2.5 [SYR, p.66]}

(SYR, p.13) In addition, through 2050, "projected climate change will impact human health mainly by exacerbating health problems that already exist (*very high confidence*).” Through this century, “climate change is expected to lead to increases in ill-health in many regions and especially in developing countries with low income, as compared to a baseline without climate change (*high confidence*).” For RCP8.5 and by 2100, "the combination of high temperature and humidity in some areas for parts of the year is expected to compromise common human activities, including growing food and working outdoors (*high confidence*).” (SYR, p.15)

Also during this century, "[i]n urban areas, climate change is projected to increase risks for people, assets, economies and ecosystems, including risks from heat stress, storms and extreme precipitation, inland and coastal flooding, landslides, air pollution, drought, water scarcity, sea-

level rise, and storm surges (*very high confidence*)." Such risks are worsened where necessary infrastructure and services are not available or where people live in exposed areas. Rural areas can be "expected to experience major impacts on water availability and supply, food security, infrastructure and agricultural incomes, including shifts in the production areas of food and non-food crops around the world (*high confidence*)." (SYR, pp.15-16)

Total economic losses will increase with "increasing temperature (*limited evidence, high agreement*) but global economic impacts from climate change are currently difficult to estimate." Where poverty exists, climate change "impacts are projected to slow down economic growth, make poverty reduction more difficult, further erode food security and prolong existing and create new poverty traps, the latter particularly in urban areas and emerging hotspots of hunger (*medium confidence*)." Of considerable concern, climate change "is projected to increase displacement of people (*medium evidence, high agreement*). Populations that lack the resources for planned migration [will] experience higher exposure to extreme weather events, particularly in developing countries with low income." Also, climate change "can indirectly increase risks of violent conflicts by amplifying well-documented drivers of these conflicts such as poverty and economic shocks (*medium confidence*)." (SYR,p.16)

E. Climate Change Beyond 2100, Irreversibility and Abrupt Changes

Many elements of climate change and its many associated impacts will be present for centuries, even if anthropogenic emissions cease. "The risks of abrupt or irreversible changes increase as the magnitude of the warming increases." (SYR, p.16) Concerning warming, the IPCC states that:

Warming will continue beyond 2100 under all RCP scenarios except RCP2.6.
Surface temperatures will remain approximately constant at elevated levels for

many centuries after a complete cessation of net anthropogenic CO₂ emissions. **A large fraction of anthropogenic climate change resulting from CO₂ emissions is irreversible on a multi-century to millennial time scale, except in the case of a large net removal of CO₂ from the atmosphere over a sustained period.** {2.4, Figure 2.8}

(Emphasis added; SYR, p.16) The removal of CO₂ from the atmosphere by scrubbing is possible because the science and technology are available but extremely expensive such that to date no large-scale scrubbing has occurred and is not expected to occur anytime soon. Also, stabilization of global average surface temperature does not imply stabilization for the climate system generally. **"Shifting biomes, soil carbon, ice sheets, ocean temperatures and associated sea level rise all have their own intrinsic long timescales which will result in changes lasting hundreds to thousands of years after global surface temperature is stabilized. {2.1,2.4}"** (Emphasis added; SYR, p.16) If CO₂ emissions continue, "[t]here is *high confidence* that ocean acidification will increase for centuries ... and will strongly affect marine ecosystems." (SYR, p.16)

Finally, the "magnitudes and rates of climate change" under RCP4.5 and higher "pose an increased risk of abrupt and irreversible regional-scale change in the composition, structure, and function of marine, terrestrial and freshwater ecosystems, including wetlands (*medium confidence*)." (SYR, p.16)

F. Future Pathways for Adaptation, Mitigation and Sustainable Development

The Synthesis Report states that:

Adaptation and mitigation are complementary strategies for reducing and managing the risks of climate change. Substantial emission reductions over the next few decades can reduce climate risks in the 21st century and beyond, increase prospects for effective adaptation, reduce the costs and challenges of mitigation in the longer term and contribute to climate-resilient pathways for sustainable development. {3.2, 3.3, 3.4}⁵⁰

⁵⁰ The phrase "sustainable development" as regards the economy may ultimately become an oxymoron as suggested by John Stuart Mill in about 1850. See footnote 108 on page 115 of Part III of this dissertation.

(SYR, p.17) Effective decision-making can rely on a multitude of analyses for evaluating future risks and benefits, "recognizing the importance of governance, **ethical dimensions, equity, value judgments, economic assessments** and diverse perceptions and responses to risk and uncertainty." (Emphasis added; SYR, p.17)

Sustainable development and equity must be involved when assessing different climate policies for RCP2.6 through RCP6.5. Limiting climate change effects is necessary to achieve both of those ends and especially the elimination of poverty to the extent possible. In addition, "[c]ountries' past and future contributions to the accumulation of [greenhouse gases] in the atmosphere are different, and countries also face varying challenges and circumstances and have different capacities to address mitigation and adaptation." (SYR, p.17) Both of those contributions, past and future, must be evaluated to assess the responsibility of each country. Both "[m]itigation and adaptation raise issues of equity, justice, and fairness." Most of the countries that are most vulnerable to climate change have contributed and still contribute minimally to greenhouse gas emissions. As above, **the United States is the responsible country for most of the past emissions prior to about 2010.**

Obviously as the IPCC observes, "[d]elaying mitigation shifts burdens from the present to the future, and insufficient adaptation responses to emerging impacts are already eroding the basis for sustainable development." (SYR, p.17) Comprehensive climate change strategies that support sustainable development take into account "the co-benefits, adverse side effects and risks" that are projected to arise from all adaptation and mitigation alternatives. (SYR, p.17) Designing climate change policy must consider the way in which "individuals and organizations perceive risks and uncertainties and take [those perceptions] into account" and whether those positions are merely selfish or have benefits for present and future human interests generally. Evaluation methods using

"economic, social and **ethical analysis** are available to assist decision-making." (Emphasis added; SYR, p.17) These evaluations can assess a multitude of possible impacts, "including low-probability outcomes with large consequences. But they cannot identify a single best balance between mitigation, adaptation and residual climate impacts. {3.1} [SYR, p.76]" (SYR, p.17)

Climate change now demands global collective action, because again most greenhouse gases "accumulate over time and mix globally, and emissions by any agent (e.g., individual, community, company, country) affect other agents. Effective mitigation will not be achieved if individual agents advance their own interests independently." (SYR, p.17) Cooperation - international cooperation - is necessary to effectively reduce and eliminate greenhouse gas emissions and address climate change issues generally. Also, effective adaptation measures "can be enhanced through complementary actions across [national] levels," through international cooperation. In addition, equitable projected results can lead to effective cooperation. (SYR, p.17)

The IPCC is right on point with its assessment of necessary mitigation and adaptation action.

Without additional mitigation efforts beyond those in place today, and even with adaptation, warming by the end of the 21st century will lead to high to very high risk of severe, widespread and irreversible impacts globally (*high confidence*) In most scenarios without additional mitigation efforts (those with 2100 atmospheric concentrations [greater than] 1000 ppm CO_{2-eq}) warming is *more likely than not* to exceed 4°C above pre-industrial levels by 2100. ... **The risks associated with temperatures at or above 4°C include substantial species extinction, global and regional food insecurity, consequential constraints on common human activities, and limited potential for adaptation in some cases (*high confidence*).** ... {2.3, Figure 2.5, 3.2, 3.4, Box 2.4, Table SPM.1}

(Emphasis added, SYR, p.18-19) Also, some climate change risks, such as those "to unique and threatened systems and risks associated with extreme weather events, are moderate to high [even] at temperatures 1°C to 2°C" greater than pre-industrial levels. (SYR, p.19)

The IPCC continues;

Substantial cuts in [greenhouse gas] emissions over the next few decades can substantially reduce risks of climate change by limiting warming in the second half of the 21st century and beyond. **Cumulative emissions of CO₂ largely determine global mean surface warming by the late 21st century and beyond. Limiting risks across [the five Reasons for Concern⁵¹] would imply a limit for cumulative emissions of CO₂. Such a limit would require that global net emissions of CO₂ eventually decrease to zero and would constrain annual emissions over the next few decades** (Figure SPM.10) (*high confidence*). But some risks from climate damages are unavoidable, even with mitigation and adaptation. {2.2.5, 3.2, 3.4}

(Bolded emphasis added; SYR, p.19) Figure SPM.10 is included in Appendix A.

Ethical considerations are included in the SYR, all in a positive context, for example. as possibly helpful in adaptation and mitigation efforts. (SYR, p.17) A number of those instances are the following. Initially, the SYR defines the role of ethics: "Ethics analyses⁵² the different values involved and the relations between them. Recent political philosophy has investigated the question of responsibility for the effects of emissions." (SYR, p.76) At the very least, it seems that that is what ethics and political philosophy ought to do. However, the dysfunctional legislatures in the United States particularly seem in need of something to recognize reasonable political philosophy.

The IPCC endorses "[t]ransformations in economic, social, technological and political decisions and actions" and states that such transformations "can enhance adaptation and promote sustainable development (*high confidence*)." (SYR, p.20) It suggests these "transformations" at a national level obviously because there is no reasonable expectation for transformations of actions at any international level because national interests have yet to overcome their dedication to their

⁵¹ "Five Reasons For Concern (RFCs) aggregate climate change risks and illustrate the implications of warming and of adaptation limits for people, economies and ecosystems across sectors and regions. The five RFCs are associated with: (1) Unique and threatened systems, (2) Extreme weather events, (3) Distribution of impacts, (4) Global aggregate impacts, and (5) Largescale singular events. In this report, the RFCs provide information relevant to Article 2 of [United Nations Framework Convention On Climate Change United Nations (1992)]." (SYR, p.18)

⁵² "Analyses" is the third person present form of the verb "analyse" which is the British spelling of "analyze." *The New Oxford American Dictionary*, ed. E. Jewell and F. Abate (Oxford: Oxford University Press, 2001), p.55.

own interests primarily for reasons of economics and promotion of individual wealth. But the IPCC states:

Planning and implementation of transformational adaptation could reflect strengthened, altered or aligned [or possibly new] paradigms and may place new and increased demands on governance structures to reconcile different goals and visions for the future and to address possible equity and ethical implications. Adaptation pathways are enhanced by iterative learning, deliberative processes and innovation.

(Emphasis added; SYR, p.20) While "ethical implications" are mentioned, transformations of ethics and ethical theories are not mentioned possibly because ethics and their associated theories may seem so remote as to defy transformations. However, new or revised theories are continually proposed and, therefore, new theories or at least revised theories should not only be possible but, as argued in this dissertation, are necessary. Whether theories are sufficient is a matter of application. In any event and in any context in the AR5, the reference was to existing ethical positions and in no location was there any hint that different or revised ethics or ethical theory would be helpful or hurtful.

Those few portions of the Synthesis Report referenced or quoted above are offered in an attempt to crystallize the severity and global nature of the impacts associated with climate change. It is the position of this dissertation, however, that at least a revised ethic - specifically a climate change virtue ethic - a transformational ethic, if you will - would not only be helpful but is necessary. Consequently, the task of this dissertation is beginning the possible revision of virtue ethical theory where the hope is the awakening of philosophy to the different impacts and puzzles that climate change has invented. But first the science of climate change is offered in order to understand not only the impacts of climate change but also the natural scientific facts involved.

G. Climate Change - The Science

The science of climate change (and, its cause, global warming) is fairly simple. It regards certain gases, and the nature of those gases, that accumulate in Earth's troposphere, the atmospheric layer from Earth's surface to about 5 to 12 miles above Earth's surface.⁵³ Again, the important gases are CO₂, CH₄, N₂O and certain other gases of lesser importance collectively called "greenhouse gases" which are relatively transparent to the thermal energy that Earth receives from the Sun but which are relatively opaque to the thermal energy then returned to space by Earth. The Sun's thermal energy is primarily received in the short ultra-violet wavelength band while Earth's retained thermal energy that is then returned to the troposphere is emitted in the longer infrared wavelength band.

Virtually all of the thermal energy presently available on Earth has been thermal energy generated by the Sun over Earth's life of the past 4 billion plus years. Much of that energy has been retained by Earth in the form of fossil fuels which, of course, have resulted from the decay of plants and animals and when privatized are transformed into gasoline, heating media, plastics and other chemicals. When burned, those compounds create heat and CO₂.

That energy from the Sun warms Earth's surface and its atmosphere, lakes and oceans on a daily basis. Also, on a daily basis, as Earth rotates away from the sun, Earth cools, and, upon cooling, some of the thermal energy that Earth has received is then given up by Earth but in the

⁵³ The troposphere is "the lowest part of the atmosphere, from the surface to about 10 km in altitude at mid-latitudes (ranging from 9 km at high latitudes to 16 km in the tropics on average), where clouds and weather phenomena occur. In the troposphere, temperatures generally decrease with height." AR5, WGII, p.1774. As explained in Wikipedia "The troposphere is the lowest layer of Earth's atmosphere It contains approximately 75% of the atmosphere's mass and 99% of its water vapour and aerosols. ... The lowest part of the troposphere, where friction with the Earth's surface influences air flow, is the planetary boundary layer. This layer is typically a few hundred meters to 2 km (1.2 mi) deep depending on the landform and time of day." <http://en.wikipedia.org/wiki/Troposphere>

longer infrared wavelengths.⁵⁴ This difference in wavelength of the thermal energy transmitted to, and from, Earth allows the Sun's thermal energy to pass through the gases in the troposphere but allows the retention by those gases of the thermal energy given up by Earth. Some of that retained thermal energy is then transmitted back to Earth and provides for additional warming of Earth.

The unit of this thermal energy in present science is the "photon" which is, of course, also the unit of visible light which has a wavelength between the ultraviolet and the infrared bands. Photons may act as both a particle and a wave.⁵⁵ Further, the absorption of Earth's thermal infrared radiation by molecules of these greenhouse gases in the troposphere depends on their concentration, and type.⁵⁶

[The] molecular bands [of the greenhouse gases] that absorb significantly in the spectral region [of the Earth's surface longwave radiation emission] play an important role in atmospheric absorption and emission, and hence control the outgoing longwave radiation to space and hence the Earth's long wave radiation budget. This, in turn, determines the greenhouse effect of the atmospheric molecules as the balance between the net incoming [short wave] solar radiation and the outgoing longwave radiation [which] primarily determines the Earth's surface temperature.

(R&C, p.114) While some details of this process have been refined recently, the science of the basic process is far from new. Jean-Baptiste Joseph Fourier (1768-1830), a French physicist, in 1827, discovered that Earth loses, by infrared radiation, some of the thermal energy it receives from

⁵⁴ Animal bodies, both human and nonhuman, generate thermal energy, or heat, in similar infrared wavelengths that allow what is sometimes called "night vision" that refers in part to equipment that can identify these wavelengths where our eyes cannot.

⁵⁵ "Newton conjectured the particle aspects and observed wave aspects ("Newton's rings"). Young showed wave interference in his double-slit experiments, and Einstein formulated light as particles (photons) to explain the photoelectric effect." J. R. Sambles, "Structured photons take it slow," *Science*, vol. 347, issue 6224, Feb. 20, 2015.

⁵⁶ "Absorption of terrestrial thermal infra-red radiation by molecules in the atmosphere depends on their concentration, type and whether they are heteronuclear (e.g. CO₂, H₂O, CH₄, O₃, NH₃) or homonuclear (e.g. N₂ and O₂), that is whether or not they have an electrical dipole that can interact with infrared radiation. The atmosphere consists of mainly homonuclear molecules and hence it is the trace [heteronuclear] molecules, which strongly absorb infra-red radiation emitted by the Earth's surface to space, that determine the strength of the greenhouse effect." I.M. Vardavas and F.W. Taylor, *Radiation and Climate: Atmospheric Energy Budget from Satellite Remote Sensing* (Oxford: Oxford University Press, 2007) herein referenced as "R&C," p.86. In summary, "[i]n planetary atmospheres, natural emission is ... restricted to the infra-red" (R&C, p.56) I owe the recommendation of this book to Dr. Martin Hoffert, Emeritus Professor of Physics, New York University.

the Sun.⁵⁷ Fourier theorized that the thermal energy given off by Earth was not all transmitted into space but that some was retained by Earth's atmosphere. John Tyndall, an Irish/British scientist (1820-1893), in 1859, found that the primary atmospheric gases, oxygen and nitrogen, were transparent to infrared radiation while water vapor, CO₂ and some other gases were opaque to that radiation.⁵⁸ Tyndale states;

The solar heat possesses ... the power of crossing an atmosphere; but, and when the heat is absorbed by the planet, it is so changed in quality that the rays emanating from the planet cannot get with the same freedom back into space. Thus the atmosphere admits of the entrance of the solar heat, but checks its exit; and the result is a tendency to accumulate heat at the surface of the planet.

(Tyndale, p.158) Thus, Earth's atmosphere retains thermal energy which is then radiated back to Earth, and, thereby, keeps Earth warmer than it would otherwise be.

Also, about this same time, the possibility of a prehistoric ice age was postulated. That idea was investigated by a Swedish scientist, Svante Arrhenius (1859-1927), who, in a paper written about 1896,⁵⁹ postulated that the amount of CO₂ in the atmosphere could change as a result of events like volcanic eruptions and their attendant emissions that would include large amounts of CO₂ and that this could provide a warmer Earth. Conversely, if volcanic eruptions ceased, CO₂ would be absorbed into soil and ocean water that would result in the cooling of the air. Thus, the air would hold less water vapor, also a potent gas opaque to infrared radiation which would further cool Earth. He postulated that the continuation of this process could result in an Ice Age.

⁵⁷ Jean-Baptiste Joseph Fourier, "On the Temperatures of the Terrestrial Sphere and Interplanetary Space" in *M'emoires d'l'Acad'emie Royale des Sciences de l'Institute de France*, VII 570-604 1827; see *Nature*, vol. 432, Dec.9, 2004, p.677 for a translation. The existence of infrared radiation had only been discovered about 25 years earlier by Frederick Herschel (1738-1822), a German scientist.

⁵⁸ John Tyndall, "On the transmission of heat of different qualities through gases of different kinds" in *Proceedings of the Royal Institution of Great Britain* 3: 1859, pp. 155-158, herein referenced as "Tyndall, p.____" <https://archive.org/details/noticesofproceed03roya>; see also Mike Hulme, "On the origin of 'the greenhouse effect': John Tyndall's 1859 interrogation of nature," in *Weather*, vol. 64, no. 5, May 2009, pp.121-23.

⁵⁹ Svante Arrhenius, "On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground," in *Philosophical Magazine and Journal of Science*, series 5, vol. 41, April 1896, pp.237-276.

Arrhenius also attempted to calculate the quantity of CO₂ added to the atmosphere through anthropogenic activities and actually suggested that, if these activities doubled the CO₂ content of the atmosphere, it would raise Earth's temperature by 5°C or 6°C. However, he suggested that this doubling might take thousands of years. Apparently, his prediction was based on Earth's population which was then about 1 billion. Within a few years, his prediction was erroneously dismissed as wrong and was actually close to today's science.

In 1938, Guy Stuart Callendar (1898-1964), an English engineer, told the Royal Meteorological Society that the warming that had occurred in areas of Earth was caused by human industrial activity through the burning of fossil fuels and the attendant emissions of millions of tons of CO₂ which was, as a result, changing Earth's climate.⁶⁰ Callendar stated:

Few of those familiar with the natural heat exchanges of the atmosphere, which go into the making of our climates and weather, would be prepared to admit that the activities of man could have any influence upon phenomena of so vast a scale. In the following paper I hope to show that such influence is not only possible, but is actually occurring at the present time.

(Callendar, p.223). About this time, the term "greenhouse effect" had begun to be used. While a strict misnomer because greenhouses simply prevent the heated air inside a building from escaping, this terminology caught on. This, of course, is not what occurs through global warming where the infrared thermal radiation from Earth is collected in the troposphere with some being sent back to Earth. In 1956, Gilbert Plass, Ph.D. (1920-2004) suggested, after computer calculations, that human activity would increase the average temperature of Earth "at the rate of 1.1 degree C per century" but the scientific community rejected the conclusion because of crude computation.⁶¹

⁶⁰ G. S. Callendar, "The artificial production of carbon dioxide and its influence on temperature," in *Quarterly Journal of the Royal Meteorological Society*, vol. 64, issue 275, April 1938, pp.223-240.

⁶¹ G.N. Plass, "Infrared Radiation in the Atmosphere," *American J. Physics* 24, 1956, pp.303-21; G.N. Plass, "Carbon Dioxide and the Climate," *American Scientist* 44, 1956, pp. 302-16; G.N.Plass, "Effect of Carbon Dioxide Variations

However, over the last few decades, the primary concern of global warming and climate change has become the length of time that anthropogenic CO₂ will remain in the atmosphere.

Climatologist, David Archer stated in a peer-reviewed journal that:

The carbon cycle of the biosphere will take a long time to completely neutralize and sequester anthropogenic CO₂. We show a wide range of model forecasts of this effect. For the best guess cases, ... , we expect that 17-33% of the fossil fuel carbon will still reside in the atmosphere [a 1000 years] from now, decreasing to 10–15% at [10,000 years], and 7% at [100,000 years]. The mean lifetime of fossil fuel CO₂ is about [30,000-35,000 years].⁶²

This, of course, means that the CO₂ from, for example, fossil fuel being emitted into the atmosphere today, will be with Earthbound humanity for a long, long time and will be with future generations for hundreds, thousands, and possibly tens of thousands of years.

In 2013, after the IPCC first published its Science portion of AR5, Richard A. Kerr, a News Writer for the weekly journal *Science*, in its October 4, 2013, issue, summarized the history of climate change science as follows:⁶³

Back in 1979, the late Jule Charney of the Massachusetts Institute of Technology convened a committee for the U.S. National Academy of Sciences (NAS) to consider what effect, if any, increasing amounts of atmospheric CO₂ might be having on climate (*Science*, 13 August 2004, p. 932). One of the two U.S. groups modeling climate at the time told the committee that in their model, doubled atmospheric CO₂ warmed Earth by 2°C. The other group said it's equally rudimentary model warmed 4°C after a doubling. ... Charney simply took 0.5°C as a not-unreasonable margin of error and came up with the now-iconic range for climate sensitivity of 1.5°C to 4.5°C. It has endured through nearly 3 decades of reports, first from the NAS and then from the IPCC.

However, there is a huge difference between 1979 and the present.

on Climate," *American J. Physics* 24, 1956, pp. 376-87; G.N. Plass, "The Carbon Dioxide Theory of Climatic Change," *Tellus* VIII, 2. (1956), pp.140-154; G.N. Plass, "Carbon Dioxide and Climate," *Scientific American*, July 1959, pp.41-47. Plass stated: "[T]he temperature at the surface of the earth is controlled by the transparency of the atmosphere in the visible and infrared portions of the spectrum." Gilbert N Plass, PhD, 1956.

⁶² Archer, David, "Fate of Fossil Fuel CO₂ in Geologic Time," *Journal of Geophysical Research, Oceans*. 110 (2005), [C09S05, doi:10.1029/2004JC002625]; p.5

⁶³ "The IPCC Gains Confidence in Key Forecast," *Science*, Vol. 342, Issue 6154, October 4, 2013, p.23; herein "Science 6154, p.____".

[E]ven though the sensitivity numbers have stayed the same, the work behind them has advanced dramatically. “Our estimates are supported by actual data to an extent that was probably unimaginable in Charney’s time,” writes climate scientist and an IPCC report author, Gabriele Hegerl of the University of Edinburgh in the United Kingdom, in an e-mail. ... The [IPCC] report now assigns "high confidence" to climate sensitivity falling in the canonical range. ... , Hegerl writes.

(*Science*, Vol. 342, Issue 6154, p.23) For three plus decades, scientists have given us the range of 1.5°C to 4.5°C for the impact of our anthropogenic CO₂ emissions and yet there are still politicians who are deniers for the simple purpose of pandering for votes. And there are still corporate boards that approve advertising and marketing strategies that encourage the expansion of the use of fossil fuel energy for the vicious purpose of generating big paychecks and bonuses for executives.

H. Summary - Chapter 2

In summary, the primary reasons for the anthropogenic influence are (1) population - about three billion in 1960 and about seven billion (in about 2010), an increase of about four billion or about one hundred thirty percent in fifty years and increasing to produce economic growth, (2) consumerism for that purpose as well through purchasing what is not needed, what is unsatisfying, what is just bigger, what will not last, or just what we are told to purchase,⁶⁴ and (3) the fossil fuel energy addiction of that world population through the increased number of vehicles per capita, the exponential increase in the use of electrical energy to operate new technology (such as the computer, television, etc.), the construction of more and larger homes, the increased use of air-conditioning which uses electrical energy to remove heat from an enclosed area and dumps it into the outdoor atmosphere thus increasing outdoor temperatures, and all those other electrical items that have only become “necessary” over the last 50 years (“there, there little luxury, don’t you cry.

⁶⁴ “con·sum·er·ism, noun; 1: the promotion of the consumer's interests; 2: the theory that an increasing consumption of goods is economically desirable; *also* : a preoccupation with and an inclination toward the buying of consumer goods.” <http://unabridged.merriam-webster.com/unabridged/consumerism>

You will be a necessity by-and-by.”) And all of those new fossil fuel electrical energy uses increase the quantity of CO₂ that overloads Earth’s natural “sinks” for CO₂ (1) in Earth’s atmosphere that heats up Earth through its accumulation in that sink (along with the other greenhouse gases), (2) in Earth’s oceans that also heats up that sink and, in addition, acidifies those oceans that among other things destroys coral and requires migration of the oceans’ habitants to other areas of cooler temperatures where they can be found, and (3) in Earth’s soils.

The resulting major ethical concerns are the following. First, the obvious fact that the emissions of CO₂ from the present generation’s use of fossil fuel energy will be retained in Earth’s atmosphere for centuries and millennia (see pages 16 and 17 above) and, thereby, cause the crises described above over those periods. Further, under these circumstances present ethical theories do not even clearly mandate shame when ethical consideration is extended only to the present generation because of the required reciprocity of those theories and our general laws. Second, the present generation has forgotten tradition and past generations even though it has benefited from that tradition and those generations while refusing any responsibility for the activities of its ancestors and its own generation that have caused climate change. It seems that a problem of character is involved. Therefore, defining character and reviewing the need for improvement of character are important and are addressed in the next chapter.

Chapter 3 - Character Improvement

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may--

- (1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations:

42 USC 4331; Sec 101. National Environmental Policy Act of 1969

Why should character be a critical component of the mitigation of and adaptation to climate change? As Schönfeld has observed, environmental ethics has morphed into climate change ethics. As I argue in this dissertation, present ethical theory does not adequately address climate change. As is argued in Part III below, none of the three major ethical theories adequately address climate change because of the global impact of this anthropogenic change and because the duration of that change is centuries and millennia. The human inhabitants of Earth are the cause of the global impact and the duration of climate change. As argued herein, character is the critical ingredient in the response to this change.

A. Character - A Definition

Because of this anthropogenically caused lengthy climacteric, this dissertation focuses on the character of both the individual human being and groups of those beings particularly in the United States. In addition, the definition of “character” is needed particularly when discussing Aristotle’s ethics which defines “virtue” as a “state of character” of the individual. "Character" as defined in the Merriman-Webster Unabridged Dictionary⁶⁵ is lengthy because that word covers

⁶⁵ <http://unabridged.merriam-webster.com/unabridged/character>.

much ground in the English language. For example, it starts with "a distinctive differentiating mark" that is "capable of being impressed or engraved". While metaphorically applicable to a living being, that definition is generally thought to regard an imprint on metal or other material, for example, paper. That, of course, is not the definition of "character" as that word is used in this dissertation.

That dictionary does contain the following definition which much more closely describes the use of "character" herein: "the complex of accustomed mental and moral characteristics and habitual ethical traits marking a person, group, or nation or serving to individualize it" I argue that the necessary moral characteristics and habitual ethical traits to address climate change have not been made philosophically important. The *Stanford Encyclopedia of Philosophy* explains the Aristotelian concept of "Moral Character" ⁶⁶on which this dissertation seeks to focus as follows:

By calling excellence of character a state, Aristotle means that it is neither a feeling nor a capacity nor a mere tendency to behave in specific ways. Rather it is the settled condition we are in when we are well off in relation to feelings and actions. We are well off in relation to our feelings and actions when we are in a mean or intermediate state in regard to them. If, on the other hand, we have a vicious character, we are badly off in relation to feelings and actions, and we fail to hit the mean in regard to them.

(SEP, §2.4) While the concept involved in this dissertation through the word "character" does focus on the idea of excellence, it also attempts to focus generally on present human character as "neither a feeling nor a capacity" but as a disposition to behave in specific ways. It specifically attempts to focus on the disposition of the present generation in the United States "to behave in [the] specific ways" that exacerbate climate change rather than those that mitigate climate change or provide adaptation to climate change. Further, those dispositions represent a bad "settled

⁶⁶ *Stanford Encyclopedia of Philosophy*, Moral Character, §2.4; <http://plato.stanford.edu/entries/moral-character/#Ari384BCE> ; herein referenced as "SEP, §__."

condition" of the character of this present United States generation though we do not seem to believe it.

Through focusing on that "settled condition," it is hoped that that settled condition can be changed through a new and/or revised virtue or virtues within virtue ethical theory and, thereby, come closer to the remainder of Aristotle's idea of the state of excellence of character described in the above Stanford definition. Moreover, especially for climate change, Aristotle's original thoughts and recommendations remain valuable and as applicable today as during his life.

Aristotle names the virtues "states of character" and recognizes that the vices are as well states of character. Again, as the above Stanford quotation notes, if we have a vicious character "we are badly off in relation to our feelings and actions." Today we are badly off because those feelings and actions of the many have been detoured toward financial gain to support an un- and under-regulated capitalism and rabid consumerism required to support the luxuries of the few. That detour has produced an oligarchy in the United States; has not fostered democracy or a republican governmental form; and has produced a confused less than virtuous electorate that seeks financial gain above all else. Also, that electorate and the present politicians seem willing to blame anyone else for the inability to produce that undefined financial gain, and, finally, refuse to recognize the clear fact that it is this generation in the United States that is the climate change problem.

This generation seems to believe that, as one of its members stated, "one can never have too much money." Even Aristotle in the fourth century B.C.E. recognized and argued that too much money just as too much of anything material is bad. As argued below, recognition of Aristotle's concepts of *aidōs*, incontinence, and continence seem necessary in searching for a new and/or revised virtue to address this twenty-first century and its concerns. Also, Aristotle's

psychology, as organized by Thomas Aquinas, seems necessary for implementing *aidōs*, continence and incontinence. Actually, character seems to be both the concern and the opportunity.

B. Improved Character - The Need Especially in the United States

To meaningfully address climate change, I argue that all three major ethical theories require a greatly improved individual character especially in the United States and that a revised virtue ethical theory can begin to accomplish that goal. This chapter provides evidence of the need for that improved character. Part II of this dissertation reviews both Kantian ethics and utilitarian ethics briefly and concludes that (1) both are necessary to address climate change, (2) that an improved individual virtuous character is needed by both of those theories in that regard and neither provides the means for generating that character, and (3) present virtue ethical theory does provide a point of departure for the necessary improvement. Part III explains the foundation that present virtue ethical theory provides for the improvement of individual character and specifically the emphasis on the parts of that present theory that can provide for that improvement.

A greatly improved individual character in the United States is now necessary not only because in the past decades that character has arguably deteriorated but climate change itself now requires an elevated level of character beyond that general level thought necessary in the past, especially in the United States. The character of the rational human being can be described as the attributes or features that make up and distinguish the individual and as such it is an integral component of the individual's imprint on society. Character is also a contingent feature of the individual - it can and does change over time and as such it is a malleable feature of the rational human being.

During the past few decades, it has been argued that there has been a general deterioration in the character of many if not most of the citizens of at least the United States where that character

is said to have deteriorated from a generally virtuous character to a generally less than virtuous character over those decades. In support of that possible deterioration, some evidence that amounts to hearsay evidence is summarized below. That evidence has not been subjected to peer review and, therefore, does not provide any scientific confirmation. However, there is little evidence, hearsay or other, that argues that character has remained acceptable or improved over that period. In fact, one of the United States political parties has taken the specific position that making “America great again” is the specific work immediately necessary. Character must be involved. Others take the position that while there are always concerns about what needs improvement and about the present failure of present political cooperation, the United States needs to move forward but still cooperation of the parties seems nonexistent and, regarding climate change, neither party seems overly concerned about it and some still deny its existence.

Character seems more easily described on an individual level rather than a collective, communal level. When looking for examples of individual virtuous character those that come to mind are Mahatma Gandhi, Jimmy Carter, Abraham Lincoln, Angela Merkel, Nelson Mandela and others like them in the governmental arena; Mother Teresa, Pope Francis (Jorge Mario Bergoglio) and others like them in the religious arena; Bill and Melissa Gates and Warren Buffett and others like them in the business arena, and Tony Dungy and others like him in the sports arena. In the group arena, the IPCC (which was awarded the Nobel Peace Prize in 2007) does seem like a very good example. So, there are positive examples of individuals and some groups that most would describe as virtuous.

However, there are many individuals who come to mind as examples of vicious character. The following individuals have been offered as examples of character deterioration though the references again are not peer reviewed or subject to any known present simple means of publicly

available verification: (1) Dennis Kozlowski of Tyco International, Ltd. for fraudulent accounting practices for which he served about eight years of a jail term; (2) Bernard Ebbers of MCI WorldCom for fraudulent accounting practices that again resulted in jail; (3) Bernard F. Madoff for the largest United States accounting fraud estimated at 60 billion and a prison sentence of 150 years; (4) Kenneth Lay and Jeffrey Skilling of Enron Corp. again for fraudulent accounting practices which again resulted in prison time; (5) Joseph Nacchio, CEO of Qwest Communications for securities fraud involving among other things false statements to the public. As further evidence of the deterioration of character, these sports examples have been offered: Lance Armstrong's years of doping and loss of his cycling records, Pete Rose's gambling, Alex Rodriguez's confession of his use of steroids after months of denial.

Further, some fraudulent practices may seem to be corporate rather than individual, for example the Volkswagen scandal, but that scandal like all others had to involve individuals that willfully and knowingly made the fraudulent decisions. Someone and possibly accomplices at Volkswagen decided to construct software that would only detect an emissions violation under the testing procedures required by the United States Environmental Protection Agency and would allow road performance without the necessary compliance.⁶⁷

When assessing the character of an individual or individuals at least in the United States, legality and not morality seems to be used in the determination. Generally, there seems to be less interest in using the virtues to make that assessment. It seems, in addition, that even a candidate for president of the United States can use the idea of shooting a person in plain view as a means to

⁶⁷ For most of the above examples, information about the involved scandal can be found by googling the name of the individual or the company with the word "scandal" following that name. And of course, evidence other than hearsay is available with some difficulty through court and governmental records or corporate records which become available through lawsuits.

produce more votes for that candidate.⁶⁸ And it seems there are those voters that applaud that kind of idea. Actually, it seems today generally that the assessment of an individual's character generally depends upon legality rather than morality. It seems that there is a general feeling that if an action is legal, it is considered moral.

While there seem to be no acceptable metrics for judging the character of groups of individuals such as states and nations, there are, of course, many authors who have judged such entities on the basis of personal perception of the activities of individuals and groups within those states or nations.

There have been a number of authors since the World War II years that have commented at some length about what they perceive as the deterioration of individual character in the United States. Wendell Berry in his 1977 book, *The Unsettling of America Culture & Agriculture*,⁶⁹ argued that the character of the American community and the American individual had deteriorated substantially. The Los Angeles Times is reported to have opined at its publication that it "may be one of the most important books of the decade." His book provided over 200 pages of information that he argues supported that charge of deterioration. Initially, Berry reported that, in the mid-1970s, it had been revealed

that some of our largest and most respected conservation organizations [in the US such as the Sierra Club] owned stock in the very [United States'] corporations and industries [such as Exxon, General Motors, and Tenneco] that have been notorious for their destructiveness and for their indifference to the concerns of conservationists.

⁶⁸ "I could stand in the middle of Fifth Avenue and shoot somebody and I wouldn't lose any voters, okay? It's, like, incredible," USA Today, January 23, 2016; <https://www.usatoday.com/story/news/politics/onpolitics/2016/01/23/trump-could-shoot-person-and-not-lose-votes/79232258/>

⁶⁹ Wendell Berry, *The Unsettling of America Culture & Agriculture* (New York: Avon Books (through arrangement with Sierra Club Books), 1977) herein referenced as "Berry, p.____." Wendell Berry (1934 -) is an American writer, poet, teacher, farmer, environmentalist, and the author of numerous books.

(Berry, p.17) Berry noted that these conservation organizations quickly made changes in their investment choices but he further opined that;

[If it was] only a question of policy, these investments could easily be forgotten, dismissed as aberrations of the sort that inevitably turn up now and again in the workings of organizations. **The difficulty is that, although the investments were absurd, they were *not* aberrant; they were perfectly representative of the modern [American] character.**"

(Italicized emphasis in original, bolded emphasis added; Berry, p.17) He continues: "We are dealing, then, with an absurdity that is not a quirk or an accident, but is fundamental to our character as a people [of the United States]." (Berry, p.18) Berry also stated that there was no divisibility of organizations or individuals into "environmental saints and sinners" because life in general had become a matter of requiring some destruction and pollution in greater or lesser degrees. He argues that we in the United States were really all involved to some degree in this destruction and pollution because of our use of fossil fuel energy and dedication to a continual "improvement" of the consumerist lifestyle.

Berry further states that **"these public absurdities are, and can be, no more than the aggregate result of private absurdities; the corruption of community has its source in the corruption of character. This realization has become the typical moral crisis of our time."**

(Emphasis added; Berry, p.19)

Berry also in that 1977 book argues that an important aspect of the moral problem relates to fossil fuel energy. In discussing this form of energy, he states that we cannot "pursue our ideals of affluence, comfort, mobility and leisure indefinitely based on the belief that we can develop unlimited new sources of energy." He also argues that the problem is not scarcity of energy but

it is moral ignorance and weakness of character. We don't know *how* to use energy, or what to use it *for*. And we cannot restrain ourselves. Our time is characterized as much by the abuse and waste of human energy as it is by the abuse and waste of

fossil fuel energy. ... If we had an unlimited supply of solar or wind power, we would use that destructively, too, for the same reasons.

(Emphasis in original; Berry, p.13) While he was thought to be ahead of his time in those concerns, as early as 1938, some scientists had become publicly concerned about the increasing CO₂ content in the global atmosphere as related above on pages 55 to 60 above.

Berry continues his assessment of the reason for this deterioration:

The community disintegrates because it loses the necessary understandings, forms, and enactments of the relations among materials and processes, principles and actions, ideals and realities, past and present, present and future, men and women, body and spirit, city and country, civilization and wilderness, growth and decay, life and death - **just as the individual character loses the sense of a responsible involvement in these relations.**

(Emphasis added; Berry, p.21) Concerning climate change and as reported at pages 40 through 43, the United States has been responsible since about 1850 for about 28% of the CO₂ presently in Earth's troposphere which represents the largest share and the largest per capita share of that tropospheric CO₂ of any nation on Earth through 2010. Recall that Dietz, et al. reported that 38% of the CO₂ in the atmosphere results from household decisions made by individuals. In addition, individuals direct corporations and governmental agencies and those individuals daily make decisions affecting climate change. Climate change is the result of individual character and its mitigation and adaptation methods must be developed and implemented by individuals.

David Callahan, in his 2004 book, *The Cheating Culture: Why More Americans Are Doing Wrong to Get Ahead*⁷⁰ (which reviews many of the above items) provides insight through a number of examples one of which involves Sears, Roebuck & Company automobile service policies in the 1990s and early 2000s. Callahan recounts Sears' problem of a major decline in earnings at the

⁷⁰ David Callahan, *The Cheating Culture: Why More Americans Are Doing Wrong to Get Ahead* (New York: Harcourt, Inc., 2004); herein referenced as "Callahan, p.____."

beginning of that decade that resulted in the company cutting 48,000 jobs. As one effect in its auto service shops, Sears instituted a commission compensation system based on the billings of individual mechanics which resulted in customers being billed for unneeded work and parts and in some cases for work and parts never provided. Callahan reports that “[p]eople complained of getting billed for repairs they didn’t want or need and of pervasive dishonesty at the Sears repair centers. Sears became the target of official investigations in forty-four states and eighteen class action [law] suits were filed against the company.” (Callahan, p.31) Callahan suggests that this compensation system could have been instituted by management to encourage cheating by pressuring the mechanics. This type of compensation plan provides the material circumstances that encourage cheating by the employees because it allows the employee no structural freedom. Callahan provides other examples of compensation generated cheating in such diverse fields as the law and sports.

Callahan reminds us that in the prior decade workers lost the security provided by unions and that in the 1990s and 2000’s inordinate compensation was paid for such items as hours worked or home runs. Further, in the decades that followed World War II, we in the United States have been subjected to increasing consumerism. The consumer has been and is subjected to advertising and other forms of encouragement to acquire more stuff where that citizen and his/her spouse have had to, and still have to, work more hours to pay for that stuff because his/her compensation did not and does not increase like that of the few percent already wealthy at the top of the earning curve. Here again cheating is encouraged to meet the requirements of capitalistic consumerism.

Callahan calls this cheating the result of "morally corrosive ... extreme capitalism" (Callahan, pp.17, 135) and its "narrow, bottom line ideas that too often foster dishonesty" (Callahan, pp.18-20, 281-86) in CEOs, CFOs, and other high-level executives. Callahan states that:

[T]he character of Americans has changed. Those values associated with the market hold sway in their most caricatured form: individualism and self-reliance have morphed into selfishness and self-absorption; competitiveness has become social Darwinism; desire for the good life has turned to materialism; aspiration has become envy. There is a growing gap between the life that many Americans want and the life they can afford - a problem that bedevils even those who would seem to have everything. Other values in our culture have been sidelined: belief in community, social responsibility, [and] compassion for the less able or less fortunate. The decline of civic life ... has both fueled these changes and been fueled by them. Everywhere the collective spirit needed for a vibrant civil society is struggling to survive in an era where shared goals are out of fashion.

(Callahan, pp.19-20) Callahan wrote these words in or about 2004 and was referring to individuals in the United States.

Tom Brokaw, in his 1998 book, *The Greatest Generation*,⁷¹ recorded the general character of the generation born in about 1920 that lived through the Great Depression and then through World War II. He relates the service, courage, dedication, honor, honesty, sacrifice, personal responsibility, achievement, and duty that defined the character of that generation. In the last chapter of the book, he comments that that generation has provided succeeding generations with "the opportunity to accumulate great economic wealth, political muscle and the freedom from foreign oppression to make whatever choices they like." While Brokaw finds the challenges for those succeeding generations "much different [than] but equally important [as]" those of the Great Generation, he states, in 1998,

there is no world war to fight today nor any prospect of one anytime soon but racial discrimination remains an American cancer. There is no Great Depression, but economic opportunity is an unending challenge, especially in a high-tech world where education is more important than ever. Most of all, there is the need to reinstate the concept of common welfare in America, so that the nation doesn't squander the legacy of this remarkable [prior] generation by becoming a collection of well-defined, narrowly cast special interest fiefdoms, each concerned only with its own place in the mosaic. World War II and what came after was the result of a nation united not a nation divided.

⁷¹ Tom Brokaw, *The Greatest Generation* (New York: Random House, Inc., 1998), referenced herein as "Brokaw, p.____."

(Brokaw, pp.388-89) The United States (1) has recently come through its "Great Recession" that some have claimed was caused by the general failure of character in the financial sector, Wall Street and the governmental agencies assigned to maintain compliance; (2) is in the throes (with the rest of the world) of a war on terrorism; and (3), based on common knowledge, is deeply divided politically. Consequently, that legacy that Brokaw celebrates seems arguably to have been squandered and Brokaw's warning seems to have become reality during the past three or four decades, where the United States has arguably become that "collection of well-defined, narrowly cast special interest fiefdoms."

Bill Bryson's words from his 2015 book, *The Road to Little Dribbling*,⁷² are indicative of his concern about character in the United States. At the end of the book, he describes what he finds appealing in Britain's culture and unappealing in the culture of the United States. First, he praises the United States.

[...] Britain is fundamentally sane. I appreciate that in a country. I regret to say that this point also occurred to me while traveling in my native land (the US). Let me say at once that America is a wonderful country. Think what the world would be like today if the United States hadn't intervened in the Second World War and led the reconstruction afterward. America has given us a pretty decent modern world and doesn't always get enough thanks for that. But for reasons that genuinely escape me, it is also becoming spectacularly accommodating to stupidity.

(Bryson, p.373) He then explains his reference to "becoming spectacularly stupid" that he finds in the United States where his example is gun control.

Where this thought most recently occurred to me was in a hotel coffee shop in Baltimore, where I was reading the local paper, the *Sun*, and I saw a news item noting that Congress had passed a law prohibiting the U.S. Department of Health and Human Services from funding research that might lead, directly or indirectly, to the introduction of gun controls.

⁷² Bill Bryson, *The Road to Little Dribbling* (New York: Doubleday, division of Penguin Random House LLC, 2015) herein referenced as "Bryson, p.__."

Bryson's further elaborates:

Let me repeat that in slightly different words. The government of the United States refuses to let academics use federal money to study gun violence if there is a chance that they might find a way of reducing the violence. It isn't possible to be more stupid than that. If you took all the commentators from FOX News and put them together in a room and told them to come up with an idea even more pointlessly idiotic, they couldn't do it.

He then explains his preference for Britain in still greater detail.

Britain isn't like that, and thank goodness. On tricky and emotive issues like gun control, abortion, capital punishment, the teaching of evolution in schools, the use of stem cells for research, and how much flag-waving you have to do in order to be considered acceptably patriotic, Britain is calm and measured and quite grown up, and for me that counts for a great deal.

(Bryson, pp.374-45) Interestingly, Brexit prevailed and that United States Congressional ban on gun control remains in force and effect today even in the face of the recent written renunciation (Fall 2015) by Congressman Jay Dickey (in office 1993-2001), Republican, Arkansas, who authored the original bill back in about 1998 at the request of the National Rifle Association.⁷³

Concerning gun control, it does seem interesting that owning an operable vehicle that is capable of major property damage and deadly force, requires a license and a valid vehicle registration while owning an operable gun capable of concealed deadly force requires neither.

Most importantly, the United States Legislature, and the Florida Legislature seem to have become dysfunctional. As examples, (1) the National legislature cannot deal with improving the Affordable Care Act, and (2) the Florida Legislature spends valuable time at the direction of the

⁷³ See Section 218 of "PUBLIC LAW 112-74-DEC. 23, 2011 125 STAT. 1085:" "Sec. 218. None of the funds made available in this title may be used, in whole or in part, to advocate or promote gun control" which remains in force and effect today as a result of further funding Public Laws the latest of which is in force and effect today. Rep. Jay Dickey's statement is found at <https://mikethompson.house.gov/newsroom/press-releases/thompson-former-rep-jay-dickey-calls-to-end-federal-ban-on-gun-violence>. Rep. Dickey has stated that the NRA will not now return his telephone calls. What about organizations that will not return telephone calls when they have paid someone to do their bidding? See <http://www.npr.org/2015/12/06/458661944/two-sides-come-together-on-gun-research-funding>.

National Rifle Association debating “open carry” of loaded firearms on Florida campuses. Such examples seem to be the ultimate evidence that individual character is in serious need of rectification. Again, however, the above is hearsay and not subject to easily available conformation though no similar evidence was found that supported a present acceptable or improved character of the United States population generally or in its legislators specifically.

Even if it is accepted that no such deterioration has occurred, the advent of climate change requires an increased level of character because of the new and never before fully recognized or addressed issues of (1) necessarily extending ethical consideration to the unborn,⁷⁴ and (2) mitigating, and adapting to, a truly global problem of anthropogenic environmental deterioration that will change life on Earth and will last for centuries if not millennia. However, that malleable human character can both reverse any human United States deterioration and provide for the elevation of character to that necessary new level.

While deterioration may or may not have been a factor in the cause of climate change, the other causes of consumerism, the exponential increase in the use of fossil fuels, and un- and under-regulated capitalism must be addressed if climate change is to be necessarily mitigated and the required adaptation achieved. With the assistance of revised and/or enlarged ethical theory, climate change can actually facilitate the reversal of any deterioration and provide the increased level of character necessary to adapt to, and mitigate, climate change.

⁷⁴ United States law concerning recognition of rights relative to the unborn has been reviewed by the U.S. Supreme Court in Roe v. Wade, 410 U.S.113,161,163-164(1973): "In areas other than criminal abortion, the law has been reluctant to endorse any theory that life, as we recognize it, begins before live birth or to accord legal rights to the unborn except in narrowly defined situations and except when the rights are contingent upon live birth. . . . With respect to the State's important and legitimate interest in potential life, the 'compelling' point is at viability. . . . If the State is interested in protecting fetal life after viability, it may go so far as to proscribe abortion during that period, except when it is necessary to preserve the life or health of the mother."

C. Summary

The two sub-theses of this Part I are, again, that no present ethical theory acceptably addresses either harms to unborn generations or damages from changes in an Earth wide "natural" system such as climate which has actually become an "unnatural" system because the origin of those system changes are anthropogenic. Those changes, named climate change, impact future unborn generations in an extreme manner while impacting the present generation to a much lesser degree. Present ethical theory seems to be generally based upon *intragenerational* relationships with reciprocity as a controlling factor, where reciprocity has been concerned both legally and morally primarily with intragenerational relationships between existing humans and to a much lesser extent between those humans and collectively nonhuman life and Earth that those humans inhabit. Present ethical theory has not meaningfully been able to address intergenerational concerns like climate change where that inability manifests itself in a number of ways such as in a present overly narrow and lessened concept of community.

As the present state of affairs is reviewed relative to ethical theory, it is interesting to recall the following eighteenth-century words of David Hume in his *An Enquiry Concerning the Principles of Morals*,⁷⁵ which discussed rights and property.

[W]herever any benefit is bestowed by nature in an unlimited abundance, we leave it always in common among the whole human race, and make no subdivisions of right and property. **Water and air, though the most necessary of all objects are not challenged as the property of individuals; nor can any man commit injustice by the most lavish use and enjoyment of these blessings.**

(Emphasis added: Hume, *Enquiries*, §145, p.184) While that was the situation on Earth through about the end of the 19th century and arguably through about the middle of the 20th century in the

⁷⁵ David Hume, *Enquiries Concerning Human Understanding and Concerning the Principles of Morals*, 3rd Ed., intro. and index L.A. Selby-Biggs and ed. and notes P.H. Nidditch (Oxford: Oxford University Press, 1975 (reprinted 2010)), herein referenced as "Hume, *Enquires*, p.____."

United States and other highly developed countries, since about 1970 and with increasing frequency through the present, most uses of both of those "blessings" have been and now are necessarily and significantly limited through national permitting regulation that can be enforced with serious sanctions, both civil and criminal. This is the result of humanity's major "overshoot" of many of Earth's boundary limits in at least the last five to ten decades.

Schönfeld⁷⁶ describes this overshoot as follows:

Climate change, like climate itself, is not tangible to the senses. ... The same cognitive issues [that obscure climate] obscure the "ecological overshoot," which is a concept that stems from comparing two datasets. One dataset is the rate of supply by the Earth system. Another is the rate of demand by global civilization. On the supply side is the renewal rate of biotic resources, such as wood fiber, together with the assimilation rate (the absorptive capacity) of environmental services like the carbon cycle. On the demand side are the rates of resource use and service pressure. The spatial frame for the datasets is the entire planet, and their time frame is an entire year. Should human demand outpace natural supply in a given year, overshoot obtains. Demand reached 100 percent of supply in 1970 [or before] and has since then exceeded Earth's limits every year by a wider margin. ... In 2014, overshoot passed 160 percent. Civilization is going about its business as if it had at its disposal the resources and services of one-and-a-half planets.

(Schönfeld, *Wisdom*, p.189) In addition, until that overshoot occurred, humankind has been able to rely on science and technology for the solution to its environmental problems including those involving air and water. However, science and technology have not been able to save those two common goods from privatization and from what has become much more than the then idea of the "most lavish use and enjoyment". Also, even though the science and technology for the mitigation of, and adaptation to, climate change are available and because of climate change's delayed impact and the associated problem of lack of present concern, science and technology have not been

⁷⁶ Martin Schönfeld, "Future-Oriented Philosophy and Wisdom East and West" in *Wisdom and Philosophy: Contemporary and Comparative Approaches*, eds. Hans-Georg Moeller and Andrew K. Whitehead (New York: Bloomsbury Academic, 2016) pp.187-204; herein referenced as Schönfeld, *Wisdom*, p.____".

implemented to the extent necessary to even begin to adequately address that mitigation or adaptation.

In the past, implemented technological systems, for example, (1) have generally improved cleanliness of the air, water and land; (2) have increased agricultural production that has provided the food for sustained population growth; (3) have provided the systems necessary for such sanitary improvements such as sewers (for those that can afford them); (4) have provided the necessary inexpensive energy through the use of fossil fuels; and (5) have provided for adequate disposal of wastes and other substances that now have been recognized as pernicious to society. Also, population growth which is a necessity for the economic system of un- and under-regulated free market capitalism has been served by medical science through the lowering of the infant mortality rate and improved longevity of life. And, of course, consumerism has provided another necessary requirement of that un- and under-regulated free market capitalism. In fact, climate change is the greatest failure of the present growth capitalistic economic strategy. Schönfeld states: “[C]limate change is a market failure, [and therefore] it is more than a normative problem. It is a material problem—a *structural* problem with existential significance; and it highlights flaws in the hegemonic design of civilization.” (Emphasis in original; Schönfeld, *Wisdom*, p.194) Also, that market failure has no technological solution. Its only solution seems to be the improvement of moral character.

All of this, it seems, has suggested to most of the existing generation that there is no need to be concerned about future generations because the hoped-for less costly technology to be generated and implemented by those future generations (it is nice to assume) will solve any problems that may confront them. Of course, the existing generation has not solved many of the more recent population related concerns, for example, nuclear waste disposal and the pollution of

the oceans through the waste produced by the exponential increase of humans over the last century. Also, again, the existing generation has not implemented the technology necessary to abate the steady increase of CO₂ and the other greenhouse gases in the troposphere that cause climate change and will sustain it for centuries if not millennia.

That entire situation, of course, has arisen primarily from the increase in population. As always, it is important to recall that in about 1900, there were approximately 1.6 billion people on Earth; by 1960, there were about 3 billion; and now there are over 7 billion all of whom individually contribute exponentially more waste and other pernicious substances than did prior individuals. It is predicted that by 2050, Earth can expect a population of about 9 billion and, beyond that, there are predictions of up to 11 billion. As a result, environmental concerns generally have also escalated exponentially and will continue to do so. Also, it should always be remembered that human activities have changed and are continuing to change natural systems, particularly climate (which in fact changes most other natural systems) to the detriment of both the present, but far more seriously, the future inhabitants of Earth.

Because of the inability of present ethical theory to motivate the present generation, that theory cannot meaningfully address climate change. In addition, it seems that unless generations present or future seek an improved character, those future generations will be as amenable to passing those responsibilities on to yet unborn generations as our existing generation is willing to do today. The result of doing nothing substantial to abate climate change could render Earth uninhabitable for humans and, therefore, at least a heightened level of character is necessary.

Climate change, un- and under-regulated capitalism, and consumerism are the new challenges of the last few decades that we are now facing as individuals and as a nation and that

require new character traits that were unnecessary until about the 1970s and thereafter but that now are critically necessary. This dissertation offers primality as a possible answer to these challenges.

Part III Climate Change and Present Major Ethical Theories

[T]he part of our moral theory in which this problem arises ...
is the part that covers how we affect future generations.
This is the most important part of our moral theory,
since the next few centuries will be
the most important in human history.

—Derek Parfit (Parfit, 1984, 351)

Chapter 4 - Present Major Ethical Theory Generally

Because none of the three major ethical theories seem to have the capability of coping with climate change and its delayed, intergenerational impact and its global anthropogenic impact, ethical theory needs to be improved. Deontological ethics (herein "Kantian ethics" or "duty ethics") clearly address *existing* relationships - "*Act in such a way that you treat humanity, whether in your own person or in any other person, always at the same time as an end, never merely as a means.*"⁷⁷ (Kant, *GMM*, Hill, p.230 (Ak4:429)) That concept does reference humanity and future generations of that humanity would seem to be included.

But, the question becomes, how can an existing individual treat a non-existing entity either as an end or a means? So far it does not seem that duty ethicists have generated an accepted theory that meaningfully addresses the treatment of either future individuals or future society as an end or that addresses global anthropogenic changes in Earth's systems. (Actually, though, the present generation seems to have no difficulty treating future generations as a means, for example, in terms of handing those generations the duty for the implementation of the technology necessary for the

⁷⁷ Immanuel Kant [1724-1804], *Groundwork for the Metaphysics of Morals*, trans. Arnulf Zweig, ed. Thomas E. Hill, Jr. and Arnulf Zweig (Oxford: Oxford University Press, 2002), p.230 (Ak4:429); referenced herein as "Kant, *GMM*, Hill, p.__(Ak4:__)."

mitigation of, and adaptation to, climate change and, by the way, for trillions of dollars of debt where climate change and that debt have been caused by the actions of the present and past generations.)

Utilitarianism as a route to the end of happiness/flourishing has also meaningfully addressed that end only as it relates to existing entities and local environmental concerns. And, of course, utilitarianism in large part seems to focus on the happiness of the individual and, therefore, on the present generation in terms of producing societal happiness and utility. Why should the individuals of the existing generation give up the so called "happiness" of its present lifestyle for an unborn generation?

The third major ethical theory, virtue ethical theory, in its present format seems no better equipped regarding climate change than the above two theories. It also seems to address relationships between existing entities inasmuch as the virtues that are presently offered and recognized seem directed to providing acceptable existing relationships and it has not been meaningfully accepted as extending ethical consideration to all life on Earth. However, virtue ethical theory does not attempt to provide specific answers to existing situations through principles or rules but concentrates on virtue and the associated good character of the agent as the basis for (1) her/his selection of goals; (2) deliberation about, and choice of, the means toward reaching those goals; and (3) the action necessary for implementation of those means and achievement of those goals. Further, virtue theory seems to be more amenable to new concepts such as new or revised virtues.

As Schönfeld emphasizes, each of the above three theories operates on a different level. As a theory resting on an exemplary ideal, Kantian ethics offers a basic foundation for extending ethical consideration to all existing human relationships through the duty of agents to patients and

to other agents through the agent's recognition and acceptance of necessity and universalizability. As I argue the agent must be able to accept the necessity of individual duty toward universalizability. Even for Kant, the good character of the agent is required but his ethics do not provide the means for generating that good character.

Utilitarian ethics operate on a practical level through the recognition of reasoned utility and the action that follows not only by and for each individual agent but, also, by summation for hopefully at least a majority of all involved agents. The agent must recognize and promote general utility as a result of that agent's individual utility. But, again, utilitarianism requires the good character of the agent and again does not provide the means for generating that good character.

Virtue theory seems to operate on an intermediate level where the characteristics of virtue or vice promote or hinder relationship. The agent must be able to recognize and habituate those characteristics that promote good individual relationships and good community and then act on those characteristics where that action then defines both the individual character of that agent and, collectively, societal character. Aristotle defined moral virtue as "a mean ... between two vices, the one involving excess, the other [involving] deficiency, and that is such because its character is to aim at what is intermediate in passions and in actions" (Ross. p.35-6 (1109a20-23))

Because the agent is, of course, the actor in any ethical theory, it therefore seems that the good character of the agent is essential for each of these three theories. Further, proponents of each of these theories, Immanuel Kant, John Stuart Mill and Aristotle, all rely at least in part on the good character of the agent as a necessary means to the ends of each theory. In addition, both Kant and Mill recognize that the character of the agent is promoted by good virtue while, of course, Aristotle is an early major author of virtue theory.⁷⁸ Consequently, it seems productive to begin

⁷⁸ Aristotle further defines virtue as "a state of character concerned with choice, lying in a mean, i.e. the mean relative to us, this being determined by reason, and by that reason by which the man of practical wisdom would determine it."

with present virtue theory in an effort to both understand the character of the agency that is failing to address climate change and to attempt to suggest a possible revision of, and/or addition to, that theory that will encourage the character willing to take action toward the mitigation of, and adaptation to, climate change.

Therefore, the next two chapters focus briefly on the basic principles of both Kantian ethics and utilitarian ethics and also on how both rely on virtuous character. That reliance aids the identification of the assistance that virtue theory can provide to those theories and also supports the focus of this dissertation which is the revision of, and/or addition to, virtue ethical theory in addressing climate change. Also, the advocates of all three theories require legislation or require that all individuals think like legislators. Consequently, the discussion of Kantian and utilitarian ethics in the next two Chapters also reviews briefly the positions of those theories concerning legislation.

Regarding the present general state of legislation, it does not seem as though those with the legislative power especially in the United States are willing to think in other than the short-term apparently in an effort to legislate whatever will provide the greatest immediate “happiness” or “utility” for the existing generation of voters. It seems that most present legislators are interested only in the maintenance of, or more often in the "improvement" of, existing lifestyles (and for some, primarily their own personal lifestyle). In addition, the legislators of some (but not all) other nations seem intent on attempting to give their constituents a lifestyle like those of us in the United States either to keep those constituents voting “correctly” or in the state of refusing to rebel against those legislators. Also, many of those constituents - both voters and disenfranchised citizens - seem

Aristotle, *The Nicomachean Ethics*, trans. D. Ross (Oxford: Oxford University Press, 2009), p.31 (1106b37-1107a2), herein referenced as "Ross, p.___ ((Bekker numbers))".

to have embraced those immediate goals of "maintaining" and "improving" lifestyle without concern for the substance of that lifestyle, especially as it relates to community.

In summary, the thesis of this dissertation is that the state of the general character of individuals and legislatures of present democracies, oligarchies or dictatorships, needs improvement and escalation to a new level for the *acceptable and legitimate* happiness and utility of the citizens of Earth including not only existing human individuals and non-human living entities but unborn organisms of both of those groups as well. The means for that improvement and escalation of character seems best addressed through present virtue ethical theory as further developed to meaningfully extend ethical consideration to unborn generations and to address global anthropogenic changes to Earth's systems.

To support the above, Chapters 5 and 6 review the basics of the ethics of Immanuel Kant, Jeremy Bentham and J.S. Mill as well as their recognized need for good character (which I argue new virtues and/or a revised virtue ethical theory can provide). No in-depth review of recent development of those theories is considered necessary because that development does not seem to make those theories any more generally amenable to worldwide crises or unborn generations. Derek Parfit, a utilitarian, and a few other ethicists have specifically attempted to address the unborn and will be reviewed in a later paper. Chapter 7 begins the argument for a new virtue, primality, and/or a revised virtue ethical theory.

Chapter 5 - Kantian Duty Ethical Theory: Duty, Character, Legislation, and Virtue

A. Kantian Duty Ethics - General Theory

The objective of this review is (1) a general determination of the assistance Kantian ethical theory can provide in addressing climate change and (2) a determination of the need of Kantian theory for improved individual virtuous character in order to successfully address climate change. Also, the general importance of legislation within Kantian theory is reviewed. Duty ethical theory seems best reviewed through Immanuel Kant's *Groundwork for the Metaphysics of Morals*.⁷⁹ To both identify duty's need for virtue theory and to describe the use of duty theory in addressing climate change, a summary of basic Kantian theory is required. Also, while it may seem somewhat lengthy, this summary is considered necessary to indicate the reasons for the dependence of Kantian theory on character.

As the basis of his theory, Kant provides four "formulations" of his Categorical Imperative. The first and primary formula is his "Formula of Universal Law": "*Act only in accordance with that maxim through which you can at the same time will that it become a universal law.*" (Emphasis in original; Kant, *GMM*, Wood; p.37 (Ak4:421)) This statement is followed closely by the following variation, the Formula of the Law of Nature: "*So act as if the maxim of your action were to become through your will a **universal law of nature.***" (Emphasis in original; Kant, *GMM*, Wood; p.38 (Ak4:421)) The concept of a universal law of nature seems especially important

⁷⁹ Immanuel Kant, *Groundwork for the Metaphysics of Morals*, trans. and ed. Allen W. Wood (New Haven, CT: Yale University Press, 2002) herein the "Groundwork" and referenced herein as "Kant, *GMM*, Wood; p.__ (Ak4.__)" which provides the marginal volume and page numbers of the definitive German edition, *Immanuel Kants Schriften*, Ausgabe der königlich preussischen Akademie der Wissenschaften (Berlin: W. de Gruyter, 1902-), for example, "Ak4:430".

because a law of nature by definition applies to all forms of life and generally applies over extended time. It is not as ephemeral as statutory law which generally can change quickly if the legislature is agreeable. As such, a law of nature is thought of as more of a universal. Consequently, the concept of a law of nature as universalized legislation (or, in other words, the concept of natural universalized "collective law") adopted by every rational individual is required for the fulfillment of this formula.

The second⁸⁰ and third⁸¹ formulas, which Kant states follow from the first, address personal relationships and the autonomy of individuals respectively. Actually, the second is an example of a universal legislative concept while the third again references the same universality of legislation as does the first formulation. Kant's legislative requirement seems better described as universalizability because it is the concept of the action that Kant requires, not only of every governmental body or person given legislative authority, but of every rational individual being on Earth. The first and third formulas (and the fourth formula, the formula of the "Kingdom of Ends" (see below)) instruct the agent to recognize and use maxims of action from duty while the second formulation is a maxim that requires specific action toward a specific end. The question then becomes why and how should the individual accept that duty to use those maxims to order her/his life?

Initially, Kant argues that the consequences of the action are unimportant (see Kant, *GMM*, Wood; p.33 (Ak4:416)); what matters is the maxim from duty of the agent that embraces the "practical law". Though none of the above formulations specifically include the word "duty", they

⁸⁰ Kant states the second formulation as his formula of humanity as an end in itself: "*Act so that you use humanity, as much in your own person as in the person of every other, always at the same time as end and never merely as means.*" (Emphasis in original; Kant, *GMM*, Wood; p.47 (Ak4:429))

⁸¹ Kant states the third formulation (which has been called his "formula of autonomy"). "Not to choose otherwise than so that the maxims of one's choice are at the same time comprehended with it in the same volition as universal law." (Kant, *GMM*, Wood; p.58 (Ak4:440))

all, as an imperative, represent duties/obligations. Kant requires that these duties be performed out of a good will and not out of any kind of inclination. Kant gives the example of a person who is basically a good person but one who has financial concerns that cause him/her grief. Nevertheless, that person who has the means to assist others does so with some misgivings because of her/his own difficulties. Kant finds that this assistance is from inclination and not from duty. Kant states: "now, where no inclination any longer stimulates him to it, he tears himself out of this deadly insensibility and does the action without any inclination, solely from duty; only then does it for the first time have its authentic moral worth." (Kant, *GMM*, Wood; p.14 (Ak4:398)) Moral worth depends on action done from duty.

Further, some of Kant's definitions need review. He defines the word "maxim" as follows: "A *maxim* is the subjective principle of the volition [or voluntary action]; the objective principle (i.e., that which would serve all rational beings also subjectively as a practical principle if reason had full control over the faculty of desire) is the practical *law*." (Emphasis in original; Kant, *GMM*, Wood; p.16fn* (Ak4.400-401)) Stated differently, a maxim is any principle of action that an individual follows while the "practical law" involves that maxim that the rational being should follow as duty.

Kant defines duty as: "the practically unconditioned necessity of action; thus, it must be valid for all rational beings (for only to them can an imperative apply at all), and must *only for this reason* be a law for every human will." (Emphasis in original; Kant, *GMM*, Wood; p.43 (Ak4:425)) The maxim from duty follows the "practical law" which is the objective principle that an individual would follow if reason could totally exclude inclinations. Kant calls such reason "pure reason"

which originates *a priori* or from within the individual and not directly from experience. (Emphasis in original; Kant, *CPR*; pp.41-42 (B1-3,A1-2))⁸²

Kant confirms that "an action from duty" removes any "influence [from] inclination, and with it every object of the will," so that nothing determines the action "except the *law* as what is objective and also subjectively *pure respect* for this practical law" which becomes the maxim of compliance with that law "even when it infringes all" of the agent's inclinations. (Kant, *GMM*, Wood; p.16 (Ak4:400-401)) Kant defines "inclination" as: "the dependence of the faculty of desire on sensations" that are individually experienced and where only logical, and not pure, reason is involved. (Kant, *GMM*, Wood; p.30 (Ak4:413))

He, therefore, requires that the agent recognize a maxim from duty as that objective principle of law that eliminates all the agent's inclinations and objects (ends, objectives or goals of the agent's action) of her/his will and subjectively requires the agent to perform the involved action solely from the agent's duty to respect the "practical law". Kant contrasts "inclination" with "duty." In other words, a maxim from duty includes no inclinations or sensory experience and, therefore, can be universalized while a maxim from inclination includes no duty and cannot be universalized because all rational individuals will not be involved in the same life experiences and inclinations.

However, to recognize a maxim, at least the general end for which the action is intended seems necessary even for maxims from duty. For example, "do not lie," which Kant labels a maxim from duty, would not seem to apply to a trip that I might intend though the maxim of "do not be a spendthrift," a probable maxim of duty, might apply. "Do not lie" would, of course, apply if I was intending to apply for a loan or intending to answer a question. It does seem that some circumstances might be involved, for example, the person asking the question might be important

⁸² Immanuel Kant, *Critique of Pure Reason*, trans. N.K. Smith (New York: Palgrave Macmillan, 2003), referenced herein as "Kant, *CPR*; p. __ ((A and B numbers)).

if that person was not an identified person to receive an answer to a military question or if the answer might cause the person unnecessary grief.

Kant also defines an "interest" as "that through which reason becomes practical, i.e., becomes a cause determining the will" where the "principles of reason" are involved. (Kant, *GMM*, Wood; p.30 (Ak4:413), p.76 (Ak4:459-60)) Sensations (resulting from experience) are not to be trusted while reason seems to be trusted. He further distinguishes between "immediate interests" and "mediate interests." The "immediate interest" seems to recognize a general maxim from duty such as "do not lie" and is what Kant calls a "pure rational interest" and not a "logical rational interest". (Kant, *GMM*, Wood; p.76 (Ak4:459-60)) The "mediate" interest apparently is invoked when logic is required to address empirical information where desire or feelings develop the agent's "aims" or end. Kant seems to argue that "immediate interests" do not involve aims or ends of the agent and are only involved with maxims of duty.

"Mediate interests" may be available to consider the circumstances involved and the various means available to reach that specific end in making the final choice of action to be undertaken relative to any maxim other than one from duty. Some argue that the maxim from duty and the "immediate interest" can include consideration of those other concerns but that seems unlikely because, if the maxim has to involve circumstances and means, then the recognition of the maxim becomes much more involved than Kant seems to expect for an "immediate interest".⁸³

As an example of a maxim from duty, Kant argues that the principle "do not lie" becomes the maxim of compliance with the law and requires that the agent use that maxim at all times no matter the circumstances or the consequences of the action. This, of course for example, provides a problem with the situation of the murderer at the door who asks if his intended victim is within.

⁸³ Shelley Kagan seems, however, to suggest that individual maxims should include the involved circumstances confronting the agent. (Kant, *GMM*, Wood; p.128)

Some commentators argue that this requires an exception to the maxim. However, it seems that a different maxim is available based on the second formulation if the Categorical Imperative is to be based on consideration of the intended victim. In consideration of the victim as an end, it might become "do not harm innocent persons." That would seem to require the agent to choose between the two maxims. However, I am not aware of any of Kant's texts that suggest that an agent might have to choose between two or more maxims generated by different formulations of the single Categorical Imperative or even that, for the same set of circumstances, different maxims might be generated by different formulations of the Categorical Imperative. If such a choice is required, individual character and virtue seem to be required to determine the maxim for action.

However, the use of different maxims from different formulations would seem strange under Kant's statement that there is only one Categorical Imperative though described through three or four separate statements. In any event, it would seem that the "mediate interest" might well be the opportunity for an argument for a further requirement beyond the maxim from duty for consideration of what Aristotle and Aquinas call circumstances and what Bentham and Mill call consequences.

As is argued in this dissertation, the complexity of life in this twenty-first century requires that an intended action not only consider a maxim such as "do not lie," but also, in making a final choice of the action to be performed, include the following additional requirements of (1) consideration of the involved circumstances, (2) development of ethical means for completing the action, and (3) determination that the expected consequences of the action are ethical. Here virtue theory and utility theory seem to become very important. But the maxim of "do not lie" seems to be immediately required to provide the basic principle involved while a good will, virtue and character seem necessary to generate the respect needed for the initial identification of that maxim.

Reasoned utility could then assist in light of the circumstances to consider the various means available toward an ethical result. The apparent specifics of this process are addressed in Chapters 7, 8 and 9.

Because the human will is recognized as the initiator of individual action in all of the three ethical theories under consideration, some further specifics of the will's Kantian work are instructive. In conjunction with the third formulation, Kant describes the work of the individual will as follows: "The will is ... not [only] solely subject to the law, but is subject in such a way that it must be regarded also *as legislating to itself*, and precisely for this reason as subject to the law (of which it can consider itself as the author)." (Emphasis in original; Kant, *GMM*, Wood; p.49 (Ak4:431)) Therefore, the individual through her/his will must be the author of collective law (the maxim from duty) that governs her/his action - personal legislation that initially applies to the individual but that also must be acceptable universally. Kant makes clear that the will of each rational being is, in fact, the "author" of all the universal or other maxims upon which the individual acts. While the first formulation focuses on a single act, the third formulation focuses on all of the acts of the individual as lawgiver who now must follow her/his own imperatives. Moreover, it must then be the will of the individual that determines the character of the individual agent (which is consistent with Aquinas as argued below and where Kant's maxims appear to be the means to any end).

Kant recognizes the importance of character in the first paragraph of the First Section of the *Groundwork* where he mentions a number of traits such as understanding, courage and wit and remarks that those traits "are without doubt in some respects good and to be wished for; but they can also become extremely evil and harmful" depending on the state of the will. He calls these traits "gifts of nature" where the "constitution" of the traits "is therefore called *character*" and

argues that that character can be other than good if the will is "adorned with no trait of a pure and good will". He further argues that the good will "appears to constitute the indispensable condition even of the worthiness to be happy." (Emphasis in original; Kant, *GMM*, Wood; p.9 (Ak4:393)) While Kant discusses the importance of character at some length in various of his writings, he first requires the good will of the rational individual which also seems to require the prior presence of good character.

Recent authors suggest that Kant intended a fourth formulation within the *Groundwork* that has been called the formula of the Kingdom of Ends that reinforces the above "author" concept of the maxims generated by the good will.⁸⁴

The rational being must always consider itself as giving law in a realm of ends possible through freedom of the will, whether as member or as supreme head ... [where the complete determination] of all maxims [is] through that formula, namely 'That all maxims ought to harmonize from one's own legislation into a possible realm of ends as a realm of nature'.

(Kant, *GMM*, Wood; pp.52-54 (Ak4:434-436)) Here, as in all the formulations, the emphasis is on the universalizability of the maxims on which the individual acts. When legislating universal law, the individual, as a member of a social order, must ensure that all its maxims *harmonize* with the maxims of all other rational members of that social order.⁸⁵ Again, the individual's will and, therefore, the individual's character seem to be the means for that harmony. Kant states that this fourth formulation must be recognized as an ideal but as an exemplary ideal (as are the other three formulations as well). (Kant, *GMM*, Wood; p.51 (Ak4:433))

Kant does separate imperatives into two types, hypothetical and categorical, where he describes them as follows:

⁸⁴ "Act in accordance with maxims of a universally legislative member for a merely possible realm of ends." (Kant, *GMM*, Wood; p.56 (Ak 4:439))

⁸⁵ At present, one means of determining rationality relies on whether the involved individual accepts the present available science, the present available technology, and the present and future importance of climate change.

The [hypothetical imperatives] represent the practical necessity of a possible action [maxim from inclination] as a means to attain something else which one wills (or which it is possible that one might will). The categorical imperative [maxim from duty] would be that one which represented an action as objectively necessary for itself, without any reference to another end.

(Kant, *GMM*, Wood; p.31 (Ak4:414)) Also, as a "categorical imperative" or as such imperatives, Kant's four formulations represent objective principles that are necessitating for the will and are "a 'command' (of reason)" (Kant, *GMM*, Wood; p.30 (Ak4:413)) that requires action by the will.

Kant's apparent intended qualities of his Categorical Imperative in its four formulations seem to be its objectivity and its simplicity. For example, any rational person recognizes that if all people regularly lied, stole, were greedy, dropped bombs, killed other people, etc. (see, Kant, *GMM*, Wood; p.47fn64; also Ak4:429-30), there would ultimately be no people and, or at least, no society. Maxims incorporating those actions are immediately recognizable by any rational being as not universalizable. Also, though Kant states that the Categorical Imperative is simply objectively necessary without any reference to another end, it does have the end of an acceptable human community, society or realm.

Further, Kant says that all rational humans have a single *hypothetical* imperative of happiness.

There is *one* end, however, that one can presuppose as actual for all rational beings (insofar as imperatives apply to them, namely as dependent beings) and thus one aim that they not merely *can* have, but of which one can safely presuppose that without exception they *do have* it in accordance with a natural necessity, and that is the aim at *happiness*.

(Emphasis in original; Kant, *GMM*, Wood; p.32 (Ak4:415)) Here, happiness is argued as a "natural necessity" for all rational beings which are interestingly described as "dependent beings".⁸⁶

⁸⁶ "Dependent beings" are distinguished from the independent being who is God or other un-Earthly supreme entity. Dependent beings are those dependent on universal law and maxims. Kant calls all rational humans "dependent beings" as Alasdair MacIntyre also argues but in a much wider sense.

But, for Kant, happiness is not simple pleasure or enjoyment:

idleness, amusement, procreation, in a word ... enjoyment ... [is impossible] to **will** that this should become a universal law of nature, or that it should be implanted in us as such by natural instinct. For as a rational being he necessarily wills that all the faculties in him should be developed, because they are serviceable and given to him for all kinds of possible aims.

(Emphasis in original; Kant, *GMM*, Wood; p.39-40 (Ak4:423)) In addition, Kant relates that happiness is not necessarily a result of the implementation of the Categorical Imperative because that imperative can require that one act directly against one's own inclination especially if that inclination is perceived as personal happiness. (Kant, *GMM*, Wood; p.33 (Ak4:416)) Keep in mind though that, for Kant, the totally rational individual ignores inclinations.⁸⁷

Marcia Baron reminds us that Kantian duty "is tied not to social expectations or laws, but to rationality. 'Duty' for Kant means, roughly, what one would do if one were fully rational." (Kant, *GMM*, Wood; p.95) Kant, of course, recognizes that the human being is not fully rational and is subject to inclinations but he emphasizes that the fully rational duty is not imposed upon us from an outside source and that the rationality of the good will ultimately produces happiness.

Kant justifies the value of maxims from duty and universalizability as follows:

I at least understand this much, that [universal legislation] is an estimation of a worth that far outweighs everything whose worth is commended by inclination, and that the necessity of my actions from *pure* respect for the practical law is what constitutes duty, before which every other motive must give way because it is a condition of a will that is good *in itself*, whose worth surpasses everything.

(Emphasis in original; Kant, *GMM*, Wood; p.19 (Ak4:403)) Thus, the worth of such duty surpasses the worth of anything that results, or can result, from inclination. This, of course, is an ideal but a worthy ideal.

⁸⁷ Kant argues that the ultimate and final end of creation is the moral human being as subject to the maxim of duty. Immanuel Kant, *Critique of the power of judgment*, trans. P. Guyer & E. Matthews, ed. P. Guyer (Cambridge: Cambridge University Press, 2000), pp.302-303*fn (Ak5:435-36*fn); herein referenced as Kant, *CPJ*; p.__(Ak5:____).

However, acting with duties, Kant argues, can result in happiness. Kant states: "To secure one's own happiness is a duty (at least indirectly), for the lack of contentment with one's condition, in a crowd of many sorrows and amid unsatisfied needs, can easily become a great *temptation to the violation of duties*." Kant elaborates: "But even without looking at duty, all human beings always have of themselves the most powerful and inward inclination to happiness, because precisely in this idea all inclinations are united in a sum." (Emphasis in original; Kant, *GMM*, Wood; p.14-15 (Ak4:399)) While happiness seems to be at least a goal of all ethical theories under consideration in this dissertation, Kant's goal of embracing duty requires his concept of a good will which is the work of reason and does not necessarily result in immediate happiness especially for us, the agents, who are less than totally rational individuals.

Kant further describes the work of reason in its relation to the will and duty.

For since reason is not sufficiently effective in guiding the will safely in regard to its objects and the satisfaction of all our needs (which it in part itself multiplies), and an implanted natural instinct would have guided us much more certainly to this end, yet since reason nevertheless has been imparted to us as a practical faculty, i.e., as one that ought to have influence on the *will*, its true vocation must therefore be not to produce volition *as a means* to some other aim, but rather to produce a *will good in itself*, for which reason was absolutely necessary, since everywhere else nature goes to work purposively in distributing its predispositions.

(Emphasis in original; Kant, *GMM*, Wood; p.12 (Ak4:396)) Here, Hill and Zweig translate this last phrase as "as nature has everywhere distributed her abilities so as to fit the functions they are to perform; reason's true vocation must therefore be to produce a *will* which is *good in itself*, not just *good as a means* to some further end." (Emphasis in original; Kant, *GMM*, Hill, p.198 (Ak4:396))⁸⁸

⁸⁸ Here, Kant is disagreeing with Aristotle and Aquinas who assign the will the task of either rejecting or enacting an end originally chosen by reason. See Chapters 7 and 9 below. Aristotle and Aquinas rely on habituation to provide both reason and the will with goodness. Kant seems to begin with the goodness of reason for the purpose of generating a good will where the goodness of reason is somehow generated *a priori* through the necessity of recognizing universalizability. For Aristotle and Aquinas, character seems generated by virtuosity which is generated by

This text seems to relate Kant's observation that Nature always works at producing teleologically organized life and, therefore, a human being through her/his good will should do so as well. Kant recognizes that human reason is imperfect but he seeks to give it the singular purpose of influencing the will toward the production of a good will where that will must then generate duty and then discover and act on universal maxims. Admittedly, that seems to be Herculean work in and of itself. Because our imperfect reason cannot always overcome the desire for a particular object, reason's primary responsibility should be the production of the good will that ensures a continuing good character. However, to generate that good will, good character is initially necessary for generating and encouraging duty as I argue.

For Kant "duty, as duty in general, lies prior to all experience in the idea of reason determining the will through *a priori* grounds." (Emphasis in original; Kant, *GMM*, Wood; p.24 (Ak4:408)) Kant argues that sensible experience cannot be involved because that is the genesis of inclination and because each rational will has the capability of supplying *a priori* the grounds from which duty to the Categorical Imperative arises. Kant does acknowledge that "all our knowledge begins with experience." However, he argues that "though all our knowledge begins with experience, it does not follow that it all arises out of experience." He argues that "our empirical knowledge" can create its own knowledge and he calls this *a priori* knowledge which is "independent of all experience".⁸⁹ ⁹⁰ This knowledge seems similar to instinct, innate information

habituation. For Kant, character is generated by a good will which is generated by reason's understanding and acceptance of necessity and universalizability. However, that acceptance seems to initially require good, virtuous character which seems to require the cooperative work of both the will and reason.

⁸⁹ Kant, *CPR*; pp.41-43 (B1-B3,A1-2).

⁹⁰Kant states: "*Rational nature exists as end in itself*. The human being necessarily represents his own existence in this way; thus to that extent it is a *subjective* principle of human actions ... [and actions of] every other rational being" (Emphasis in original; Kant, *GMM*, Wood; p.46 (Ak4:429)) Kant, of course, argues that it is, in fact, also an objective principle because all rational beings can and should embrace it and thereby the principle, the Categorical Imperative, represents a supreme practical ground from which all laws can be derived. As such a principle based on rational human nature, is it reasonable to limit the ability of that rational nature as Kant seems to suggest?

or intuition such as automatically stop for all red traffic lights which though it becomes automatic, results from education, habituation, and, in many cases, the existence of criminal penalties.

Notwithstanding, Kant's 1785 Categorical Imperative still seems to be the best objective moral standard available today because of its simplicity and objectivity. It represents the best available ethical ideal toward which to work for climate change and all other social issues including other environmental issues. For example, present global society knows enough through AR5 to declare the unrestricted burning of fossil fuels and the attendant creation of CO₂ as not universalizable but that society refuses to provide any enforceable restrictions for that activity. That society simply does not recognize any immediate or mediate duty to restrict that activity through the general will of society as memorialized in enforceable legislation.

Further, while to argue as Kant does that reason cannot cope with volition without duty, that position even as an ideal seems unnecessarily limiting concerning reason. Though Kant seems to argue that habit arises from inclination and, therefore, is not necessarily good (Kant, *GMM*, Wood, p.18-19 (Ak4:403-4)), it seems that the additional work of reason is to recognize the value of good habit and to initiate good habits. What habit accomplishes, as reflection on life makes clear, is the will's ability to guide the individual and her/his understanding "safely in regard to their objects" through that habituation which can result in duty and the satisfaction of the individual's needs.

At present, the development of improved good character, let alone the development of a good will, seems necessary as an initial goal and that goal seems to be the work of virtue ethical theory. As argued below, improved character through virtue ethical theory seems required for acceptance of the Categorical Imperative, and Kant, in fact, seems to recognize that need. But first, just a further word about legislation and Kant's theory.

B. Kant - Legislation

While the Categorical Imperative is an ideal, Kant charges humanity with building reality from this ideal through the concept of individual and collective legislation. The concept of personal, individual legislative thought is of critical importance because of the rational requirement of universalizability. In this regard, Kant's charge is to the individual rational human and as such includes all legislators, whether democratic or despotic. While the details of this legislation need further clarification, it should be enough to presently accept that Kant requires personal and social legislation as the means to the necessary personal and social law that ensures the recognition of appropriate duty. Consequently, as it turns out, this legislative requirement of Kantian ethics is consistent with the requirements of the other two major ethical theories as argued below.

C. Kant - Virtue and Character

Moving Kant's concept forward seems to require a much-improved individual character which Kant seemed to recognize. Kant does endorse the need for good character that this dissertation argues virtue can produce. As above, Kant lists a number of characteristics generally thought of as virtues but argues that these "gifts of nature ... whose peculiar constitution is therefore called *character*" can become evil and harmful if the will is not good. (Emphasis in original; Kant, *GMM*, Wood; p.9 (Ak4:393)) After discussing self-control and moderation, he states: "not only are [these gifts] good for many aims, but seem even to constitute a part of the *inner* worth of the person; yet they lack much in order to be declared good without limitation

(however unconditionally they were praised by the ancients).” (Emphasis in original; Kant, *GMM*, Wood; p.10 (Ak4:394))⁹¹

Also, after discussing the attribute of a good-natured temperament, Kant states: "Just here begins the worth of character, which is moral and the highest without any comparison, namely that he is beneficent not from inclination but from duty." (Kant, *GMM*, Wood; p.14 (Ak4:398-99)) While Kant describes virtue as arising from duty, duty in this twenty-first century seems to equate only to anything that is legal, or especially on the fringe of legal, for example, the collateralized debt obligations or CDOs and credit default swaps or CDSs of the last decade that caused the Great Recession. Those CDOs and CDSs transferred billions of dollars to the pockets of the few from the pockets of the many who were the home mortgagors and shareholders of the huge banks and brokerage houses. A very few investors acquired those billions by selling those CDOs and CDSs short because those instruments had been legislatively deregulated. The challenge seems to be the recognition that morality must be much more than mere legality (i.e., CDOs and CDSs) which in reality is also the challenge of climate change because we seem to recognize nothing immoral today about any "business as usual" that is allowed by statutory, case, and common law.

Kant comments specifically on what he calls "principles" which are the virtues of "fidelity in promising" and "benevolence from principle" which he states have an "inner worth."

Lacking these principles, neither nature nor art contain anything that they could put in the place of them; for the worth of these principles does not consist in effects that arise from them, in the advantage and utility that they obtain, but rather in the **dispositions, i.e., the maxims of the will, which in this way are ready to reveal themselves in actions, even if they are not favored with success.**

(Emphasis added; Kant, *GMM*, Wood; p.53 (Ak4:435)) Here, Kant finds the worth of these principles not in personal advantage or utility but in the dispositions, "the maxims of the will," that

⁹¹ These ancients seem to include Plato and Aristotle and possibly Aquinas.

they apparently create. This seems to indicate that these principles or virtues are necessary for the generation of the maxims. This, therefore, seems to argue that the maxims do not exist without these principles which are in fact virtues which arise from education, habituation and legislation.

Kant returns to this idea of the use of virtues for personal advantage when he discusses moral feeling which he says "nevertheless remains closer to morality and its dignity by showing virtue the honor of ascribing to it *immediately* the satisfaction and esteem we have for it, and not saying directly to its face, as it were, that it is not its beauty, but only our advantage, that attaches us to it." (Emphasis in original; Kant, *GMM*, Wood; p.60 (Ak4:442-43))

Kant here seems to be responding to David Hume who did name utility and advantage as the "sole source" of "virtue's high regard".⁹² Kant's criticism is valid and is addressed **at** page 151-152 below. In any event, a virtue by any other name is still a virtue - a state of character - and necessary in the production of a good will.

Kant, in his later book, the *Metaphysics of Morals*⁹³ defines virtue (a part of his "Doctrine of Virtue") as follows: virtue "is the strength of a human being's maxims in fulfilling his duty. - Strength of any kind can be recognized only by the obstacles it can overcome, and in the case of virtue these obstacles are natural inclinations, which can come into conflict with the human being's moral resolution" (Kant, *MM*; p.156 (Ak6:394)) (This sounds like Aristotelian incontinence.) Virtue here has the responsibility of overcoming "natural inclinations" which stand in the way of action based on duty to the Categorical Imperative (where this sounds like *aidös*; see Chapter 8). Consequently, virtue again seems to be of critical importance to dutiful action. Kant did appreciate

⁹² David Hume, *Enquiries Concerning Human Understanding and Concerning the Principles of Morals*, ed. L.A. Selby-Bigge and later P.H. Nidditch (Oxford: Oxford University Press, 1975), p.231, herein referenced as "Hume, *Enquiries*, p. ___." Kant famously stated that it was Hume who awakened him from his "dogmatic slumbers." Immanuel Kant, *Prolegomena to Any Future Metaphysics*, trans. P. Carus, revd. L.W. White (Upper Saddle River, NJ: Prentice Hall Inc., 1997), p.8 (Ak4:260)).

⁹³ Immanuel Kant, *The Metaphysics of Morals*, ed. and trans. M. Gregor (Cambridge: Cambridge University Press, 1996), first published in 1797 and referenced herein as "Kant, *MM*; p.__(AK6:_)".

virtue but always required that it be preceded by duty apparently because of his concern that it had been, and still was, (and still is) associated with personal advantage.

In endorsing the virtues of "fidelity in promising" and "benevolence from principle", Kant calls beneficence a duty and suggests that practice can turn beneficence into love (which is not a duty). Kant's "practice" here seems like the habit of virtue ethics even though Kant states that beneficence cannot be based on habit because habit is generated by inclination. (Kant, *MM*; p.167 (Ak6:409)) However, Kant does not seem to provide any apparent means to improve character other than through the *a priori* work of the will of the individual as legislator and then possibly through legislatures generally. Moreover, Kant does not seem to offer any suggestions about locating, or improving once found, this *a priori* capability of the will responsible for generating both the duty toward, and the recognition of, the Categorical Imperative and specific moral duties such as beneficence.

In this twenty-first century, what we need is the maxim from duty of "do not use fossil fuel energy." However, Kant's duty seems to be too much of an ideal especially now for a number of reasons, some of which are, again, the present contempt held by many for much legislation and most legislatures, and, also, the general unwillingness of most to attempt to understand and endorse specific legislative needs, let alone actually engage in any form of legislative activity or even legislative thinking. Especially for those reasons, it still seems that habit toward recognized goods for both the individual and society - the virtues – remains the present best means for improvement of character toward reliance on the ethical functioning of the human rational will.

Many recent commentators argue that Kantian ethics need adjustments to meet present circumstances, particularly climate change. Climate change ethics, of course, had its genesis in environmental ethics. Environmental ethics became recognized as a separate philosophical subject

in or about 1970 and has successfully argued that ethical consideration must be extended beyond humans to some or all nonhuman entities including nonhuman animals, plants, ecosystems, Earth, or essentially to all life and to that which supports life. Ethical consideration of humans by humans has always been addressed by the traditional ethics of philosophers such as Kant, Mill and Aristotle. Climate change has turned all of that on its head because climate change includes not only what environmental ethics had previously included but now also includes how humans must treat present and future humans and all of life, present and future.

As Schönfeld points out,

[t]oday, [because of climate change] environmental issues are existential threats. The ecological overshoot, the collision with planetary limits, and the destabilization of the Earth system highlight a new reality: humans and nonhumans sit in the same boat, and climate chaos may sink us all. The conflict [for environmental ethics] was between humans and nature, the conflict now is of humans and nature against the free market.⁹⁴

Kant has been a problem for environmental ethics because Kant explicitly included only human beings as rational beings as the only entities entitled to “absolute worth” and, therefore, ethical consideration. (Kant, Wood, GMM; pp.45-46 (Ak4:428); Gregor, MM; pp.191-92 (Ak6.442-43)) In addition, some environmental ethicists have argued that Kant’s anthropocentrism is unacceptable.

Toby Svoboda, in his book, *Duties Regarding Nature: A Kantian Environmental Ethic*,⁹⁵ raises Kant’s duty of perfection as a means of recognizing Kant’s exclusive condition while still providing the Kantian imperfect human duty of self-cultivation through the indirect duty to extend

⁹⁴ Martin Schönfeld, *Review of Toby Svoboda, Duties Regarding Nature: A Kantian Environmental Ethic* (New York/London: Routledge, 2015), http://www.academia.edu/28653198/Book_review_Svoboda_Duties_Regarding_Nature_2015_2016_

⁹⁵ Toby Svoboda, *Duties Regarding Nature: A Kantian Environmental Ethic* (New York/London: Routledge, 2015), referenced herein as “Svoboda, p.____.”

the Kantian maxim of benevolence to nonhuman teleological/purposive life that Kant recognizes.⁹⁶ Svoboda states: “[A]lthough [indirect duties] depend on a direct duty to oneself these indirect duties have far-reaching implications, including a strict moral prohibition against causing unnecessary harm to non-human organisms.” (Svoboda; p. 157) That argument seems to get closer to extending ethical consideration not only to all of present life but to unborn life as well.

As Schönfeld observes in his review of Svoboda’s book, Svoboda’s arguments assist in the expanded use of Kantian ethics especially to address climate change. However, the same lack of the means to improvement of character needed for the acceptance of all Kantian duties including that argued by Svoboda still exists. Even attempting to approach Kant’s legislative ideal is initially seen as requiring individuals with exemplary character and it seems that presently there are very few that are candidates. Radical improvement of character of twenty-first century individuals seems required and character has been and still seems to be the work of virtue.

Finally, Allen Wood⁹⁷ seems to characterize Kant’s ethics correctly with regard to the way it is incorrectly understood by present society, especially in the United States, which seems openly to disregard those ethics because of this kind of Categorical Imperative characterization.

Clearly, both Kant’s moral principles and his theory of human nature are designed only to add to our discontent with ourselves. For Kant the task of philosophy is not (as it is for Hegel), to reconcile us to the human condition. Kant thinks that as rational creatures our condition must be one of dissatisfaction, self-alienation, and endless striving. ... From a Kantian standpoint, ... any other way of representing our condition appears complacent, cowardly, and dishonest.

When consumerism, present lifestyle, and the free market economy control present society as they do, the Categorical Imperative seems easily ignored.

⁹⁶ Immanuel Kant, *Critique of the Power of Judgment*, trans. Paul Guyer (Cambridge: Cambridge University Press, 2000); herein referenced as "Guyer, CPJ; p.____"; p. 244 (5:372-73).

⁹⁷ Allen W Wood, *Kant’s Ethical Thought* (Cambridge; Cambridge University Press, 1999), p. 334; herein referenced as "Wood, KET, p.____."

In summary, Kant looks upon the virtues as apparently being similar to the vices in that both are seen as the opportunity for personal advantage. His concern seems warranted because, in our competitive world today, individuals seem to be intent on finding the *unfair advantage* when sanctioned by law (or not) and not the *common advantage* and have little, if any, concern about moral sanction. Kantian ethics are insufficient for presently raising the level of character necessary for addressing climate change and intergenerational concerns generally because those concerns were not extant during Kant's lifetime. In any event, improvement of individual character through virtue ethical theory seems at the very least a possible step toward the Kantian ideal.

Chapter 6 - Utilitarian Ethical Theory: Utility, Character, Virtue and Legislation

As with the review of Kantian ethics, the objective of this review of utilitarian ethical theory is (1) a general determination of the assistance that that theory can provide in addressing climate change and (2) most importantly a determination of the need of utilitarian theory for improved individual virtuous character in order to successfully address climate change issues. Also, the importance of legislation for utilitarianism is reviewed.

Jeremy Bentham (1748-1832) and John Stuart Mill (1806-1873) are regarded as two philosophers who in the 18th and 19th centuries developed utilitarian ethical theory. Certainly, utility is extremely important in addressing climate change because the efforts toward mitigation and adaptation obviously must exhibit recognizable utility. Also, as argued below, while utilitarianism is needed in that effort, improved and elevated character through virtue ethical theory is necessary for the use of utilitarianism in that regard. Bentham says little about the importance of character, but he does address virtue. Mill has much to say about the importance of both character and virtue which identifies utility's need for the use of virtue theory. In order to both identify that need for virtue theory and to describe utility's use in addressing climate change, a summary of basic utilitarianism theory is necessary to indicate the reasons for the dependence of that theory on character.

A. Jeremy Bentham (1748 – 1832)

(1) Bentham (1748 - 1832) - utility

Bentham's primary work that included his utility theory was *An Introduction to the Principles of Morals and Legislation*⁹⁸ ("IPML") which was published initially in 1789 (though first printed in 1780). Chapters I-VI of the IPML describe Bentham's principle of utility, the arguments offered against it, and the importance of pleasure and pain all of which are considered to be Bentham's statement of his theory of utilitarianism.⁹⁹

The concepts of security and equality are particularly important to Bentham's theory. Concerning security, the following words of Bentham in his *Principles of the Civil Code*¹⁰⁰ explain his perceived importance of security, of the anticipation of future events, and of imagination. In addition, the following quote can be read to argue that Bentham did think beyond the present generation.

In order to form a clear idea of the whole extent which ought to be given to the principle of security, **it is necessary to consider, that man is not like the brutes, limited to the present time**, either in enjoyment or suffering, but that he is susceptible of pleasure and pain by anticipation, and that it is not enough to guard him against an actual loss, but also to guarantee to him, as much as possible, his possessions against future losses. **The idea of his security must be prolonged to him throughout the whole vista that his imagination can measure.**

⁹⁸ Jeremy Bentham [1748-1832], *An Introduction to the Principles of Morals and Legislation*, ed. J.H. Burns and H.L.A. Hart with introduction by F. Rosen (Oxford: Oxford University Press, 2005), herein referenced as "Bentham, Burns, IPML; p.____."

⁹⁹ Fred Rosen, in the Introduction to the IPML, points out that Bentham did not found the utilitarian ethic. Cesare Beccaria (1738-1794) apparently introduced the phrase "the greatest happiness of the greatest number". Rosen additionally recognizes that earlier formulations of that phrase were used by Francis Hutcheson (1694-1746) a Scottish philosopher and possibly even by Gottfried Wilhelm Leibniz. (Gottfried Wilhelm Leibniz, *Discourse on Metaphysics*, in *G.W. Leibniz, Philosophical Essays*, ed. and trans. Roger Ariew and Daniel Garber (Indianapolis: Hackett Publishing Company, Inc., 1989), pp.37-38,67-68).

¹⁰⁰ Jeremy Bentham, *Principles of the Civil Code*, in *The Works of Jeremy Bentham*, vol. 1, ed. John Bowering (New York: Russell & Russell, Inc., 1962); herein referenced as "Bentham, Bowering, PCC; p.____."

(Emphasis added; Bentham, *PCC*; p.308) Because concern for progeny (at least close progeny) is a normal concern for a human being, that concern arguably is included in “the whole vista of his imagination”. In this regard, it is important to note that Bentham enlists the individual's imagination in establishing the time period over which to guarantee to that individual the security of the possessions involved. That period would at least be the individual's lifetime. It is unfortunate that Bentham did not clearly include future generations as well.

It is again interesting to note that in the second phrase of the first sentence of the above quote, Bentham does not use an article before the word "man." As described in most any dictionary, the word "man" when used without a preceding article means "the human race: mankind: human beings personified as an individual."¹⁰¹ When, in the second sentence in the above quotation, the word "man" (or "human race," "mankind," or "humanity") is used in place of each of the singular personal pronouns, that quotation becomes applicable to future generations: "the idea of man's security must be prolonged to man throughout the whole vista that man's imagination can measure." That reading is what Bentham's use of the word "man" in the first sentence of the quote seems to require, and, therefore, the quote arguably extends beyond the then present generation to generations that follow. Arguably, if Bentham could think beyond the present generation in or about 1780, the present generation of the United States should be able and want to do so as well.

The common interpretation of the above quote is at least extending through the life of an extant individual and based on the individual's imagination argues for concern about climate change at least through her/his lifetime. However, even the present generation refuses meaningful concern because climate change threatens that generation's perceived "security". That perception results from climate change's projected costs of mitigation and adaptation and the impact of those

¹⁰¹ The Unabridged Merriam-Webster Dictionary, <http://unabridged.merriam-webster.com/unabridged/man>.

costs on present lifestyle which generally seems to be unfortunately viewed by that generation as the basic source of "happiness".

Further, Bentham's reference to the use of imagination here requires that not only the existing individual but the legislator as well use imagination to determine the security of the individual. Bentham's recommendation of imagination is then relevant in this twenty-first century for careful legislative consideration of the security of at least the present generation throughout its life span. However, we actually do not have to use much imagination in contemplating climate change because we have the work of the IPCC though many refuse to consider it seriously because, again, it threatens current lifestyle because of projected cost and because of its threat to fossil fuel use and to those assets and the corporations that own and distribute those assets.

The above quotation is additionally interesting because of the importance of its suggestion of "guaranteeing" possessions against future loss. Man's or humanity's possessions should be viewed as Earth's physical resources and can certainly include nonphysical possessions such as honour. As argued in this dissertation, possibly the individual's future honour (or shame) should be of greater concern to the individual than his/her physical possessions which will perish.

Concerning "looking forward," Bentham also states:

This disposition to look forward, which has so marked an influence upon the condition of man, may be called expectation - expectation of the future. It is by means of this we are enabled to form a general plan of conduct; it is by means of this, that the successive moments which compose **the duration of life** are not like insulated and independent points, but become parts of a continuous whole. **Expectation is a chain which unites our present and our future existence, and passes beyond ourselves to the generations which follow us. The sensibility of the individual is prolonged through all the links of this chain.**

(Emphasis added; Bentham, *PCC*; p.308) Here, again, the lack of an article preceding the words "man" and "life" clearly mean humanity and not only existing human life on Earth but future human life on Earth as well. In addition, this reading is required by the last sentence and its

reference to all the "links of this chain" of "generations which follow us." This idea of "expectations" of a present generation passing beyond its own generation to future generations and the possibility that an individual's sensibility is prolonged beyond her/his own life and generation, is or should be of considerable interest to an existing individual and generation. This again is not the apparent concern of most present individuals (but should be) and is addressed throughout this dissertation.

When Bentham wrote these words, he could have had no actual concept of a climate change kind of crisis. However, here his words about "generations which follow us" and the "prolonged sensibility of the individual" throughout those generations suggest that he, at the very least, imagined activity of a present generation impacting "generations which follow us" where utility and happiness are involved. Certainly, he considered his theory of utility as continuing through the following generations of human life. He, of course, also was the first to suggest that ethical consideration be extended to nonhuman animal life. He famously stated "the question is not, Can they *reason*? nor, Can they *talk*? but, Can they *suffer*?"¹⁰²

Because the suffering of humans is still of greater concern than the suffering of nonhuman animals, it is reasonable to believe that, if Bentham were alive today, he would fully support the extension of ethical consideration to future generations and support present efforts of both mitigation and adaptation to minimize the suffering of those future generations as a result of climate change. Also, that the sensibility of a present individual and generation could and should continue beyond its own life and generation seems at least to be a challenge to that present individual and generation to incorporate in his/her/its own sensibility the good of future generations but that is not the collective attitude of the present generation.

¹⁰² Bentham, Burns, *IPML*; p.282-83.

Returning to Bentham's focus on security as a primary route to, and the maximization of, happiness, Bentham follows David Hume (1711-1776) who argued that secure possession of one's life and property was a primary task of government.¹⁰³ Not only security but equality was important to Bentham. While equality seems less important to Bentham than security, equality was a factor in Bentham's efforts in reforming government through legislative action and, therefore, was also a necessary condition for greatest happiness. As a result, Bentham's utilitarianism was dependent upon appropriate legislation to ensure not only security of life and property but apparently equality of life and, to some extent, equality of property as well.

However, again, this does not describe today's emphasis of most of the present generation which seems intent on maximizing "happiness" through the maximum accumulation of property—consumerism—which, if anything, is a very short-term kind of “happiness” and “utility” and not a lasting expression of either. Unfortunately, utilitarianism seems to promote this accumulation in spite of Bentham's thoughts about equality of property and sensibility of the future because of his theory's emphasis on individual utility and happiness. But this emphasis should not be taken as the focus of Bentham's thoughts if he is understood as argued above.

(2) Bentham - concept of virtue

Another aspect of Hume's influence was Bentham's adoption of Hume's position about virtue. In Bentham's *A Fragment on Government*¹⁰⁴ published anonymously in about 1776, Bentham related about Hume that he, Bentham, "felt as if scales had fallen from my eyes [and] I then, for the first time, learned to call the cause of the People the cause of Virtue." (Bentham, *FOG*; p.268-69[h2]) Bentham added "I learnt to see that *utility* was the test and measure of all

¹⁰³ Bentham, Bowering, *PCC*: p.307; Hume, *Enquires*; p.192-95.

¹⁰⁴ Jeremy Bentham, *A Fragment on Government*, in *The Works of Jeremy Bentham*, vol. 1, ed. John Bowering (New York: Russell & Russell, Inc., 1962), p.268-69[h2]; herein referenced as "Bentham, Bowering, *FOG*; p.____"

virtue ... and that the obligation to minister to general happiness was an obligation paramount to and inclusive of every other." Hume had written the following about utility:¹⁰⁵

It appears to be a matter of fact, that the circumstance of *utility*, in all subjects, is a source of praise and approbation: That it is constantly appealed to in all moral decisions concerning the merit and demerit of actions: **That it is the sole source of that high regard paid to justice, fidelity, honour, allegiance, and chastity: That it is inseparable from all other social virtues, humanity, generosity, charity, affability, lenity, mercy, and moderation: And, in a word, that it is a foundation of the chief part of morals, which has a reference to mankind and our fellow creatures.**

(Emphasis in original (italics) and added (bolded); Hume, *Enquiries*; p.231; see also p.280) While Hume (and Bentham later) acknowledge the importance of virtue and some individual virtues specifically, Hume saw the source of virtue as utility.

Bentham defined his principle of utility more succinctly than Hume as follows:

The principle here in question [that of utility] may be taken for an act of the mind; a sentiment; a sentiment of approbation; a sentiment which, when applied to an action, approves of its utility, as that quality of it by which the measure of approbation or disapprobation bestowed upon it ought to be governed.

(Bentham, Burns, *IPML*; p.12fn) While not attributing to utility the "sole source" of Hume's listed virtues, Bentham's statement is similar to Hume's statement because both embrace utility as the determining factor of right and wrong. Bentham's focus is on utility as an agent's act of the mind—a sentiment—which determines the measure of approbation—approval— or disapprobation—disapproval—of the agent or a third party to which the involved act is attributed. That sentiment defines the acting agent's character which may be good or bad, right or wrong.

In explaining utility, Bentham argues that "Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we

¹⁰⁵ These words of Hume were first published in 1751 (Hume, *Enquiries*, p.viii) and may be the cause of Kant's concern with virtue as an opportunity for personal advantage. Advantage over other individuals is a factor that must be addressed in most (if not all) cases as a vice and must be differentiated from virtue generally. (See page 151-152 below).

ought to do, as well as to determine what we shall do." (Bentham, *IPML*; p.11) For Bentham, these masters of pain and pleasure provide the system under which human agents live and again define the individual's character. He further argues that any contrary systems that "attempt to question [the principle of utility], deal in sounds instead of sense, in caprice instead of reason, in darkness instead of light" (which he recognizes as "metaphor and declamation") and not the means of improving "moral science". (Bentham, Burns, *IPML*; p.11)¹⁰⁶ This was an extremely harsh and unnecessary apparent judgment of virtue ethics even in the eighteenth century.

He then sets out through the *IPML* to explain the meaning of the utility principle which "approves or disapproves of every action whatsoever, according to the tendency which it appears to have to augment or diminish the happiness of the party whose interest is in question; or, what is the same thing in other words, to promote or to oppose that happiness." (Id.; p.12) Also, those actions are explicitly to include "not only of every action of a private individual, but of every measure of government." (Id; p.12) Legislation is not only important but again necessary and should focus on promoting the happiness, and opposing pain, not only of the current generation but of future generations as well because all legislation should be viewed as of a continuing nature. Climate change requires that the present generation consider diminishing its own "happiness" in order to promote that of future generations in the sense of Bentham's above quoted statements. Also, as Mill suggests below there may be more genuine happiness in recognizing one's part in facilitating future generations.

For Bentham, though, the existing individual remains of primary importance. The interest of the individual's "community" becomes the summation of individual interests (Bentham, Burns,

¹⁰⁶ The subject of morality still seems to be much more of an art than a science.

IPML; p.12) which is one of the root problems of utilitarianism. The concept of community today must be a much larger concept as explained in the remaining chapters.

In summary, while the fact that utility is necessary in implementing mitigation of, and adaptation to, climate change; while we should heed Bentham's words about the "generations which follow us"; while the concept of legislation should consider future generations; and while the need for the use of imagination is as great as it has ever been; Bentham's theory relies on the legislator following the sum of the desires of present individuals and those desires do not generally include climate change mitigation or adaptation and look only at prolonging present "happiness" through personal acquisition through consumerism. Though Bentham's thoughts of present sensibility of, and to, the future are necessary in addressing climate change, I argue that, because of climate change, the general level of the character of even the past must be elevated, and that virtue theory is the theory that must be employed.

However, while Bentham's (and Hume's) position concerning virtue seems misdirected and in need of assistance, Mill's position concerning virtue and the importance of character is essentially positive and as such provides the possibility of assistance to utilitarianism through the improvement of character through new and/or revised virtues or a revised virtue theory.

B. John Stewart Mill (1806-1873)

John Stuart Mill's thoughts combined with those of Bentham's are important concerning climate change's need of utility and also because of Mill's recognition of the benefit of a virtuous character. Again, utility seems important in identifying and addressing both mitigation and adaptation but is insufficient without virtuous character. Virtue is morally important to Mill where

it was interpreted as personal advantage by Hume and Bentham. Mill in his book *Utilitarianism*¹⁰⁷ expands on Bentham's thoughts, changes some of the detail of Bentham's ideas, and discusses the importance of virtue and character at some length.

(1) Mill - general utility theory

Mill does, of course, adopt Bentham's utilitarian ethics. However, Mill's thoughts do not seem as favorable to future generations as the above few thoughts of Bentham because Mill's emphasis seems fully directed to a present generation as is the case with most nineteenth century and prior ethicists.¹⁰⁸ Concerning future generations, only one reference in *Utilitarianism* could be found that had an indication that other than the present generation might be considered.¹⁰⁹ Mill states that he wrote the book for the "cultivated mind" which he defined as:

A cultivated mind - I do not mean that of a philosopher, but any mind to which the fountains of knowledge have been opened, and which has been taught, in any tolerable degree, to exercise its faculties - finds sources of inexhaustible interest in all that surrounds it; in the objects of nature, the achievements of art, the imaginations of poetry, the incidents of history, **the ways of mankind, past and present, and their [mankind's] prospects in the future.**

(Emphasis added; Mill, 1861; p.14) It does seem interesting that Mill in 1861 had enough foresight to suggest that a cultivated mind should find interest in the "ways of *mankind*, past and present" and apparently in mankind's "prospects in the future" where that last thought can be interpreted to include the ways that present individuals might affect a future "mankind".¹¹⁰ However, again,

¹⁰⁷ John Stuart Mill, *Utilitarianism*, 2nd ed (Indianapolis: Hackett Publishing Company, Inc., 2001); herein referenced as "Mill, 1861; p.____).

¹⁰⁸ Mill does discuss the future but I have not found references to "future generations." Mill in his essay "Of the Stationary State" predicts a future stationary state for the economy and the end of economic growth. He states that those conditions "would be, on the whole, a very considerable improvement on our present condition" which he describes as "that of struggling to get on; that [of] the trampling, crushing, elbowing, and treading on each other's heels, which form the existing type of social life" John Stuart Mill, *Collected Works of John Stuart Mill*, vol. 3, ed. JM Robson (Indianapolis: Liberty Fund, Inc., 2006), pp.752-57; herein referenced as "Mill, CW3; p.____."

¹⁰⁹ Mill does mention "a long succession of generations" but there the reference is only to the passage of time and not to any consideration to be given those generations. (Mill, 1861; p.15)

¹¹⁰ Possibly Mill here was following Bentham's words about the future as discussed above.

additional statements supporting that idea of affecting the future could not be found in *Utilitarianism*.

In describing utilitarian theory, Mill begins with what it is not - it is not "referring everything to pleasure". (Mill, 1861; p.6) Mill explains: "utilitarian writers in general have placed the superiority of mental over bodily pleasures chiefly in the greater permanency, safety, uncostliness, etc., of the former - that is, in their circumstantial advantages rather than in their intrinsic nature." (Mill, 1861; p.8) Mill states:

According to the greatest happiness principle, ... the ultimate end, with reference to and for the sake of which all other things are desirable - whether we are considering our own good or that of other people - is an existence exempt as far as possible from pain, and as rich as possible in enjoyments, both in point of quantity and quality

(Mill, 1861; p.12) Therefore, based on the above two quotes, mental pleasure should take precedence over physical pleasure and the good of others is stated but with the prior reference to "our own" individual good. Mill defines happiness as follows:

If by happiness be meant a continuity of highly pleasurable excitement, it is evident enough that this is impossible. A state of exalted pleasure lasts only moments or in some cases, and with some intermissions, hours or days, and is the occasional brilliant flash of enjoyment, not its permanent and steady flame. ... The happiness [of philosophers who have embraced happiness as life's end] was not a life of rapture, but moments of such, an existence made up of few and transitory pains, many and various pleasures, with a decided predominance of the active over the passive, and having as the foundation of the whole not to expect more from life than it is capable of bestowing.

(Mill, 1861; p.13) The above thoughts provide a needed hierarchy and certain limits on the utilitarian concept of happiness.

Like Bentham, the individual is of paramount importance in Mill's theory. About attention to the self, Mill states that utilitarians should never cease to claim "self-devotional morality" as a "possession which belongs by as good a right to them as either to the Stoic or to the

Transcendentalist." (Mill, 1861; p.16) Mill does consistently seem to want to fully recognize the general nature of the individual as willfully giving more, or at least as much, importance to her/his own needs and wants than to the needs and wants of others because Mill does recognize that the selfish feeling generally controls. (Mill, 1861; p.34) He states: "[The social] feeling in most individuals is much inferior in strength to their selfish feelings, and is often wanting altogether." (Mill, 1861; p.34) Things do not seem to have changed that much in about one hundred and fifty years.

Mill does provide an exception to the utility principle for what might be called social responsibility. Though he does not seem to use that term, his following statements fit that description. For example, Mill argues that utilitarianism requires that the individual "be as strictly impartial as a disinterested and benevolent spectator" and gives "the golden rule of Jesus of Nazareth" as the "complete spirit of the ethics of utility" and "the ideal perfection of utilitarian morality". As the means of approaching this ideal, he states:

utility would enjoin, first, that laws and social arrangements should place the happiness or (as ... it may be called) the interest of every individual as nearly as possible in harmony with the interest of the whole; and, secondly, that **education and opinion, which have so vast a power over human character**, should so use that power as to establish in the mind of every individual an indissoluble association between his own happiness and the good of the whole

(Emphasis added; Mill, 1861; p.17) Here, the individual is apparently given the responsibility to consider the "good of the whole" in securing her/his own good. Also, apparently any legislature should attempt, "as nearly as possible," to harmonize all social interests. While this is not universalizability, it seems to be approaching that concept. Finally, and importantly, Mill here emphasizes the significance of "human character" generally.

In addition, Mill specifically addresses the public or social utility responsibility of the individual and in doing so declares that the object of virtue is the multiplication of happiness.

The multiplication of happiness is, according to the utilitarian ethics, the object of virtue: the occasions on which any person (except one in a thousand) has it in his power to do this on an extended scale—in other words, to be a public benefactor—are but exceptional; and on these occasions alone is he called upon to consider public utility; in every other case, private utility, the interest or happiness of some few persons, is all he has to attend to.

(Mill, 1861; p.19) Mill states that the individual has only limited opportunity or need to be concerned with public utility and would generally be concerned only with the promotion of private utility or happiness where this was certainly the general situation in the nineteenth century. This statement has been turned on its head in this twenty-first century. Practically everything we do today requires us to think as a public benefactor and a benefactor of future generations. Also, as argued in this dissertation, virtue's object must be viewed as exponentially broader than Mill's stated object of happiness and interests of the person and close associates.

In a similar manner and again consistent with 1861, Mill concludes that individual actions need consider the entire world only on rare occasions where:

the thoughts of the most virtuous man need not on [other than these rare] occasions travel beyond the particular persons concerned, except so far as is necessary to assure himself that in benefiting them he is not violating the rights, that is, the legitimate and authorized expectations, of anyone else.

(Mill, 1861; p.19) Here the “most virtuous” person is recognized as the example, and the rights and expectations of "anyone else" are stated as limitations on the thoughts of that person. However, again, she/he need not be concerned with other than "anyone else" in the immediate vicinity *unless* the activity violates the rights of "anyone else" which in Mill's time were local rights but which again have changed radically over the past 150 years and where now “anyone else” includes the rights of Earth and all of its inhabitants, present and future.

Mill also importantly and directly discusses "abstinences" where he addresses society generally and imposes a duty of forbearance that seems to be at least a part of Kant's duty of universalization.

In the case of abstinences indeed—of things which people forbear to do from moral considerations, though the consequences in the particular case might be beneficial—it would be unworthy of an intelligent agent not to be consciously aware that the action is of a class which, if practiced generally, would be generally injurious, and that this is the ground of the obligation to abstain from it.

Immediately, Mill states that this "regard for the public interest" is no more than is "demanded by every system of morals" because "they all enjoin to abstain from whatever is manifestly pernicious to society." (Mill, 1861; p.19-20) Consequently, Mill recognizes "pernicious to society" as a basis for social responsibility's precedence over the utility principle. The thoughts in this quote apply directly to climate change and require all intelligent agents to refrain from the use of fossil fuel and energy generated therefrom to the extent possible.

He states "it is the business of ethics to tell us what are our duties, or by what test we may know them" (Mill, 1861; p.18) Happiness of and utility for the present generation are his test and duties. In fact, he states: "ninety-nine hundredths of all our actions are done from [motives other than duty], and rightly so done if the rule of duty does not condemn them." As above, Mill's rule of duty does condemn whatever is pernicious to society and most all that are recognized as such today, including climate change, were unknown in Mill's life time.

Further, while Mill does respect character, he could not be found to relate in any detail how utilitarianism can improve human character beyond the means of finding utility in activity and through education and opinion.¹¹¹ In summary, it seems that virtue and character count but only

¹¹¹ Of interest, Mill comments on the then state of education and social arrangements as follows: "The present wretched education and wretched social arrangements are the only real hindrance to [happiness] being attainable by almost all." (Mill, 1861; p.13).

insofar as they contribute to the happiness of present humanity generally and apparently only after that of the individual has been satisfied. That satisfaction of the individual's concept of happiness, in fact, seems to be the present belief of most of those in the United States today.

(2) Mill - virtue and character

According to Mill and also Bentham, the "object of virtue" is the "multiplication of happiness". (Mill, 1861; p.19) Again, Mill does include positive comments about virtue and character throughout his book. Initially, he comments that, while self-sacrifice is noble because it involves "resigning entirely one's own portion of happiness, or chances of it," it must be for some end other than the simple end of being virtuous. He comments that the necessary end could be earning "for others immunity from similar sacrifices." (Mill, 1861; p.16-17) Further, he calls sacrifice "the highest virtue which can be found in man" but is not "itself a good". Any sacrifice "which does not increase or tend to increase the total sum of happiness, [the utilitarian] considers as wasted." (Mill, 1861; p.16) Consequently, virtuous sacrifice is only acceptable if it contributes to the happiness of another or of others (which could arguably include unborn others).

Concerning motive and the worth of the agent, Mill states: "utilitarian moralists have gone beyond almost all others in affirming that the motive has nothing to do with the morality of the action, though much [to do] with the worth of the agent." (Mill, 1861; p.18) The consequences of the action are paramount while the "worth of the agent" is of secondary importance. This position is problematic because, while an individual might produce a good action here and there, no one can count on his/her character to provide continuing good action when continuing good action is critical. Mill does directly acknowledge that good character is important: "I grant that [utilitarians] are, notwithstanding, of opinion that in the long run the best proof of a good character is good

actions; and resolutely refuse to consider any mental disposition as good of which the predominant tendency is to produce bad conduct." (Mill, 1861; p.20)

But does Earth really need vicious agents who on occasion do a virtuous act possibly by mistake? Further, is "predominant tendency" the best that can be expected? Better than those results have been needed many times in the past and much better than that is needed now. In addition, Mill's sentence seems to suggest that, because a good character apparently results in good actions continually or at least over the "long run", a good character should be, in fact, recognized as necessary for any acceptable ethical theory.

It seems that an ethical theory that tolerates a second-class attitude toward character will not in the "long run" produce anything like exceptional happiness or utility. Virtuous character seems to be of initial and primary importance. Again, while Mill recognizes the importance of good character, he does not describe how the utility principle improves or promotes good character. Mill simply seems to state that the object of happiness and utility will promote or does promote virtue and good character through education and opinion. But that education and opinion need to originate from an improved and elevated character if those two methods are going to be useful. At present, neither seem directed to that improved and elevated character.

(3) Mill - legislation and deterrent sanctions

Mill identifies what seems to be an appropriate question: what is the deterrent sanction of the moral standard and what is the source of that standard's obligation and from what does it derive binding force? Deterrent sanctions unfortunately seem necessary for humans and Mill discusses both those that are external and internal. His external sanctions are, of course, external reward and punishment through legislation and/or threat of pain.

Mill describes the internal sanction as "duty:" and states "duty, whatever our standard of duty may be, is one and the same—a feeling in our own mind; a pain, more or less intense, attendant on violation of duty, which in properly cultivated moral natures rises, in the more serious cases, into shrinking from [duty] as an impossibility." While Mill in *Utilitarianism* does not use the words "shame," "guilt" or similar words, those feelings seem to be the essence of his "pain". Also, this feeling of duty (which appears similar in its mandate to that of Kant's duty), Mill argues, arises from all of the various feelings of an individual's past and that the binding force of this duty is this "mass of feeling which must be broken through in order to do what violates our standard of right, and which, if we do nevertheless violate that standard, will probably have to be encountered afterwards in the form of remorse." (Mill, 1861; pp.28-29)¹¹² or, again, shame. This "mass of feeling" seems to be the actual foundation of the virtuous individual and the source of her/his strength of will. Also, this "mass of feelings" seems to be the result of the individual's education and opinion *but also habituation* of the individual which fosters and forms this "mass of feelings".

Mill argues that the "conscientious feelings of mankind" are, and, therefore, the individual's conscience is, the ultimate internal sanction of all morality. As to its binding force, Mill states: "Undoubtedly this sanction has no binding efficacy on those who do not possess the feeling it appeals to; but neither will these persons be more obedient to any other moral principle than the utilitarian one. On them morality of any kind has no hold but through the external sanctions." (Mill, 1861; p.29) That description, in fact, seems to accurately describe this twenty-first century so far, and new external sanctions must be secured through someone or some body like a legislature where the involved individuals cannot be as inclined to self-devotion as at present but must be inclined

¹¹² However, Mill's duty seems to be one of determining present social acceptability while Kant's duty is one of universalizability which ought to be the basis of social acceptability but which is not. Improved character is necessary.

to seek honour or avoid shame or to find some other feeling of worth or reward rather than personal monetary gain or its equivalent. That seems to require virtuous character.

Mill argues that as civilization progresses, the individual comes to realize that the interests of others cannot be disregarded (Mill, 1861; p.32) and that, in this way, concern for the good of others becomes a natural and necessary thing for attention "like any of the physical conditions of our existence". Mill calls this concern "sympathy" which becomes, he argues, a necessary concept for individuals where that feeling is "nourished" by education but is supported by "the powerful agency of the external sanctions". (Mill, 1861; p.33) However, again, someone or some body must legislatively or dictatorially impose those sanctions. Hopefully, it will be someone or some body with a virtuous character.

In addition, Mill seems to say that utility is self-motivating because of the recognition that it is the natural social objective. (Mill, 1861; p.34) But again, in light of the emphasis on the self-devotion and happiness of the present individual, the questions seem to remain whose utility and who will impose the external sanctions necessary where there is no universal consent and also how does this sympathy grow and mature?

Of considerable interest is Mill's recognition, a mere one hundred fifty or so years ago, of what he calls "the comparatively early state of human advancement in which we now live" where this sympathy with others may only be developing and slowly at that.¹¹³ But he believes that there are those in whom this feeling is developing to the point that a person "cannot bring himself to think of the rest of his fellow creatures as struggling rivals with him for the means of happiness, whom he must desire to see defeated in their object in order that he may succeed in his." (Emphasis added; Mill, 1861; p.34) Initially, given that Homo sapiens has only used written expression for

¹¹³ While Mill does not specifically define this "early state", it seems in context to relate to a longer period of time, possibly centuries or millennia if not epochs, rather than such short periods of time as years or decades.

about six thousand years and that Earth is at least four billion years old, we humans are still, and, if Homo sapiens survives, will still be in this "early state of human advancement" for some centuries and millennia to come.

Also, presently, we obviously have not yet overcome this concept of "struggling rivals" and this feeling of "desire to defeat" which both seem to be increasing and seem to fuel our daily need for some form of competition which always remains evident certainly on a vocational level and through competitive sports ("enjoyed" vicariously) on which not only we in the United States but the world generally spends huge amounts of time and money.

Nonetheless, Mill believes that there are those on Earth who have those feelings that desire harmony where the feeling does possess the characteristics of a natural feeling and where it is "an attribute which it would not be well for them to be without." Mill then comes back to the importance of "the sensitiveness and thoughtfulness" of the individual "character" in supporting this attitude. (Mill, 1861; p.34) However, he admits that it has not been achieved and "in this early state" maybe "impossible". Maybe climate change will even somehow help get us there.

(4) Mill - virtue ethical theory assistance

Based on the above review, there are a number of concerns that climate change raises for utilitarianism with which virtue theory can assist. The basic climate change concern is utility for unborn generations which, again, is an obvious concern associated with all three of the major ethical theories and which I argue can be addressed by improved character though an improved and elevated virtue theory. This general concern is associated with three additional specific concerns with utilitarianism with which improved character can assist.

First, Mill's minimal concerns about public utility and abstinences are major climate change concerns. They were for Mill exceptions to the general rule of concern for oneself and

those persons in relatively close contact but now should have become the most important concerns for every individual at least in the United States. For example, regarding climate change, abstinence of the use of fossil fuel is now globally necessary. Also, as reported above through Dietz, et. al., thirty-eight percent (38%) of greenhouse gas emissions result from household decisions. (Chapter 2 above, pages 38-40). And that percentage is growing because of the individual household's constantly increasing dependence upon fossil fuel energy. Lowering of that percentage requires that every present person must be constantly aware of the effect of each of his/her actions in the production of CO₂ and greenhouse gas generally. The importance of public utility and abstinences has increased exponentially. Because the majority of the present generation chooses to ignore these concerns, an improved and elevated character is necessary.

Second, Mill's position that virtue has as its only object the "multiplication of happiness" or the positive interest of the individual where those objects become those of society generally, is but a small portion of what virtue can, and needs to, deliver. What virtue is believed capable of initially delivering is sufficient individuals who recognize the need for improved virtuous character as defined by both past characteristics recognized as virtuous and new and/or revised virtues that can also direct our ethical concern to an enlarged community of both present patients and the unborn generations of all life on Earth.

Third, Mill's concept of utilitarianism includes an equal consideration of the self and existing others but this must be revised to include consideration of unborn generations as primary over the individuals of the present generation if only because the existing and past generations have caused climate change. Again, this requires an elevation of our individual characters through a recognition of some present but ignored virtues and some new and/or revised virtues.

The above three specific concerns with which improved character can assist are considered primary regarding the ability of utilitarianism to assist in the mitigation of, and adaptation to, climate change.

C. Summary – Part III

As an ethical foundation for addressing climate change, the Kantian ideal of universalizability seems the most appropriate because it is the more objective theory and, through that universalizability, includes Mill's concepts of abstention and social responsibility. In the circumstances of climate change with the necessity of recognizing global consequences, the Kantian theory also provides Mill's requirement of a "common umpire" (Mill, 1861, p.26) again through universalizability. However, the use of universalizability requires an individual or group to make judgments and that introduces the importance of the character of that individual or the individuals in the group. That individual or group of individuals seems to be an administrator and legislators in democratic societies. In dictatorial societies, as Confucius found, the leaders are difficult to transform. But possibly things have changed.

But whatever the description of the umpire, that entity needs virtuous character, for example, for legislatures at least in some individuals initially. The character of that individual or those individuals must have the ability to exclude personal desires and partialities and be able to universalize them. Today that character needs revised and/or new virtues to exclude the exponential daily onslaught of new potential desires and partialities that the individual is required to encounter (and hopefully discard for the most part) but which mask the reality of concerns such as climate change.

In fact, Mill argues that the common umpire is necessary

until the influences which form moral character have taken the same hold of the principle which they have taken of some of the consequences - until, by the improvement of education, **the feeling of unity with our fellow creatures shall be ... as deeply rooted in our character, and to our own consciousness as completely a part of our nature**, as the horror of crime is in an ordinarily well-brought up young person.

(Emphasis added; Mill, 1861; p.27) Mill seems to suggest that the influences of moral character must somehow take hold of at least a large portion of the entire population of Earth before moral character can achieve anything and until then, moral character cannot be found to be reliable for the achievement of the good. Until then, deterrent sanctions must be provided as the means to achieving the good. But the influence of moral character must begin in some small portion of a population before even the appropriate sanctions can be enacted that will influence a larger part of that population.

In any event, based on the above thoughts of Kant, Bentham and Mill, a strong case can be made for the position that nothing good ever happens without virtuous character in an actor or actors somewhere. The good must begin somewhere and a virtuous character must initiate any good entitled to that description. As with any need for social change, there must be a starting point that attempts to look beyond the present circumstances that seem to be acceptable but are not and that also attempts to look beyond the past because any attempt to re-create the past will fail at least because circumstances change and what was cannot address those circumstances. Society, because of those changed circumstances, must look long and carefully at those circumstances and strive to deal reasonably with them. There is no going back; only going forward in an attempt to find flourishing either within or without those circumstances.

Society today needs to build character in its legislators to address those circumstances and the only means to that end is building character in the individual who either becomes the legislator or elects the legislator and that can only begin with individuals that can see and appreciate the need

for, and the worth of, improved character. Therefore, that necessary character, as acknowledged by Aristotle, Confucius, Kant, Bentham, Mill, and others, can be addressed through the concept of virtues and can begin to be addressed as argued in this dissertation and hopefully through future papers from many other authors.

As Mill admits, the "knotty points both in the theory of ethics and in the conscientious guidance of personal conduct" **are generally solved "according to the intellect and virtue of the individual"**. (Emphasis added; Mill, 1861; p.25-26) Revised and/or new virtues are generally needed for new circumstances especially those which have never been encountered previously such as climate change. Interestingly, both utilitarian and Kantian ethics need the concept of duty in the agent and it seems that virtuous character is necessary if that duty is to be recognized and embraced to become the activity of the individual and of humanity generally.

Utilitarianism is a form of what G. E. M. (Elizabeth) Anscombe named "consequentialism"¹¹⁴ because, unlike utilitarianism which considers pleasure and pain or benefit and detriment, consequentialism seems to attempt to track what consequences are "best" and, therefore, consequentialism becomes a broader concept (and more indistinct) than utilitarianism.

In fact, Anscombe states:

It is a necessary feature of consequentialism that it is a shallow philosophy. For there are always borderline cases in ethics. Now if you are either an Aristotelian, or a believer in divine law, you will deal with a borderline case by considering whether doing such-and-such in such-and-such circumstances is, say, murder, or is an act of injustice; and according as you decided it is or it isn't, you judge it to be a thing to do or not.

¹¹⁴ G.E.M. (Elizabeth) Anscombe, "Modern Moral Philosophy" in *Philosophy* vol.33, no.124, pp.1-19, p.12. Anscombe further states: [T]he consequentialist, in order to be imagining borderline case at all, has of course to assume some sort of law or standard according to which this is a borderline case where then does he get the standard from? In practice the answer invariably is: from the standards current in his society or his circle."

(Anscombe, p.12) Samuel Scheffler, in his book *The Rejection of Consequentialism: A Philosophical Investigation of the Considerations Underlying Rival Moral Conceptions*¹¹⁵ considers criticisms of consequentialism: (1) it requires agents to disregard their own personal projects because it entails an impersonal consideration of the circumstances thereby questioning the agent's personal integrity, and (2) it does not consider distributive justice. Both seem justifiable criticisms.

The alternatives of Kantian ethics and virtue ethics rely on an agent-centered consideration of circumstances where both rely on the good character of the agent to address the circumstances morally. Further, as identified above, utilitarian ethics and generalized consequentialist ethics do not seem to provide a method for generating the character necessary to choose the best outcome for the involved circumstances.

Interestingly, Scheffler argues for a “hybrid” theory which attempts to address the first criticism through what he calls a “agent-centered prerogative” and the second criticism through what he calls “a distribution-sensitive conception of the good”. In support of maintaining consequentialism in his hybrid theory, he quotes John Rawls as follows: “All ethical doctrines worth our attention take consequences into account in judging rightness. One which did not would be simply irrational, crazy.”¹¹⁶ (Rawls, 1999; p.26; Scheffler; p.127-28) Aristotelian virtue theory through “choice” considers consequences and Kantian ethics must consider consequences in applying the Categorical Imperative. I further argue that through the “*Aidōs* Response,” through “Broadie’s contingent choice,” and through the Aristotelian/Aquinian psychology involved in choosing as detailed in Chapters 7 through 12, consequences of the moral choice are more

¹¹⁵ Samuel Scheffler, *The Rejection of Consequentialism: A Philosophical Investigation of the Considerations Underlying Rival Moral Conceptions*, rev'd ed. (Oxford: Oxford University Press, 1994) herein referenced as “Scheffler, p. ___”.

¹¹⁶ John Rawls, *A Theory of Justice, Revised Edition* (Cambridge, MA: Belnap Press of Harvard University Press, 1999) referenced herein as “Rawls, 1999, p. ___”.

thoroughly considered and that the moral choice depends on the character—the moral character—of the agent.

As Rawls states: “Utilitarianism does not take seriously the distinction between persons,” which seems the most important of its shortcomings. Scheffler, in attempting to consider the possibility of hybrid moral theories that include the opportunity to consider that concern, offers what he calls “agent-centered restrictions” and “agent-centered prerogatives” and favors the prerogatives approach because he finds therein a “liberation strategy” rather than a “maximization strategy”. He chooses the liberation strategy because it seems to give the agent greater flexibility in expressing her/his personal position concerning the circumstances and yet holds to some semblance of the utilitarian focus on consequences. However, he ultimately concludes that either of these strategies will serve his purpose of considering hybrid theories. He states:

Rather than trying to show that one strategy really does give more weight than the other to the independence of the personal point of view, one might suggest that they are simply two different ways of giving weight to personal independence, **with the choice between them properly dependent on one’s ultimate moral attitudes**, and not on any supposedly neutral determination of the magnitudes of the respective weights.

(Scheffler; p.63) Because he concludes that either strategy is acceptable for his hybrid project and that “the choice between them properly [may be] dependent on one’s ultimate moral attitudes”, these individual ultimate moral attitudes are obviously of significant importance and seem to be the result of the moral character of the individual.

Granted that it is Scheffler’s project to show the possibility of the value of hybrid theories, it is at least interesting that he suggests the importance of those ultimate moral attitudes which must relate to the individual’s moral character. Further, it seems obvious that the individual’s embrace of any moral theory is dependent upon that individual’s character, and, therefore, in light

of climate change and its requirement for improved moral character, it seems necessary to introduce new methods toward character improvement.

As is argued in the further Chapters of this dissertation, that improvement is best served under a revised virtue ethical theory with the possibility that a new virtue, such as proper primality, is needed to extend ethical consideration to future generations of all life and, therefore, to what supports that life, Earth, and also to address the global pollution causing climate change. Possibly a hybrid theory including utilitarianism could help but it does not seem to be a necessary element in achieving that character improvement to embrace those objectives and the correction of their causes, un- and under- regulated capitalism, consumerism and addiction to fossil fuel energy.

The next chapter, Chapter 7, Incontinence – A possible Aristotelian Answer for Climate Change, (1) attempts to explain the character that virtue ethical theory may not now but can provide and also (2) will explore the necessary nature of the virtues that are needed to provide the improved and elevated virtuous society needed to address climate change.

Part IV Climate Change and Aristotelian Incontinency, the *Aidōs* Response and Aristotelian/Aquinian Psychology

Chapter 7 – Incontinence: A Possible Aristotelian Answer for Climate Change

[W]e need to construe our efforts to progress morally as superordinate to developments in economic and technological systems, and this entails that the latter must become objects of our conscious control to an extent we have not yet achieved.

—Byron Williston (Williston, 2015, 40)

A. Aristotelian Virtue and Character

Having reviewed the circumstances of the climate change situation, those being defined as the nature of the climate change emergency, the identification of the centrality of character for all present major ethical theories, and the recognition of virtue ethical theory as the present theory most useful for climate change, those concepts of Aristotle’s ethical theory that are useful in addressing climate change are next reviewed. Initially, Aristotle’s theory incorporates reality beyond that found in either Kantian ethical theory or utilitarian ethical theory. By “incorporating reality”, that phrase is used to indicate that the ideal found in any theory is not sufficient for its acceptance by humanity. The ideal is, of course, necessary in regard to embracing any ethical theory and Aristotle uses the ideals of practical wisdom (*phronēsis*, *φρόνησις*) and the person of practical reason (the *phronimos*).

However, he includes continence and incontinence as specific states of character, , which explicitly recognize reality as being less than the ideal of virtuosity but much more than viciousness. These two states recognize the reality of the less than perfect individuals who are called upon to embrace the ideal where those states must be considered in attempting to work

toward or possibly achieve the ideal. In addition, Aristotle recognized that most (maybe virtually all) of the individuals within his *polis* were not *phronimoi* (though, of course, he could not so state to his audience). That aspect of his theory provides an entrance to a possible answer for climate change. These thoughts will be a part of this Chapter, Chapters 8 and 9, and the remainder of this dissertation as well.

First, a review of Aristotle's thoughts about the importance of character is necessary, and then his thoughts about the failure that results in his concept and state of incontinency. Again, I argue that virtue ethical theory can support a meaningful climate change ethical theory and that a new or revised virtue such as proper primality, which incorporates proper pride and proper humility, is needed within that theory to provide the character necessary to embrace that theory.

While Socrates, Plato and prior philosophers considered elements of what we might call a virtue ethical theory, Aristotle was the first major Western author of a detailed virtue ethical theory. Aristotle's theory provides explicit support for the importance of character generally and of proper pride specifically and also provides thought that supports proper humility. Initially, Aristotle argues that there is a single ultimate aim for all individual humans and society generally. That aim is *eudaimonia* which is translated as "happiness" or probably more appropriately as "flourishing". He concludes that *eudaimonia* is "rational activity in accordance with virtue" where rational activity results in part from function that is performed well "in accordance with the appropriate virtue". (Ross, pp.x, 10-12 (1097a15-1098b8)) He further states that we choose virtues "for the sake of [*eudaimonia*]" but *eudaimonia* being an end in itself is not chosen for the sake of virtues.

For Aristotle, virtues are necessary for the achievement of happiness and flourishing. Aristotle defines "virtues" as follows:

[Virtues] are means [middle points between extremes] and ... **states of character**, and ... they tend, and by their own nature, to the doing of the acts by which they

are produced [habituation], and that they are in our power and voluntary, and act as reason prescribes. But **actions and states of character** are not voluntary in the same way; for we are masters of our actions from the beginning right to the end, if we know the particular facts, but though we control the beginning of our states of **character** the gradual progress is not obvious, any more than it is in illnesses; because it was in our power, however, to act in this way or not in this way, therefore the states are voluntary.

(Emphasis added; Ross, p.48 (1114b26-115a2)) His virtues as *states of character* are habits that are produced by "*the doing of the acts by which they are produced.*" In other words, an individual acquires virtues, for example, the virtuous state of character of generosity by doing generous acts. "A state of character" may be defined as "*a disposition to act*" which is consistent with the Aristotelian definition above but more succinct and, therefore, more easily understood and adopted.

While a "disposition to act" is prior to action itself, a moral action requires a moral disposition to act and it is impossible to read Aristotle as other than requiring action for the development of character through the development of virtues. When discussing the virtue of practical wisdom and defining it, Aristotle expresses his thoughts about the relation between action and that virtue. Practical wisdom requires that a person deliberate well about "the good life in general". (Ross, p.106 (1140a25-28)) Concerning action and after concluding that practical wisdom cannot be scientific knowledge or art, Aristotle states "the remaining alternative, then, is that it is a true and reasoned state of capacity to act with regard to the things that are good or bad for man." (Ross, p.106 (1140b5-10))

Explaining these words, Lesley Brown¹¹⁷ states: "State of capacity to act' means a disposition manifested in *actions*, in contrast to art, manifested in *making* something. So, to be

¹¹⁷ Lesley Brown, Fellow in Philosophy Emeritus, Somerville College, Oxford University, Oxford UK, revised and provided the Introduction and Notes for the book Aristotle, *The Nicomachean Ethics*, trans David Ross (Oxford: Oxford University Press, 2009). Her Introduction and Notes are referenced herein as "Ross, Brown; p.____."

practically wise a person must act, and not merely deliberate." (Emphasis in original; Ross, Brown, p.238) It seems reasonable that if the human being has "a state of capacity to act," that capacity must be used if the entity is to remain a human being because a human being and her/his character is defined by her/his actions.

Regarding the importance of action, Aristotle is clear again that it is through action that we acquire the virtues (and for that matter the vices). Aristotle states "we must examine the nature of actions, namely how we ought to do them; for these [actions] determine also the nature of the **states of character** that are produced, as we have said [at 1103a 31-1103b 25]." (Emphasis added; Ross, p.24 (1103b29-33)) Aristotle adds:

[strength] is produced by taking much food and undergoing much exertion, and it is the strong man that will be most able to do these things. So too it is with the virtues ... by being habituated to despise things that are fearful and to stand our ground against them we become brave, and it is when we have become so that we shall be most able to stand our ground against [things that are fearful].

(Ross, p.25 (1104a33-1104b4)) Confronting circumstances whenever the nature of those circumstances requires action and, for the virtue of courage for example, action is necessary to become brave and it takes action to acquire that virtue and the other virtues as well.

Aristotle's idea of action associated with any virtue "is desire and reasoning with a view to an end" (Ross, p.103 (1139a39-1139b4)) where achieving that end is the result of choice and the doing of the action of the involved virtue with the right person, for the right motive, at the right time, in the right amount and for the right reason. (Ross, p.30 (1106b18-25); p.36 (1109a24-29); p.50 (1115b16-20)) Therefore, after deliberation and finding that the right circumstances exist, the involved virtuous action is not only the appropriate action but is also the only action for the virtuous person. Obviously, a given individual or community has a choice to act or not act. If the

virtuous action is chosen, it is, of course, virtuous action; if it is not chosen under those circumstances, the decision to fail to act seems to be vicious action.

Also, Aristotle states: "**it is activities exercised on particular objects that make the corresponding character.**" (Emphasis added; Ross, p.47 (1114a4-15)) In other words, doing virtuous actions gives us virtuous character. For example, the virtue of liberality or generosity is generated through intentional actions that exhibit that virtue and through repeated actions of this type (habituation), the individual develops that state of character which understands that under certain circumstances liberality is the virtue to be voluntarily and gladly exhibited through action as prescribed by reason. In describing the characteristics of generosity, Aristotle, makes the following observation: "[I]t is more characteristic of virtue to do good than to have good done to one, and more characteristic to do what is noble than not to do what is base" (Ross, p.60(1120a10-15)) "Doing" (action) that is noble is then characteristic of noble action. Also, by way of example for all virtues, he holds that it is not in the virtuous individual's power to be vicious because that individual has a fixed disposition to choose and undertake the virtuous action. (Ross, p.97 (1137a5-15))

States of character, of course, can be either good or bad, virtues or vices. Aristotle names six kinds of moral states of character where three kinds are to be avoided—vice, incontinence, and brutishness. "The contraries of two of these are evident—one we call virtue, the other continence; to brutishness it would be most fitting to oppose superhuman virtue, a heroic and divine kind of virtue" (Ross, p.118 (1145a15-20)) He explains that human beings, of course, are not brutes but like brutes, humans cannot become gods. When defining continence and incontinence, he maintains that they are neither virtue nor vice but that they are specific states of character in addition to virtue and vice. In defining them further, he explains that continence is "thought to be

included among things good and praiseworthy" while incontinence is "among things bad and blameworthy". (Ross, p.119 (1145b7-20)) This dissertation is concerned particularly with virtue, continence, and incontinence which are discussed in more detail below.

In summary, Aristotle's route to a virtuous and, therefore, a flourishing life (likely a happy life) is through a moral character that results from the rational recognition that the doing of actions must be based on the deliberated choice of a mean, an intermediate action. A virtue as a state of character is the correct choice between actions that exhibit vices as excess or deficiency of that virtuous mean.^{118,119} That moral character that requires recognition and choice of the intermediate or mean will not only promote individual relationships but will support a virtuous and flourishing community in which the individual will have a much better opportunity to live a flourishing life. Aquinas, as argued below at pages 220-257, provides a systematic means of adopting Aristotle's psychology of habitual acting that facilitates the development and maintenance of the virtuous or the continent states of character.

B. Aristotelian Continency and Incontinency

Aristotle introduces continence and incontinence in the initial chapter of the *Nicomachean Ethics* when he references "another irrational element in the soul—one which in a sense, however, shares in reason." He states:

For we praise the reason of the continent [person] and of the incontinent, and the part of their soul that has reason, since it urges them aright and towards the best

¹¹⁸ Douglas L Cairns, *Aidōs: The Psychology and Ethics of Honour and Shame in Ancient Greek Literature* (Oxford: Oxford University Press, 1993, referenced herein as "Cairns, p.____." All *hexeis* (singular *hexis*) for Aristotle are *aretai* (virtues) or *kakiai* (vices (excesses and deficiencies)). A *hexis* "is a kind of disposition (*diathesis*), one which is long-lasting and hard to change ... [and] one who possesses a *hexis* (of character) is either well or badly off, well or badly disposed, with regard to a particular *pathos* ["an affect" or "non-essential attribute" (Cairns; p.393) - a passion]." Cairns, p.398.

¹¹⁹ The Greek words are: virtue - *arete*; state of character - ἕξει, *hexis* (LSJ9,p.595L); vices -*kakiai* as excess -*ὑπερβολή*, (LSJ9,p.1861R) or deficiency - *ἑλλειψις* (LSJ9,p.536L); continence - ἐγκράτειαν (LSJ9,p.473); incontinence - ἀκρασία (LSJ9,p.54); virtuous mean - μέσον, *mesotēs, meson* (? (LSJ9, p.1107R (1109b26)).

objects; but there is found in them also another natural element beside reason, which fights against and resists it.

(Ross, p.21 (1102b13-18)) This other natural element that fights against reason Aristotle names “the appetitive and in general the desiring element”. That element occurs in both the continent and the incontinent person and its concept is praised because it is accompanied by recognition of the reasoned alternative in these two states. However, the actual desiring element itself is blameworthy because it causes a struggle in both states that is not found in the virtuous temperate person, the *phronimos*. Also, it is blameworthy because it causes the failure of the incontinent person to follow reason. (Ross, p.120 (1146a3-4)) What causes the continent person to abandon the desiring element and follow the reasoned principle is reviewed in Chapter 8 below and is initially named the “motivator” in this dissertation.

Aristotle explains that the state of continence is something less than or below the moral state of virtue and incontinence is something above the moral state of vice. Aristotle argues that "continence" must be discussed as a moral state of character that falls short of virtue. He further states: “[W]e must treat each of the two [continence and incontinence] neither as identical with virtues or wickedness **nor as a different genus.**” (Emphasis added; Ross, p.118 (1145a35-a2)) He then explains the purpose of his Book VII which specifically explores continence and incontinence:

We must, as in all other cases, set the apparent facts before us and, after first discussing the difficulties, go on to prove, if possible, the truth of all the common opinions about these affectations of the mind, or failing this, of the greater number and the most authoritative.

(Ross, p.118 (1145a35-a2)) As stated, that book discusses “the truth” and falsity of “all the common opinions of these affectations of the mind” where most of those addressed opinions seem authoritative. Because virtue and wickedness (vice) are moral states of character and because

continence and incontinence are of the same genus, continence and incontinence are Aristotelian moral states of character subject to habituation in the same manner as virtue and vice. Consequently, continence and incontinence are for Aristotle extremely important moral states of character.

The incontinent person recognizes but does not follow reason and instead follows appetite. For Aristotle, the appetite is part of what he names the “soul”. Aristotle recognizes the part of the soul that has reason in the full sense and names it the “intellect”. He finds that the appetite while being part of the “soul,” is rational in a secondary way in that the “appetite” is responsive to reason and intellect though not itself rational. Further, Ross calls Aristotle’s moral virtues “the excellences of the semi-rational soul part containing appetites (including emotions)” and states that these moral virtues must be responsive to reason. (Ross, p. xiv). Also, Aristotle does specifically argue that the “appetite” is, or “appetites” are, passions and not states of character.¹²⁰

It would seem that because most people during Aristotle’s life as well as today struggle against desire and against reasoned principles, at least at times, very few people then and today seem virtuous at all times. As discussed below, Aristotle recognizes that finding the median that is the virtue is far from easy and takes particularly the virtues courage, temperance and practical reason. (Ross, p.36(1109b11-17))

Aristotle also addresses blame which is involved in both continence and incontinence and is characterized as something less than goodness because he states that the person “who deviates little from goodness is not blamed, whether he do so in the direction of the more or of the less, but

¹²⁰ Aristotle names three parts of the soul, “passions,” “capacities” and “states of character.” He defines “passions” as “appetite, anger, fear, confidence, envy, joy, friendly feeling, hatred, longing, emulation, pity, and in general the feelings that are accompanied by pleasure or pain.” He defines “capacities” as “the things in virtue of which we are said to be capable of feeling” these passions. He defines “states of character” as “the things in virtue of which we stand well or badly with reference to the passions, e.g. with reference to anger we stand badly if we feel it violently or too weakly, and well if we feel it in an intermediate way and similarly with reference to the other passions.” (Ross, p.28 (1105b5-28)).

only the man who deviates more widely; for *he* does not fail to be noticed.” (Ross, p.36 (1109b17-20)) Aristotle here seems to be concerned with the outward appearance of the individual’s action while he is generally concerned with the cause of the individual’s action where that cause is voluntary and within the individual’s control. This third-party judgment is important to Aristotle, and its importance focuses on the example that the individual exhibits to the community where again his definition of virtue includes the mean as determined—and exhibited—by the person of practical wisdom who then is the example of the ideal.

Aristotle also holds that it is not only the act, as in the case of incontinence, that is blameworthy, but it is also the struggle against improper desires as in the case of continence that is blameworthy. Practical wisdom should control all choices, and where practical wisdom is involved, there should be no struggle because, as Aristotle states, practical wisdom is the strongest of all states, and as a result, the individual who has it should have the other virtues as well. (Ross, p.120 (1146a3-6)) Again, this does not seem to be the state of affairs in this twenty-first century.

The specific qualities of continency and incontinency are reviewed individually below but their difference is first summarized. Aristotle explains the fundamental differences as follows: “[T]he incontinent man, knowing that what he does is bad, does it as a result of passion, a part of appetite, while the continent man, also knowing that his appetites are bad, refuses on account of his rational principle to follow them.” (Ross, p.119 (1145b12-14)) That rational principle of refusal seems to originate in the sense or the feeling of a motivator that includes anticipated feelings like shame. In other words, the incontinent person recognizes that his/her appetites are not good and that there may be regret or something similar later but he/she still acts badly because of appetite that is the cause of incontinency.

The continent person on the other hand recognizes that her/his appetites are bad but refuses to follow those appetites and act in that manner because of his rational principle and a motivator. The virtuous temperate person has good appetites and follows them because of her/his virtuous rational principle and her/his recollection of the motivator (which he does not need but remembers) while the vicious person does not even recognize that his appetites are bad and follows them with no regret.

Consequently, all humans by definition have human appetites and, at least on occasion, will fall into the continent, incontinent or possibly vicious state, but hopefully into the continent state while constantly striving for the virtuous state that then produces happiness and flourishing.

(1) Contineny features

The continent person struggles with his/her appetite but does the right thing as reason dictates and the motivator emphasizes. Aristotle uses the temperate person to explain continency and states that the temperate person cannot be continent because that person “will have neither excessive nor bad appetites” which the continent person “must” have to conform to the definition. (Ross, p.120 (1146a10-16)) Aristotle states that the temperate individual will never be described as continent nor the continent individual as temperate.

He also states that continence and incontinence are “not badness but only analogous to it... .” (Ross, p.126 (1148b8-12)) He states that both states “are concerned with bodily appetites and pleasures” but there are differences, of course, between those two states. (Ross, p.129 (1149b26)) What separates the continent individual from the virtuous temperate person is then the struggle with her/his appetites that is resolved by reason and the motivator. The continent person struggles with his/her appetite but is motivated to do the right thing that reason dictates. In further differentiating the continent person from the virtuous temperate person, Aristotle states that the

virtuous person has no struggle with the desiring element and, though the virtuous person recognizes that element, the virtuous person has no difficulty in rejecting the desiring element. (Ross, p.138 (1153a35))

After explaining what he understands as the present general concept of continent (and incontinent) individuals, he then proceeds to explain how he perceives those two states of character in respect to the virtuous state and the vicious state. He begins by indicating that names such as continence and incontinence are applied analogically and it is by that means that it has become common, for example, to speak of the “continence” of the temperate individual. He indicates that both the continent individual and the temperate individual will do nothing contrary to reason for the sake of bodily pleasure. Aristotle further describes the differences between the continent individual and the virtuous temperate individual as follows:

[B]oth the continent man and the temperate man are such as to do nothing contrary to reason for the sake of the bodily pleasures, but the former has and the latter has not bad appetites, and the latter is such as not to feel pleasure contrary to reason, while the former is such as to feel pleasure but not to be led by it.

(Ross, p.134 (1151b34-1152a7)) The difference between them is, of course, that “[the continent individual] has and the [temperate individual] has not bad appetites, and the [temperate person] is such as not to feel pleasure contrary to reason, while the [continent individual] is such as to feel pleasure [contrary to reason] but not to be led by it.” (Ross, p.134 (1152a1-7))

Concerning pleasures, Aristotle states that “A temperate man avoids pleasures.” (Ross, p. 135 (1152b13-14)) but the temperate individual does have “pleasures of his own”. (Ross, p.138 (1153a35)) Aristotle further suggests that there is both disgraceful pleasure and acceptable pleasure. He gives an example of acceptable pleasure as an individual who refused to lie for the sake of a noble pleasure; therefore, Aristotle states not everyone who does something for pleasure is self-indulgent, bad or incontinent but only that person who does something for a “disgraceful

pleasure”. A disgraceful pleasure would seem to be something like greed, avarice or an improper sexual relationship.

Considering pleasure generally, Aristotle states that “for most men their pleasures are in conflict with one another because these are not by nature pleasant.” However, for people who are “the lovers of what is noble find pleasant the things that are by nature pleasant; and virtuous actions are such” In addition, these people have “no further need of pleasure as a sort of adventitious charm” but find pleasure in life itself. Aristotle concludes that “happiness then is the best, noblest, and most pleasant thing in the world.” (Ross, p.14 (1099a12-25)) In any event, throughout Book VII, Aristotle clearly wants to convey the idea that the incontinent person is aware of the moral conclusion, using Aristotle’s example, of “do not eat this” but decides against that result because of appetite and consumes the sweet food. Finally, Aristotle states “there is no one thing that is always pleasant” (Ross, p.140 (1154b22)) Circumstances make a difference.

Aristotle states: “Now if continence is good, both the contrary states must be bad, as they actually appear to be; but because the other extreme is seen in few people and seldom, as temperance is thought to be contrary only to self-indulgence, so is continence to incontinence thought to be contrary only to incontinence.” (Ross, p.133 (1151b29-33)) Brown explains as follows: “[T]he alleged (rare) fault is one in which a person has a correct belief about the appropriate pleasures to enjoy, but falls short in such enjoyment through a failing opposed to incontinence.” (Ross, Brown, p.250) Because incontinence is giving in to inappropriate pleasures, this failing opposed to incontinence must be failing to enjoy the appropriate pleasures without struggle even though the individual recognizes that they are appropriate.

This seems to suggest that an individual who has “a correct belief about enjoying the appropriate pleasures” but refuses to enjoy them, has this “alleged (rare) fault” through which the

individual “falls short in such enjoyment” or experiencing those appropriate pleasures “through a failing opposed to incontinence”. Now this failing “opposed to incontinence” is not continence because the continent person could still struggle to correctly enjoy those bodily pleasures. This failing would seem to be similar to the opposite of self-indulgence or the deficiency of temperance and would, in fact, seem to be a rare fault.

Aristotle comments on this rare individual who “takes *less* delight than he should in bodily things and does not abide by reason” in making the decision to avoid acceptable pleasure and who is unnamed. Aristotle goes on to say that “[the individual] who is intermediate between [that individual who takes less than the appropriate amount of delight/pleasure in bodily things] and the incontinent man [who takes more than the appropriate amount of delight/pleasure in bodily things] is the continent man.” Consequently, the continent man does finally take the right amount of delight in bodily pleasures but still struggles with that choice. Aristotle explains the reason being “the continent man abides by reason and does not change on either account [of deciding on too little or too much of the bodily pleasures but apparently still struggles].” (Ross, p.133 (1151b22-32))

Aristotle describes the fall into incontinency with regard to pleasures and pains as follows: “not all of them, and not so much with regard to the pains—the mean is temperance, the excess self-indulgence. Persons deficient with regard to the pleasures are not often found; hence such persons also have received no name but let us call them ‘insensible.’” (Ross, p.32 (1107b4-8)) Here Brown comments: “Aristotle is prepared to invent a name where common usage has not marked off a given vice (or virtue, cf. 1107b30 on ambition, 1108a5 on ‘good-temper’). In this he is going beyond the mere codifying of current moral views.” (Ross, Brown, p.216) Just as Aristotle felt justified in inventing names for which current moral views did not have names, it is now

necessary with the advent of climate change to invent or suggest uncommon names for virtues such as “primility” or to otherwise modify present ethical theory to address the new circumstances involved in climate change.

Pleasure described as delight in bodily things is recognized and experienced in the states of virtue, continence, incontinence and vice where the difference between those states in part results from distinguishing appropriate pleasure from inappropriate pleasure and may also include struggle for appropriate pleasure which does seem to occur infrequently. To know whether a pleasure is appropriate or inappropriate may not sometimes seem clear and, in that case, it would seem that Aristotle would suggest avoiding pleasures that are not clearly appropriate. The mechanism for distinguishing though would seem to be what the virtues have to offer in support of pleasures.

There would seem to be times when every individual struggles against the bodily pleasures before being able to discard appetitive “reasoning” and use right reason to make the right choice. The individual can focus excessively on those pleasures and, consequently, fall into the incontinent or vicious classification. Today and regarding climate change, most people seem to fall, most of the time, into the incontinent classification (at least) because of acting toward inappropriate excessive pleasure, for example, through the inappropriate excessive use of fossil fuel energy and through the refusal to curtail that use.

In summary, the continent person follows the reasonable choice but her/his struggle is still blameworthy because the virtuous temperate person acts without struggle. Also, as a result of the struggle, the continent person may fall back into incontinency.

(2) Incontinency features

The incontinent person also knows that her/his appetites are bad but follows those appetites notwithstanding because of passion/appetite and against his/her reasoned principles and the motivator through which he/she calls to mind those reasoned principles. As argued below, it is the incontinent person who should be attempting to become the continent person and it is the incontinent person who is at the very heart of the cause of climate change.¹²¹

Aristotle focuses more on incontinence than continence because the incontinent individual while recognizing good action, engages in bad action. Aristotle points out that Socrates did not admit the existence of incontinence because Socrates argued that incontinence was only the result of an individual's ignorance and neither reason nor knowledge is present with ignorance. Socrates argued that no one acts against what seems to be the better course—no one would proceed with action Y knowing that action X is better. In Book VII of the *Nicomachean Ethics*, Aristotle argues that, in fact, the incontinent person recognizes that action X is better but still precedes with action Y. In order to characterize the incontinent person, Aristotle compares that person with the self-indulgent person who represents the excessive vice of the virtue of temperance: “[T]he incontinent and the self-indulgent man are also like one another; [but] they are different, but both pursue bodily pleasures - the latter, however, also thinking that he should do so while the former does not think this.” (Ross, p.134 (1151b34-1152a7)) The self-indulgent person thinks/believes that he should pursue excessive bodily pleasures while the incontinent person does not think/believe that he should pursue those pleasures but allows appetite to move him/her toward the excessive pleasure.

¹²¹ An early example of the state of incontinency is given by Paul the Apostle: “I do not understand my own actions. For I do not do what I want, but do the very thing I hate.” (Romans 7:15. *The New Oxford Annotated Bible, Fully Revised Fourth Edition*, ed. M.C. Coogan (New York: Oxford University Press, Inc., 2010) p.1986) Thanks to Dr. Richard Lamborn for this example.

Specifically, about incontinence, Aristotle declares that no individual can have the virtue of practical wisdom and be incontinent at the same time “for it has been shown that a man is at the same time practically wise, and good in respect of character.” (Ross, p.134 (1152a7-9)) He further states an individual “has practical wisdom not by knowing only but by being able to act; but the incontinent man is unable to act... .” (Ross, p.134 ((1152a5-10))

Amelie Oksenberg Rorty edited the book *Essays on Aristotle's Ethics* (Los Angeles, California: University of California Press, Ltd., 1980) and contributed an essay, “*Akrasia* and Pleasure: *Nicomachean Ethics* Book 7,” to that book. While the Greek word *akrasia* is generally translated as “incontinence,” Rorty relates in a footnote that it has “unacceptable connotations” which she does not further identify but which seem to involve the present common meaning of that word as being unable to control *certain* bodily functions rather than Aristotle's incontinence which involves the inability to control all bodily functions required to enact the conclusion of a moral syllogism. She states that “psychological weakness and powerlessness are more appropriate but both are too broad.” (Rorty, p.283fn1) However, if Ross, Terence Irwin and Douglas Cairns willingly translate *akrasia* as incontinence, it seems that it easily can include psychological weakness and powerlessness at least to bodily pleasures. Consequently, Rorty simply uses the word *akrasia* and refers to such an individual as the, or an, *akrates*. While Rorty's exegesis about incontinence which follows is eminently accurate and consequently very useful in this discussion of climate change, her use of the word *akrasia* is not as serviceable concerning climate change as is the word incontinence as is reviewed after the following review of Rorty's exegesis.

Rorty agrees that the bad person, the self-indulgent person, and the *akrates* are all capable of voluntary and deliberate action. (Rorty, p.271; Ross, p.46-49 (1113b3-1115a3) But the *akrates* is, however, not a bad person, but is a weak person whereas the self-indulgent person is bad as a

matter of principle. Also, the self-indulgent person is misled by pleasure because she/he is possibly even unaware of the good but today in regard to climate change no individual who reads a newspaper or gets news from the internet or from television can remain unaware or ignorant of climate change.

The *akrates*, in comparison to the *phronimos* (the person with practical wisdom), has to use knowledge in the resistance of improper pleasures. Therefore, in deciding on action, the *akrates* is conflicted where the *phronimos* is not. The *akrates* is moved by passion that Rorty says is primarily outside oneself, and results in his/her will's reaction instead of action. (Rorty, p.275) She further states that the *akrates* can "come to pursue pleasure as his end, treating his action as merely what he does toward that end [of pleasure]. Such a person is prone to the sorts of errors that arise from merely reacting to particular situations, forgetting how the point of his enterprises reflects its more general ends." (Rorty, p.277) This forgotten point, of course, indicates that our enterprises may easily become other than moral and may display a purpose of nothing more than personal pleasure.

Characterizing Aristotle's position, she states "Against hedonists he argues that because pleasure is ingredient in and not product of activities, it cannot be evaluated or measured independently of the worth of the activity." (Rorty, p.278) She then characterizes the *akrates* as having "a kind of ignorance, an ignorance of the real pleasures of what one does". (Rorty, p.278) This "kind of ignorance" however does not seem to be ignorance of the specifics of an action undertaken but ignorance of the psychological need to find pleasure in the end result of an action. Rorty comments on that "kind of ignorance" as a failure of character of the *akrates*:

That he has the wrong sorts of reactions, or that he acts from his reactions, or that he tends to place himself in the sorts of situations in conditions where he will predictably misperceive his pleasures and act from those misperceptions **is a failure**

of character. He has habits that give his pathos [passions] undue dominance in the determination of his actions.

(Emphasis added: Rorty, p.279) Rorty's statement of failure of character recognizes Aristotle's categorizing both continence and incontinence as states of character.

She continues to explain why these failures of character make the *akrates* blameworthy.

His character is a result of his constitution, his early education, **the habits he developed almost before he knew that they were habits.** It is, I think, important to realize that Aristotle's attitude toward the issues of responsibility is primarily a practical one: he is interested in determining what type of person can be given responsibility to investigate the conditions for thoughtful action **Few are endowed with the constitution, have the capacities or the good fortune to receive the early education that assures the sort of character that is capable of determining itself. Such people are not, among other things, capable of realizing the formative power of their habits, especially their habits of pleasure.**

(Emphasis in original in italics; emphasis added bolded: Rorty, p.279-80) While those last individuals seem to exist on Earth and specifically in the United States as a majority, they seem to be refusing appropriate psychology when the individual today should have increasingly more control of his/her constitution than ever due to the availability of educational experience and opportunity. Still, they seem to represent a majority because of society's general bad ends of focusing on pleasure and accumulation of wealth that is presently accepted as the best route to pleasure when it is probably one of the worst.

Rorty concludes that "if one is the sort of person **whose character** is capable of self-determination, then one is responsible for having the sort of character one develops, because one has, by hypothesis, the sorts of character traits that can determine the ends one adopts and how one acts from them (1114a30-1114b26)." (Emphasis added; Rorty, p.280; Ross, p.47-48 (1114a30-1114b26)) Today, if not all then most, human beings in first world countries seem to have the tools for self-determination, and consequently, those human beings should be responsible for their own constitution and character. That includes most all human beings in the United States, Canada,

Europe, Australia and growing numbers in countries like China and India. Most of these individuals are clearly responsible for their character, but many seem to refuse to take that responsibility and, in addition, are willing to blame others for their irresponsibility if they even consider responsibility.

She explains the basis for people refusing to take responsibility. Citing Aristotle, she states “Aristotle differs from Socrates in his diagnosis of the causes of the akratics’ ignorance: he emphasizes the character-sources of the akratic condition, viewing it as resting on badly formed habits concerning pleasures.” (Rorty, p.281) She notes that Aristotle especially counsels against a focus on pleasures and against some activities that are viewed as pleasurable. Further, she characterizes Aristotle as follows:

While the pleasures of natural activities are, or can be, intrinsically good, a person who attends primarily to the activity as pleasurable will tend to separate out the pleasurable in the activity from the activity itself. He will come to value the activity for its pleasure instead of seeing the pleasure as dependent on the character of the activity. Even the best of men runs the danger of *akrasia* under those circumstances.

(Rorty, p.282) This seems to be the description of the concept of pleasure in the United States when one considers how much time is spent in viewing spectator sports, violent films and television programs and other spectator activities generally. Those activities seem valued for their pleasure rather than the character, the moral character, of the activity itself.

While she does not reference Hume, Bentham, or Kant, she counsels as follows:

Aristotle might equally have warned the virtuous not to focus too much on the way their virtues empower them, or assure them with self-esteem, not to focus too closely on the ways in which the virtues work to make life conventionally successful and the virtuous self-respecting. **Such a focusing would run the danger that the person might come to be primarily motivated by these considerations rather than see the extent to which they are dependent on the character of virtuous activity. The virtuous are no more virtuous for the sake of self-respect than they are for the sake of pleasure.**

(Emphasis added; Rorty, p.283) Rorty recognizes the need for appropriate motivation and recognizes that the motivations of a conventionally successful life and virtuous self-respect are not appropriate Aristotelian motivations. Hume, of course, concluded that the basic reason individuals seek the virtues is for personal advantage and Kant, apparently in response to Hume, indicated that, without a good will, personal advantage could be the basis for pursuing a virtuous life. Rorty does not, however, suggest appropriate motivation apparently other than virtuosity itself and does not seem to suggest anything specific other than personal conflict and regretting the results of incontinent action.

[Aristotle's] akrates is precisely the sort of person who is conflicted because his moral development is uneven. His knowledge of general principles is at a different level of actualization from his habits of perception and his habits of action. Because even general knowledge of practical principles is expressed in a tendency to action, the akrates will be conflicted: he regrets what he has done

(Rorty, p.282-283; Ross, p.131 (1150b28-30)) If regret is required, then possibly there are not many *akrates* in the United States today. It may be that regret comes later because the full effect of our actions today, for example concerning climate change, are delayed to the extent that they reflect at least a careless attitude in our regard for posterity. While personal conflict and regret can motivate, this dissertation suggests that Aristotle was rather specific in regard to the appropriate motivator.

Also, in defense of Aristotle as against personal advantage as a motivator, he was explicit about the importance of the *polis* as the province and function of the individual. For example, in the *Politics*, Aristotle calls the citizen “a member of a community” where the salvation of the community is the “salvation” and “common business” of all of its citizens. (Everson, p.65 (1276b17-30); see also p.31 (1261a15-25)) Aristotle cannot be read without recognizing the *polis*

as of primary importance to both Aristotle and his individual citizen and especially to his *phronimos*.

Further and back to the last above Rorty quote, over the last six decades in the United States, it is very difficult to conclude other than that moral development has been uneven as argued in Chapter 3 of this dissertation. Therefore, incontinence (and worse) is alive and well and living in the United States and elsewhere. But Aristotle reminds us that “incontinence is not vice (though perhaps it is so in a qualified sense); for incontinence is contrary to choice while vice is in accordance with [unreasonable] choice” (Ross, p.131 (1151a5-7)) Consequently, emphasis on an appropriate motivator seems fruitful as argued below.

Rorty sheds light on the difference between Socrates’ diagnosis of the causes of the *akrates* ignorance and Aristotle’s diagnosis:

Socrates had to direct his account largely to those who had to be persuaded of the central role of knowledge in virtuous action, while Aristotle—in the position of being able to take those arguments for granted—could concentrate on arguments against the Academy and against hedonists.

(Rorty, p.281) At the very least, this position is a reasonable explanation of the differences between Socrates’ world and Aristotle’s world. Further, she explains the significant differences that exist in Aristotle’s accounts of pleasure in Book 10 and Book 7 of the *Nicomachean Ethics*:

It is true that the analysis of pleasure in Book 10 introduces considerations not mentioned in Book 7. But the issues at stake in the two discussions are quite different. In Book 7, in the context of a discussion of varieties of wrongdoing, we are given an account of how (despite its being a good) pleasure can mislead a person into forgetting what he knows. The account of pleasure in Book 7 appears as part of a discussion of the sources of *akrasia*. But in Book 10 Aristotle must make good his claim that the virtuous life assures not only Aristotelian *eudaimonia* but also the goods associated with traditional *eudaimonia*. Indeed, he wants to go further, to show how his analysis of happiness and virtue explain the plausibility of the traditional account (1098B22-30).

(Rorty, p.281-282) *Akrasia* can and does mislead but pleasure—appropriate pleasure—is functionally necessary to human life. *Akrasia* seems not so much the individual's forgetfulness as it is "being led about like a slave" by pleasure when we should be led by reason. While reason and pleasure can be simultaneously experienced, pleasure can convert the appetitive alternative into unconditionality and destroy regard for the reasonable choice where we are fully aware of both the reasonable choice and what we consider to be the pleasurable alternative. The difference also seems to be exactly what Rorty is explaining, the separation of pleasure/leisure from the value—the moral value—of the activity, the action itself.

Rorty does reference the idea of being "dragged like a slave" in her essay.¹²² She states: "Aristotle's diagnosis of the sources of akratic ignorance picks up one strand in the Socratic description of the phenomena: that the person is led by [passion or appetite] like a slave, dragged around by (the thought of) pleasure." (Rorty, p.268) She continues: "While the akrates has the right theoretical attitudes toward pleasures, he does suffer a weakness for them. . . . What then is it for the akrates to be diverted from his use of his knowledge, being dragged around by [passion or appetite]?"

She then explains why the akrates allows him/herself to be thus dragged: "The primary way that a person can go wrong about the pleasures of necessary activities is to pursue them to excess or—what is, in view of the motivational force of pleasure, rare—to fail to pursue them sufficiently." (Rorty, p.276) "It is the manner of his reactions to pleasures that misleads the akrates: he acts from his reactions to what is before him, perceiving—misperceiving—what he does in

¹²² We are dragged about like slaves (Ross, p.119(1145b25)); "being utterly dragged around by all these other things as if it were a slave,"—Plato, *Protagoras*, in *Plato Complete Works*, ed. JM Cooper (Cambridge: Hackett Publishing Company, 1997), p.782 (352b and c) herein referenced as "Plato, p.____."

terms of its pleasurable effects on him rather than seeing his situation, and his actions in it, as defined by his proper intentional ends.” (Rorty, p.277) As an example, Rorty states:

Someone can forget that the real point of eating is to be well-nourished, and though he knows generally that granola is more nourishing than sweets he forgets and feeds himself on sweets. He need not gorge himself on sweets; he need not eat more than the well-nourished person; indeed, he may eat quantitatively less than the person who eats properly. But when sweets are set before him, he forgets the proper pleasure of eating and concentrates on the pleasures of certain sorts of tastes rather than on the well-being that is the proper pleasure of nourishment (1152b26-1153a23; 1173b20-1171a1).

(Rorty, p.276-277) In most cases however, the akratic person does seem to eat quantitatively more, for example, rich and fatty foods, and does at times gorge herself/himself to the extent of improper eating habits that result in the unhealthy condition of being overweight. The akratic person may forget the problems associated with being overweight but forgetfulness lasts only during the time that she/he is consuming the excessive quantity of the food involved. Or the akratic person may not be forgetful but just overwhelmed by his appetite as suggested in Chapter 3 of Book VII and possibly regretful later. Whether the *akrates* forgets or is overwhelmed as Rorty suggests, this indicates a difference in kind rather than in degree which is further discussed following the next paragraph below.

As Rorty points out: “Besides [Aristotle’s] standard dialectical courtesy, the reasons for [his comments on pleasure] are that the object of inquiry in the [*Nicomachean*] *Ethics* is, as he says, to determine how to become good [as that word is defined therein] and not merely to know, theoretically, what virtue is (1103b27-31).” (Rorty, p.282) In terms of Aristotle’s object, emphasis on motivation seems critical and is addressed in Chapter 8 below.

As indicated above and concerning serviceability in relation to climate change, the word incontinency seems necessary. The Greek word *akrasia* is certainly appropriate but it is unknown. The word incontinence is much more widely known and can be found designating certain aisles in

pharmacies. Further, concerning climate change, the connotation associated with incontinence is the inability to dispose of wastes appropriately. This is the basic problem involved with climate change and is especially manifest in humanity's inability to dispose of CO₂ appropriately.

There are two issues concerning incontinence as the correct word to use for the state of character that Aristotle describes. The first issue is whether incontinence is an appropriate word that still conveys the correct meaning that Aristotle intended while the second issue is whether it is a word of kind or a word of degree. The first issue is obvious while the second issue is important because differences of kind are more easily addressed and understood than words of degree where the degree aspect lends itself toward individual subjective decisions where the agent can decide against a given concept based on the agents view of a possible degree involved.

Rorty, of course, is an example of the first issue. Rorty again in her footnote number one explains her position concerning the word "incontinence" which she describes in part as follows: "Incontinence also has unacceptable connotations." (Rorty, p. 283) While she does not otherwise explain the unacceptable connotations, they seem clearly to result from the present dictionary definition that regards the inability to regulate the body's ability to eliminate its wastes. Again, this definition by analogy directly defines climate change. Aristotle, however, uses the word in a much larger sense to describe the inability of an individual to regulate his/her mental and bodily abilities to act virtuously and not viciously. Also, as the word is used presently, incontinence implies something offensive if not repulsive and it, therefore, seems appropriate for the inability to acknowledge climate change and the need for adaptation and mitigation.

Again, its present meaning having to do with waste materials is directly appropriate for climate change which results from the refusal and unwillingness of the majority of United States' citizens to even attempt to control its fossil fuel waste of CO₂ which is a primary cause of climate

change. Therefore, the word incontinent appropriately describes a huge concern for the failure to appropriately regulate wastes. Consequently, incontinence is offered as an appropriate and apt description of especially the United States' inability and unwillingness to realistically address climate change.

The second issue of whether incontinence describes a state of kind or a state of degree needs to be resolved in favor of a state of kind. In Byron Williston's book, *The Anthropocene Project: Virtue in the Age of Climate Change*, he describes the concept of incontinence as "moral weakness" where weakness is a word of degree because the condition of being weak is a matter of more or less. An individual can be weak in the sense that a two-year-old child cannot lift the average weight that a twenty-five-year-old person can lift. The difficulty arises from the inability to closely describe the idea of weakness in other than a comparative manner. Aristotle's incontinence, however, must be described in terms of the ability to determine the moral and immoral alternatives involved in a set of circumstances and then adopt the immoral alternative.

One can argue at length about the state of an individual necessary to make that judgment but Aristotle's state of incontinence requires that judgment and the adoption of other than the moral alternative. In describing the difference between incontinence and vice, again Aristotle states: "For the [self-indulgent and vicious agent] is led on in accordance with his own choice, thinking that he should always pursue the present pleasure; while the [incontinent agent] does not think so, but yet pursues it." (Ross, p. 121-22 (1146b22-24)) Importantly, a state of kind is much more easily defined and, therefore, adopted than a state of degree. It seems that an agent can more easily describe himself/herself as *relatively* morally strong than to assess a set of circumstances and with struggle choose the moral alternative.

Williston's book is an excellent exposition of the anthropocene problem and project but could be stronger through the use of the word incontinent rather than moral weakness. Williston recognizes the common translation of the Aristotelian state of incontinence as indicated by Note 8 on page 178 and explains continence and incontinence correctly on page 81 as follows: "The strong [continent] have to fight contrary-to-virtue impulses and desires in order to do the right thing, but always manage to do so. The weak [incontinent] undergo the same internal struggle, but always succumb to the wayward impulse or desire." Here, Williston uses the word "always" which arguably relates to a difference in kind about the circumstances involved. He then describes the difference between "the weak" and "the vicious" as the failure of the former of "proper self-constitution" while of the latter fail "to recognize the authority of external moral standards". He continues as follows:

In the [weak case], the main problem is likely to be volitional while in the [vicious case] it is likely moral-epistemic. And note that we need to know quite a bit about an agent to decide which of these criticisms applies to her in cases of moral failure.

(Williston, 2015; p. 81) He argues that we need to know "quite a bit" about the agent in order to determine the level of weakness. Whereas, through the use of the word, incontinent, the observer knowing the circumstances and the action chosen, can make the judgment about the action without knowing much about the agent. Also, here Williston seems to acknowledge the *degree* problem when he uses the words "likely".

The Greek word for incontinence is "ἀκρασία" which is transliterated as "akrasia" and the person that exhibits this characteristic is an *akrates*. While the Greek word for continence is ἐγκράτεια that is transliterated as "enkrateia", the person that exhibits this character state is an *enkrates* [ἐγκράτειαν]. The question arises of whether the term incontinent applies to a specific act of an individual or to the individual generally. Aristotle specifically states: "No one has all the

forms of incontinence, but **we say** some people are incontinent without qualification.” (Emphasis added; Ross, p.121 (1146b4-5)) While Aristotle recognizes that in practice some do refer to individuals as incontinent without qualification, he clarifies by stating that incontinence and continence are concerned “with the same objects as temperance and self-indulgence” and incontinence is qualified as to particular passions such as anger or other goods such as wealth, gain, victory, and honour which can be desired to excess.

Consequently, it seems that Aristotle’s states of character of virtue, continence, incontinence and vice do not apply to an individual generally but to particular actions of that individual. Further, as Aristotle defines the states of continence and incontinence in Chapter 7 of the *Nicomachean Ethics*, those states apply to individual actions and sets of circumstances. As a result, these states are of the kind genre and are not states of degree. Because Socrates questioned the very existence of incontinence, the Aristotelian possibility of incontinency is reviewed.

(3) How is incontinency possible

Socrates argued that no person knowingly acts contrary to reason and if any person did act in that way, they would be acting from lack of knowledge/ignorance and thus there is no such thing as incontinency. In Book VII, Chapter 3, Aristotle acknowledges Socrates’ position but argues that the lack of knowledge or ignorance is not the basic cause of incontinency because the agent does recognize the reasonable moral choice but acts against this choice through appetite/desire. Again, additional references to Aristotle’s text and, in this regard, the thoughts of another commentator, Sarah Broadie, are very helpful.

Aristotle states that the reasoning part of the soul is divided into two parts: a part that reasons—the intellect—and a second part—appetite/desire that does not reason but reacts to and obeys the first part. Further, Aristotle argues that it is appetite/desire that can cause the individual

to reject his knowledge that virtue and not vice is the best route to *eudaimonia*. Apparently to emphasize this concept, Aristotle uses the word and the action of “choice” as a positive concept such that for Aristotle, choice generally recognizes the virtuous action or alternative to a given set of circumstances.

Thus, the virtuous individual and the continent individual “choose” the moral response to circumstances while the vicious individual and the incontinent individual accept or adopt the immoral response. The vicious individual and the incontinent individual for Aristotle do not “choose” the immoral response. In other words, “choice” is not a neutral word. Choice is an action through which the virtuous person attains virtue and remains virtuous. If an individual rejects the virtuous alternative in favor of the vicious alternative, Aristotle does not call that rejection a choice. However, in this age of climate change, attempting to narrowly define the word choice in this manner may not be the best approach and will be addressed later in this dissertation but while discussing Aristotle, the word “choice” is not neutral but is positive in terms of virtuosity.

Because both chosen moral continent actions and adopted appetitive incontinent actions involve desire and appetite, it is important to understand the nature of desire in both types of action. Desire, of course, can be both a noun and a verb while appetite is a noun. Sarah Broadie in her book *Ethics With Aristotle*¹²³ investigates desire and its impact on human action and includes Chapters 5 (of the seven chapters of her book) on the topic of ‘Incontinence’. In that Chapter 5, she concentrates on Book VII of the *Nicomachean Ethics* which in the Ross translation is entitled “Continence and Incontinence: Pleasure”. Broadie’s Chapter 5 is of considerable value in understanding Aristotle’s incontinence especially concerning the syllogisms described in

¹²³ Sarah Broadie, *Ethics With Aristotle* (Oxford: Oxford University Press, 1991) herein referenced in text as “Broadie, p. ___”.

Chapter 3 of Book VII. Because of their simplicity and the nature of the premises, these syllogisms are also considered useful in addressing climate change as argued below.

Because appetite and desire drive Aristotle's incontinent individual to reject the moral syllogism and embrace the appetitive syllogism, Broadie begins with a discussion of the types of desire that Aristotle recognizes. She argues that Aristotle recognizes three kinds of desire. The first, which regards physical satisfactions and reliefs are grounded in the needs of our biological nature, i.e., the needs associated with food and sex. A second type regards desires for power, honour and many kinds of similar pleasures which are concerned specifically with the human enhancements of our animal substructure. The third kind, Broadie describes as desires whose satisfaction is neither a human enhancement nor needed for the physical well-being of the individual. She states that desires of the third kind are those "which [provide] the conditions of life in accordance with 'second nature' and reflective reason," which she says humanity would be better off without. (Broadie, p.268) While she gives no example of this third kind, it seems to be a kind that we would not consider carefully, and, because desires can always mean trouble for reasonability, the individual should consider each of her/his desires carefully. Any of those desires of the first two types can be associated with appetite.

Broadie naturally notes that "Aristotle is concerned to distinguish incontinence from the vice which it most resembles namely, excessive devotion to physical comforts and pleasure."¹²⁴ This distinction is important to Aristotle because his state of character of incontinence does provide the moral objective for the individual who then becomes aware of the difference between virtuous and vicious existence. The incontinent person becomes aware that he/she is giving in to physical appetite against his/her better judgment. (Broadie, p.268) In reviewing Aristotle's arguments

¹²⁴ "Vice" is giving in to physical appetite without Aristotle's concept of moral deliberation but with some apparent rationality.

about incontinence, Broadie particularly concentrates on Chapter 3 of Book VII which she states has generated considerable commentary. This chapter is reviewed at some length here because it can be thought to be obscure. Here, Aristotle is arguing against Socrates and Plato and their position that there is no such thing as incontinence. After stating “now this view plainly contradicts the apparent facts” (Ross, p.119 (1145b26-27)), Aristotle argues that there is incontinent behavior because the agent not only knows what he is doing but also knows what he should be doing but is not doing.

After concluding that “no one has all the forms of incontinence,” Aristotle opens Chapter 3 by stating that some of the present thoughts about incontinence “must be refuted and others left in possession of the field.” He then presents the questions to be investigated and initially considers the question of whether it is “true opinion and not knowledge against which we act incontinently.” He concludes that, concerning incontinence, there is no difference between the two and both can lead the individual into incontinence. He then considers what it means to “know” and first considers the difference between the sense of having knowledge but not using it and the sense of having knowledge and using it in the case of the incontinent person. Aristotle finds that the first sense is not “strange” but that the second sense is “strange” because how could that person be using that knowledge and yet acting against that knowledge? Recall Rorty’s explanation of the Socrates/Plato emphasis on knowledge where Aristotle could then use that foundation to argue for something beyond simple knowledge when addressing incontinence.

Aristotle then considers a specific syllogism that includes a specific particular premise and questions whether a person who acts contrary to that syllogism “either has not or is not exercising” the knowledge of that premise. Aristotle concludes that “there will, then, be, firstly, an enormous difference between these manners of knowing” where the first would be “extraordinary” while the

second “way would not seem anything strange”. In both of these examples, Aristotle concludes that the action of the incontinent person requires knowledge of the entire moral syllogism of what he should be doing but is not doing.

Aristotle next considers the possibilities “of having knowledge (in a sense) and yet not having it” where the person is “asleep, mad, or drunk”; or “under the influence of passions”; or using language in the manner as an actor would use it and offers the possible conclusion that “incontinent people must be said to be in a similar condition to men asleep, mad, or drunk.” As expected, he then argues against that position.

In the sixth paragraph of Chapter 3 of Book VII of the Ross translation which begins “Again, we may also view the cause [of incontinency] as follows”, Aristotle presents the argument that the incontinent is acting with knowledge of what he should do but does not do. Throughout the entire corpus of his works and particularly in this Chapter 3, Aristotle uses the two types of premises, universal and particular, for syllogisms to explain the opposing arguments that both continent and incontinent individuals recognize in advance of acting. The “universal” premise has to do with basic bodily pleasures and comforts which provide universally familiar examples while the “particular” premise describes the particular object for consideration under the universal premise. Aristotle here provides the arguments from which Broadie constructs the following syllogisms.¹²⁵ Because of the applicability of these syllogisms to climate change, the review of these syllogisms is important though somewhat lengthy. Broadie’s syllogisms are as follow:

- | | |
|--|--|
| A. (U) Anything sweet is unhealthy
and to be avoided in one’s diet
(P) This is sweet | B. (U) Anything sweet is pleasant

(P) This is sweet |
| _____ | _____ |
| (C) Refrain from eating this | (C) Eat this |

¹²⁵ (Broadie, p.304) While Aristotle does not state the universal premise of the restraint, Broadie correctly suggests that it is “anything sweet is unhealthy and to be avoided in one’s diet.”

These two syllogisms seem to correctly relate Aristotle's arguments found in that sixth paragraph of Chapter 3. Broadie's A-argument generates the conclusion and the action that the person ought to do and, therefore, is what the continent person ultimately chooses while the B-argument is what the continent person struggles against and overcomes but what the incontinent person actually does. Thus, two practical arguments are involved. Broadie gives the following as her interpretation of Aristotle's example. Her parts of his syllogism are labeled as follows: (U)—the universal premise, (P)—the particular premise, (C)—the conclusion.

Aristotle's statements of these arguments use the word "opinion" rather than "knowledge" apparently to convince his readers that there is no difference in the use of these two terms concerning incontinence. Aristotle's statements are as follows: "[w]hen a single opinion [a conclusion] results from the two [a universal premise and a particular premise], the soul [the individual] must in one type of case affirm the conclusion, while in the case of opinions concerned with production it must immediately act" Here, he says that any individual is generally confronted with two different "cases" when considering action. Aristotle states that in one case the individual "must affirm the conclusion" while in the other case if the opinions are "concerned with production," that individual must "immediately act".¹²⁶ He provides the following example of the power of the appetite: "if 'everything sweet ought to be tasted', and 'this is sweet', in the sense of being one of the particular sweet things, the man who can act and **is not restrained** must at the same time actually act accordingly" (Emphasis added; Ross, p.123 (1147a28-32))

Using Aristotle's two different cases, this portion of the sentence suggests two possible different cases/responses. First, affirmation apparently without physical action, or the A-argument and, second, with physical action, where Aristotle recognizes both the initial response of the

¹²⁶ Brown comments on Aristotle's use of the word "production" and states "probably Aristotle here contrasts theoretical with practical reasoning (despite using the word 'productive')." (Ross, Brown; p. 246)

continent individual and also the response of action of the incontinent individual. The continent individual affirms the conclusion of that argument, “taste this”, but struggles with that conclusion and through the restraint of reason (possibly through an additional motivator) rejects the B-argument and embraces the A-argument (possibly through that motivator as well). However, the incontinent individual who is not restrained as the continent individual is, “acts immediately” and tastes/eats.

Aristotle then continues that example and states: “When, then, ... [a second] universal opinion is present in us restraining us from tasting [the A-argument], and there is also the [first] opinion [the B-argument] that ‘everything sweet is pleasant’[the universal premise], and that ‘this is sweet’ [the particular premise] ... (now this is the opinion [the B-argument and its conclusion of “taste this/eat this”] that is active) ... ”. Initially, Aristotle here acknowledges that the incontinent individual as well as the continent individual recognizes the restraint suggested by the moral conclusion of the A-argument and the response of “refrain from eating this/don’t taste this”, but, because the appetite is present with no motivator or a weak motivator, the individual is able to reject that restraint. Secondly, while Aristotle has changed the moral universal premise from “everything sweet ought to be tasted” to “everything sweet is pleasant,” he has merely changed the “ought to be” to the “is” of “pleasant” through which he has introduced the idea of “pleasure” as the basis of the “ought” which then becomes the mechanism through which the incontinent person avoids the restraint. Thirdly, he has identified the conclusion and action of the incontinent of apparently “taste this/eat this”.

In stating that this is the “opinion” (entire argument/syllogism) that is “active”, Aristotle refers to this last opinion, the B-argument, and its conclusion of “taste this/eat this” that must be immediately enacted by the incontinent individual because of appetite and the failure of restraint.

(Ross, p.123 (1147a32-34)) If the agent is a temperate person, the universal opinion of the A-argument controls the particular premise of “this is sweet” and the temperate person chooses not to eat the sweet thing because the conclusion of that A-syllogism is “do not eat this/do not taste this”. While the continent person arrives at the same controlling conclusion, the continent person struggles to reject the B-argument and its conclusion and succeeds.

Aristotle explains this point as follows;

[W]hen appetite happens to be present in us, the one opinion [the A-argument] bids us avoid this [the B-argument], but appetite leads us towards it [the B-argument] (for it can move each of our bodily parts), **so that it turns out that a man behaves incontinently under the influence (in a sense) of reason and an opinion [the B-argument], and of one not contrary in itself, but only incidentally—for the appetite is contrary, not the opinion [the B-argument]—to correct reason [the A-argument].**

(Emphasis added; Ross, p.123 (1147a 32-b3)) Here Aristotle seems to say that if it were not for the A-argument, the B-argument would be acceptable under “correct reason” because that correct reason does not rule out pleasure since Aristotle clearly embraces some pleasure.

Broadie sheds needed light on Aristotle’s explanation of incontinence. Broadie argues that in the case of both the continent and the incontinent individual, the conclusions of the arguments/syllogisms are held *conditionally* such that the agent has the opportunity to reject or accept the conclusion of either argument. Further, for the agent to enact the conclusion of an argument/syllogism, the conclusion becomes unconditional because of the nature of the syllogism.

She elaborates on Aristotle’s explanation of the cause of the agent following the B-argument which is appetite and, according to Aristotle, not the B-argument itself. Broadie explains the effect of appetite as follows:

The appetites and impulses, however, know nothing about holding a conclusion conditionally. Their objects are just what they are: *drink, food, sweet things* – [their objects are] not, *drink (or food etc.) only if* (for reasons having nothing to do with

these objects as they figure for the appetites) *it is not better not*. Thus when appetite is present, the conclusion [of “eat this”] is unconditional to that extent.

(Emphasis in original; Broadie, p.304) Both the continent and the incontinent individual hold the A-argument conditionally subject to the consequent struggle or possible struggle.¹²⁷ To explain the manner in which the B-argument becomes unconditional and, consequently, actionable, she continues:

The appetites function in a way that by right should belong only to rational choice, since the dictates of rational choice are the only deservedly unconditional conclusions. There can be no conflict between some particular prescription of reason and any other option (however desirable in general) **unless appetite is present to brutalize the latter [any other option] into unconditionality**. This is the necessary condition for both incontinence and continence.

(Emphasis added; Broadie, p.304-305) Broadie is explaining Aristotle’s logic and requiring that a reasonable syllogism be unconditional because “the dictates of rational choice are the only deservedly unconditional conclusions” unless, as she puts it, appetite “brutalizes any other option” into unconditionality. This “brutalizing” takes place both in the continent person and in the incontinent person because it causes the struggle that the continent person experiences and to which the incontinent person yields. Before addressing the cause of this difference, the remainder of Chapter 3 is reviewed because it attempts to further explain Aristotle’s argument and also is believed to identify his concern for his audience.

Broadie rhetorically questions Aristotle’s decision to include the B-Argument, the argument upon which the incontinent seems to act. Broadie responds with two possibilities. First, while the B-argument is inappropriate, it still represents a voluntary action, and, therefore, the same kind that the incontinent refuses. Further, appetite has the power to move the needed parts of the body to action and to carry out the B-argument’s conclusion. (Ross, p.123 (1147a34-35))

¹²⁷ Only unconditional conclusions are actionable.

Aristotle argues that the incontinent individual who chooses the B-argument not only knows that he is doing B but also knows that he is not doing A. Therefore, the B-argument is an extremely important part of the incontinent agent's decision and must be considered, for example, when one elects to use fossil fuel energy (including electricity) improperly in regard to production of CO₂.

Second, Broadie argues that the universal B premise must seem "reasonable" to the individual if the individual completes the action. However, the (C) conclusion of the B-argument—and the action done by the incontinent individual—does not explain the individual's "being the agent of B under the circumstances, **since this is due to appetite and an undisciplined character [and not reason]**. But it is only because he is the agent of B that he acts incontinently." (Emphasis added; Broadie, p.305) The B-argument cannot be reasonable because it is contrary to the reasonable universal premise of the A-argument and results from the appetite and undisciplined character of the B agent. Interestingly, Broadie specifically couples appetite with the undisciplined character of the agent that is present in both the continent state and the incontinent state. It is actually that undisciplined character of the continent agent that allows the appetite to engage the agent to consider the B-argument even though he/she ultimately chooses the A-argument's conclusion. *Character is important and it is a big deal.*

In the last sentence of the sixth paragraph, Aristotle reinforces his position by differentiating human animals from "lower animals". He explains that "the lower animals are not incontinent, namely because they have no universal judgment [universal premise] but only imagination and memory of particulars." It is reasoned knowledge and even reasoned opinion that provides the universal premise or judgment for humans and, consequently, they have the necessary apparatus not only for virtue and vice but for the states of continence and incontinence.

It is the seventh and last paragraph of Chapter 3 that seems to identify Aristotle's concern for his audience who previously had only Socrates and Plato for reference to the important moral state of character of incontinence. Aristotle states:

Now, the last premiss being an opinion about a perceptible object [and therefore the particular premise of "this is sweet"], and being also what determines our actions, this a man either has not when he is in the state of passion, or has it in the sense in which having knowledge did not mean knowing but only talking ... [and] because the last term ["this is sweet"] is not universal nor equally an object of scientific knowledge with the universal term, the position that Socrates sought to establish actually seems to result

(Ross, p.123-24 (1147b9-18)) Aristotle provides two thoughts about why Socrates' position "seems to result". Those thoughts are that a person either (1) does not have [that premise] when he is in a state of passion or (2) does have [that premise] "in the sense in which having knowledge does not mean knowing but only talking [as with actors on the stage]". While Aristotle here seems to be undermining his own argument, his sentence continues as follows: "for it is not in the presence of what is thought to be knowledge proper that the passion occurs (nor is it this that is 'dragged about' as a result of the passion), but in that of perceptual knowledge." (Ross, p.124 (1147b15-18)) "Perceptual knowledge" is something other than "knowledge proper", and therefore apparently not what is necessary for a proper argument/syllogism.

Upon review, this is the only location within the Ross translation of the *Nicomachean Ethics* and also the only location within the Barnes "Complete Works"¹²⁸ where the phrase "perceptual knowledge" is found. Consequently, this seventh paragraph of Chapter 3 seems to be an attempt on the part of Aristotle to give Socrates' position some opportunity for face-saving. Aristotle's audience previously had only the Socratic/Platonic interpretation and could not be

¹²⁸ Aristotle, *The Complete Works of Aristotle, The Revised Oxford Translation*, vol. I and II, ed. Jonathan Barnes (Princeton, NJ: Princeton University Press, 1984).

expected to immediately divorce themselves from that position, especially when Aristotle's interpretation brought incontinence directly into their lives. Now, incontinency was no longer a product of ignorance but a product of knowledge and desire. Now doing what one ought not do became clearly blameworthy where it was not previously expressly blameworthy.

Summarizing Aristotle thus far, in the situation where the universal opinion would restrain one from tasting and where the opinion of "everything sweet is pleasant" is challenging that universal opinion and it is clear that the item immediately before us is sweet, Aristotle states that when appetite is present and active in an individual, both the continent and the incontinent individual recognize that active appetite. In other words, where the universal opinion restrains a person who is not temperate, the active appetite attempts to lead us toward the sweet thing "(for [the appetite] can move each of our bodily parts)." (Ross, p.123 (1147a35)) Aristotle then observes that the involved individual who chooses to eat the sweet item "behaves incontinently under the influence (in a sense) of reason and an opinion, and of one not contrary in itself, but only incidentally—for the appetite is contrary, not the opinion—to correct reason." (Ross, p.123 (1147a34-1147b3)) Therefore, it seems that the incontinent person does not act contrary to the B-argument because that argument results in a seemingly reasonable conclusion unless it is challenged by a more reasonable syllogism.

Aristotle concludes by stating that "it turns out that a man behaves incontinently under the influence (in a sense) of reason and an opinion, and of one not contrary in itself, but only incidentally—for the appetite is contrary not the opinion—to correct reason." (Ross, p.123 (1147a35-1147b3)) The word "opinion" seems to be the appetitive opinion of the B-argument and its conclusion of "*taste this*" where, with the appetite present and controlling, it was not *chosen* but the appetitive conclusion is *adopted*. Further, the phrase "(in a sense) of reason" in that last

quoted sentence seems to refer to *apparent reason* and not to correct reason. This appears to be the *apparent reason* from the “perceptual knowledge” referenced in the penultimate sentence of Chapter 3. Possibly, Aristotle felt that this text would both again involve Socrates/Plato and, in addition, make the audience question that position. Some additional thoughts of Aristotle and Broadie are useful.

(4) Why continency and incontinency are important

In the effort to address climate change and its necessary mitigation and adaptation, the use of the incontinency and continency concepts as included in present virtue ethical theory can encourage personal and governmental action toward that mitigation and adaptation. Both continency and incontinency are states of character that seem more easily changed than either of the states of virtue or vice. As states of character as defined by Aristotle, none of the four states are easily changed because they are the result of habituation and, therefore, have developed over time. However, Aristotle states that the incontinent individual “may be persuaded to change his mind” but with difficulty. (Ross, p.121 (1146a30-33)) Nonetheless, the incontinent mind seems to be able to be changed as easily as any of those four states. Its ability to change results from the incontinent individual’s understanding of both the A-argument and the B-argument that gives that individual the prospective needed for change. While that understanding seems necessary it does not seem sufficient but because of that necessity, the opportunity is worthy of close attention.

Concerning that opportunity, it is evident that at present the major portion of society in the United States and in its governmental agencies are, at least, unwilling to meaningfully address and undertake the mitigation and adaptation actions needed and, therefore, that major portion can be considered incontinent relative to climate change and primarily because those people are unwilling to give up what they consider to be “pleasurable comforts”. Through reference to Aristotle’s ethical

explanation of incontinency, this dissertation reviews the circumstances through which an agent recognizes the moral choice of action, in this case, toward the mitigation of and adaptation to climate change but where that agent decides to avoid that choice through acceptance of the appetitive alternative and, therefore, the apparently “pleasurable” alternative of self-indulgence. Given that present attitude, the dissertation then attempts to identify mechanisms to encourage individuals to recognize their incontinency and move toward, at least, continency if not toward virtuosity. Those mechanisms must incorporate specific features or attributes.

Initially, Aristotle requires that all moral actions and actions which adopt the appetitive alternative must be voluntary which Aristotle defines at some length primarily through his thoughts about involuntary action. After outlining the steps in proceeding from the recognition of moral ends to the means for chosen moral actions (i.e., wish, deliberation, choice, etc.), Aristotle initially states that “virtue ... is in our own power and so too vice” (Ross, p.46 (1113b4-7)) when an action is voluntary. He defines involuntary action which begins with the concept of force which is conceived as the circumstances in which the individual finds himself/herself within the total power of another individual or group. Also, recognizing that ignorance might be claimed as a defense against inappropriate action, Aristotle details his concept of defensible ignorance where his thoughts have been adopted in the civil and criminal law of many, if not most, of today’s jurisdictions.

He states that involuntary action as a result of ignorance “must be painful and involve regret” when, for example, the ignorance is of the circumstances or the end of the action. (Ross, p. 41 (1111a19-20)) The pain and regret seem to occur after the agent has acted voluntarily against reason and when the agent ultimately recognizes the ignorance that was previously involved. Aristotle then explains that ignorance is punished if the agent is responsible for the ignorance as

in the case of drunkenness. He further states “we punish those who are ignorant of anything in the laws that they ought to know and that is not difficult, and so too in the case of anything else that they are thought to be ignorant of through carelessness; we assume that it is in their power not to be ignorant, since they have the power of taking care.” (Ross, p.47 (1113b35-1114a4)) He then considers individuals who do not take care and who

by their slack lives [are] responsible for becoming men of that kind, and men are themselves responsible for being unjust or self-indulgent, in that they cheat or spend their time in drinking-bouts and the like; for it is activities exercised on particular objects that make the corresponding character. ... **Now not to know that it is from the exercise of activities on particular objects that states of character are produced is the mark of a thoroughly senseless person.** ... [I]t is irrational to suppose that the man who acts unjustly does not wish to be unjust or a man who acts self-indulgently to be self-indulgent.

(Emphasis added: Ross, p.47 (1113b4-13)) Aristotle states: “when a man acts [unjustly] from choice, he is an *unjust man* and a vicious man.” (Emphasis in original; Ross, p.94 (1135b25-26))

Aristotle’s concept of “ignorance” excludes carelessness which seems to equate to our present concept of negligence. That concept also does not include a defense of irrationality to the extent that rational agents are responsible for becoming moral agents and cannot claim ignorance of the law where our present concept of due process has occurred—the agent has been given the opportunity to become knowledgeable. Consequently, the characterization of an agent as incontinent based on that agent’s actions must involve the determination that the actions were voluntary and, where any involuntary action is claimed, that claim is subjected to careful review of the involved circumstances. In the situation of climate change and with the publications of the IPCC, it seems that no individual within the United States can claim ignorance of its involved science or present and projected effects.

(5) Discarding and avoiding incontinence

Given the fact that the incontinent person can change, the mechanisms of acquiring the virtues and, therefore, the ability to act virtuously seems obviously key to leaving the state of incontinency (or worse the state of vice) and is also of critical importance in maintaining a life of continency or virtue. While Aristotle states that humans become virtuous by doing virtuous acts, he explains that it is *not only* the doing of virtuous acts that makes the agent virtuous. He specifically explains that one does not become just or temperate simply by doing acts of those types:

The agent also must be in a certain condition when he does [virtuous acts]; in the first place he must have knowledge, secondly he must choose the acts, and choose them for their own sakes, and thirdly his action must proceed from a firm and unchangeable character. ... Actions, then, are called just and temperate when they are such as the just or the temperate man would do; but it is not the man who does these that is just and temperate, but the man who also does them *as* just and temperate men do them.

(Emphasis in original; Ross, p.27-28 (1105a30-1105b)) Virtuous persons then do virtuous acts having knowledge of the involved circumstances, choosing the act for its own sake and not for personal gain or advantage or for other unacceptable personal objectives, and through having a firm and unchangeable character from which the act precedes. The act itself is necessary but not sufficient because “without doing these [acts] no one would have even the prospect of becoming good.” (Ross, p.28 (1105b9-12))

Aristotle then explains that “most people” do not do virtuous acts as the virtuous person would because of the failure of “most people” to comply with all three of the above three conditions and because:

[M]ost people do not do [these acts of virtue] but take refuge in theory and think they are being philosophers and will become good in this way [simply by doing the acts], behaving somewhat like patients who listen attentively to their doctors, but do none of the things they are ordered to do. As the latter will not be made well in body by such a course of treatment, the former will not be made well in soul by such a course of philosophy.

(Ross, p.28 (1105b12-18)) While this analogy may not be directly applicable to climate change because the “patients” may not even be listening to science and “most people” may even be doing some minimal actions toward mitigation and adaptation, the analogy is applicable because neither the patients nor the people doing minimal virtuous actions are completing the necessary course of action through these necessary conditions to gain the state that can begin to adequately address climate change.

This then is one more statement of the difficulty of becoming virtuous and is one more statement of the condition of “most people” where those people are not acting for the act’s own sake and are not acting from “a firm and unchangeable character”. Consequently, not only Aristotle’s “most people” but most people today are not engaging in the struggle of the continent person who understands the need for those conditions and ultimately takes virtuous action. But the continent person is hopefully on the way to becoming virtuous because that person is doing the virtuous action. In addition, where those conditions are not present and the virtuous action is not taken but hopefully recognized, that person meets the definition of incontinency and can change.

It is however necessary to take a close look at the manner in which the incontinent individual acts. The incontinent agent, though recognizing the reasonable action, decides not to choose that action but to complete the alternative appetitive action because the latter action appears pleasurable. Because the agent recognizes the reasonable action, the incontinent agent needs a strategy for (1) using the ability to hold a conclusion conditionally and (2) focusing on that action and deliberating to the extent necessary to make the reasonable choice and reject the appetitive action. Again, this reasonable choice must be the mean or intermediate of the available alternatives if it is to be virtuous and, therefore, moral. The agent must have a strategy specifically for

recognizing and for making that choice of the moral alternative and for rejecting the appetitive alternative.

This dissertation argues that that strategy involves at least four tactical measures. The first tactic regards a method (1) for recognizing the moral choice and the appetitive alternative, (2) of holding a conclusion conditionally and (3) then focusing and deliberating which should provide a clear recognition of the incontinence in the appetitive alternative. The fourth tactic is covered in the next chapter and regards the necessary motivator.

In order to generate those methods of recognizing, holding, focusing, and deliberating, it seems important to understand the nature of seeking that reasonable choice and initially it is important to understand that it is not an easy activity. At the end of Book II, Aristotle discusses the difficulty of reaching the mean or intermediate. He further says that because “to hit the intermediate is hard in the extreme” (Ross, p.36 (1109a33-35)), we must work toward “a second-best” and “must incline sometimes towards the excess, sometimes towards the deficiency; for so shall we most easily hit the intermediate and what is right.” (Ross, p.37 (1109b23-25)) Consequently, an observation—it would seem that among at least the four moral states of character of virtue, continence, incontinence, and vice, no individual continues throughout life in a single moral state. Rather he/she moves between moral states, hopefully most often from the incontinent to the continent state or from the continent to the virtuous state.

In addition, we must constantly be concerned with the effort to understand and then incline towards the excess or deficiency and in all cases seek as best we can to hit the intermediate and what is right. Aristotle states:

Hence also it is no easy task to be good. For in everything it is no easy task to find the middle, e.g. to find the middle of a circle is not for everyone but for him who knows; so, too, anyone can get angry—that is easy—or give or spend money; but to do this to the right person, to the right extent, at the right time, with the right

motive, and in the right way, *that* is not for everyone, nor is it easy; wherefore goodness is both rare and laudable and noble.

(Emphasis in original; Ross, p.36 (1109a25-29)) This indicates the need be able to hold conclusions conditionally. For example, most people when facing a decision about action probably are immediately drawn to the pleasurable alternatives without seriously questioning its morality, especially where climate change is involved. An opportunity to consider the morality of the action requires the time provided by that ability of conditionality.

Also, in the above quote, the suggestion that goodness is rare does not particularly seem socially encouraging and seems to indicate that we humans are prone far too often to engage in the appetitive alternative action because it seems pleasurable. The mechanism for change here is unfortunately the recognition of both the choice and the alternative where both involve the opportunity and need for struggle. Because the continent individual struggles against that decision and avoids the appetitive alternative, it would seem that there must be struggle available in incontinency as well—meaning we probably find ourselves in one of those two states with the availability of struggle (and hopefully not in the vicious state where there is no struggle involved, only blind acceptance). But who today wants struggle— “we all struggle daily just to earn a living.”

Further, when we cannot seem to find the intermediate, Aristotle recommends that we look for the “second-best” which would seem to possibly take some struggle and which seems to be the continent state which again requires time through holding conclusions conditionally. As an example of the difficulty, Aristotle uses the passion of anger and declares that “it is not easy to determine both how and with whom and on what provocation and how long one should be angry; for we too sometimes praise those who fall short and call them good-tempered, but sometimes we praise those who get angry and call them manly.” (Ross, p.36 (1109b15-18))

Aristotle here finds anger to be appropriate in certain circumstances and then discusses the third-party reactions of “praise” and “manly” which are important and do seem to encourage continent acts.

Again, Aristotle continues with what seems to be specific encouragement for the continent person and, in fact, for the incontinent person while he also confirms the blameworthiness of appetitive actions.

The man, however, who deviates little from goodness is not blamed, whether he do so in the direction of the more or of the less, but only the man who deviates more widely; for he does not fail to be noticed. But up to what point and to what extent a man must deviate before he becomes blameworthy is not easy to determine by reasoning, any more than anything else that is perceived by the senses; such things depend on particular facts, and the decision rests with perception.

(Ross, p.36-37 (1109b17-23)) Third party reaction is again emphasized because human beings do follow examples where hopefully that example will be the *phronimos*, but again the *phronimos* example is recognized as at least uncommon.

Again, Aristotle also recommends that in attempting to act in the intermediate or virtuous manner, the individual must sometimes consciously look for both the excess and the deficiency:

So much, then, is plain, that the intermediate state is in all things to be praised, but we must incline sometimes toward the excess, sometimes toward the deficiency; for so shall we most easily hit the intermediate and what is right.

(Ross, p.37 (1109b23-26)) When reviewing pleasure, the need to incline to the deficiency is needed to counteract the normal excess of self-indulgence. Also, Aristotle here seems to be describing the tactical recognition of the contingent conclusion and the struggle of continency and incontinency by the agent as the method of the agent toward reaching “the intermediate and what is right.”

Brown states in her accompanying note: “*the decision rests with perception*: an important point about moral epistemology. Such matters—e.g. what counts as an appropriate display of

anger in a given set of circumstances—cannot be reasoned out from principles, but require a kind of judgment that is more akin to perception.” (Emphasis in original; Ross, Brown; p.217) Consequently, understanding the “given set of circumstances” and making that “kind of judgment” for action requires perceptual focus and then deliberation to make the moral choice. Those functions take time and it seems that most of the time, we are unwilling to spend the necessary time but immediately adopt the pleasurable alternative and forget the need for recognition of what the moral choice should be and the need to hold the pleasurable alternative contingently to allow careful deliberation. It seems that those thoughts seldom occur.

Aristotle describes an important aspect of the tactics of leaving incontinency and reaching continency. Aristotle states: “The virtue of a thing is relative to its proper work. Now there are three things in the soul which control action and truth—perception, reason, desire.” He states that perception causes no action where Brown’s notes explain that here Aristotle “uses action in a narrow sense, confining it to what is chosen” and, further, action in this sense turns out “to be choice, a combination of reason and desire.” (Ross, Brown; p. 212) Aristotle states:

The origin of action - its efficient, not its final cause - is choice, and that of choice is desire and reasoning with a view to an end. **This is why choice cannot exist either without reason and intellect or without a moral state; for good action and its opposite cannot exist without a combination of intellect and character.** Intellect itself, however, moves nothing, but only the intellect which aims at an end and is practical Hence choice is either desiderative reason or ratiocinative desire, and such an origination of action is a man.

(Emphasis added; Ross, p.103 (1139a31-1139b5)) Consequently, not only does Aristotle once again confirm the need for appropriate character, but as seems natural, the need for appropriate reason and desire as the origination of human action. But how is it that reason and desire can get along and are able to decide on the reasonable choice? Recall that Aristotle states that appetite must (or should) follow the reasoning of intellect.

Those thoughts all seems to generate the response that, “well, we always do that” but we many times or much of the time chose to do that without even the correct facts about the circumstances and allow the “focus” (or the refusal of focus) to be controlled by appetite and not by reason certainly in regard to climate change. That situation occurs when we allow appetite and not reason to control our focus and deliberation, and that occurs when we “chose” to “understand” the non-facts and allow appetite that can be totally controlled by desire (but seems to be “reasonable”¹²⁹ because it is pleasurable) to overwhelm right reason. So why should that be? Understanding desire and our use of desire becomes critical in our attempt to perceptually focus and then deliberate on situations like climate change.

Broadie comments about the frequency of potentially conflicting arguments which is characteristic of both continence and incontinence and states “the presence of potentially conflicting arguments is a feature of most if not all human action and is certainly not restricted to continent and incontinent behavior.” (Broadie, p.305) One does not have to reflect long to recognize the truth of her comment especially considering the present general political position about climate change.

With climate change, it is the incontinent person that represents the problem because the continent person overcomes appetite and chooses the correct alternative that turns out to be a syllogism and does the right and reasonable thing to reject or minimize the fossil fuel alternative. The incontinent person not only knows that he is deciding on the use of fossil fuel energy but must understand the right and reasonable action for rejecting that use. Many of those who are “unbelievers” cling to the opinion that climate change is simply a figment of the imagination of

¹²⁹ The "in a sense" text at Ross, p.123 (1147b1).

98% of all the scientists on Earth apparently because they listen only to certain commentators. Unfortunately, that is not acceptable if the moral choice is to be voluntarily made.

The challenge to the continent person toward becoming virtuous is overcoming appetite to the extent that the person need no longer struggle to choose the moral A-conclusion below. The challenge to the incontinent person is accepting the struggle to overcome appetite to the extent that the person will reject the appetitive B-conclusion below and thus become a continent person. It is that later struggle that seems decisive for addressing climate change.

Broadie does address the fact that both the moral A-argument and the appetitive B-argument use the same particular premise, “this is sweet.” (Broadie, p.304-305) Some have argued that these arguments can have different particular premises. That is not acceptable when constructing those arguments for climate change and most other matters that need social attention. Different particular premises are not acceptable because, especially for climate change, it is the universal premise that must change. The particular premises for these two arguments must be identical because that premise or those premises address what we find pleasant, i.e., a heated and electrified home is now necessary and pleasant—it is necessary because we need electricity for heat, light, and communication. However, fossil fuel electricity should not ultimately be used and certainly not in excess and we should clearly identify our uses as needs and not wants. We also need to understand that excessive wants generally involve luxury. In addition, even though some fossil fuel energy must be used presently, we need to constantly remind ourselves that the use of fossil fuel energy is unacceptable and that solar/wind/water energy is acceptable.

Broadie provides this explanation of the use of the moral A- and appetitive B-arguments: “The right use of the A-premisses is to act on them; of the B-premisses, to act on them *only when it is not better not to*” (emphasis added; Broadie, p.306) which can only be determined if both the

A-and B-arguments are clearly recognized by an incontinent agent. Also, because Broadie reminds us that “one cannot act on either [premise] of a pair of premises except in the context of the other [premise]” or premises (Broadie, p. 306), an individual needs both a universal premise and a particular premise before proceeding to action. Consequently, the incontinent individual understands the A-argument and the B-argument and that the A-argument is the right or moral thing to do, but because of appetite and not reason the individual is drawn to *use* the conclusion of the B-argument in addition to deciding not to *use* the A-argument. Broadie argues that when considering those two arguments, the agent during deliberation particularly of pleasurable alternatives must consciously consider the phrase “unless it is better not to”.

Because it is the appetite of the individual that disregards the appropriate universal premise while the individual has knowledge of the A-argument, this method of review of most climate change concerns seems appropriate. The A-argument and the B-argument of a climate change syllogism could be as follows regarding the use of fossil fuels and the attendant production of CO₂.¹³⁰

- A. (U) Do not use fossil fuel energy to electrify the home because it produces CO₂ which causes climate change
- (P) A heated and electrified home is now necessary and pleasant
- (C) Refrain from using fossil fuel Energy

- B. (U) Use fossil fuel energy to heat or electrify the home because it is cheap
- (P) A heated and electrified home is now necessary and pleasant
- (C) Use fossil fuel energy

¹³⁰ While it is recognized that the United States cannot cease the use of fossil fuel today, our thoughts should presently and continually think of fossil fuel as an unacceptable source of heat and electricity and at the very least minimize its use to the extent possible whenever and wherever.

A second set of syllogisms could be the following:

- | | |
|--|---|
| A. (U) Use solar energy to heat and electrify the home because it does not produce CO ₂ and does not cause climate change
(P) A heated and electrified home is <u>now necessary and pleasant</u>
(C) Use solar energy | B. (U) Use fossil fuel energy to heat or electrify the home because it is cheap
(P) A heated and electrified home is <u>now necessary and pleasant</u>
(C) Use fossil fuel energy |
|--|---|

There must be recognition of both the universal premises of both the A-argument and the B-argument in each syllogism. While the particular premise is identical for both A and B, it is the universal premise that requires that alternatives be considered. Focus must be on the universal premises rather than the particular premises that are the same. The universal premises of “do not use fossil fuel energy” and “use solar energy” are the reasoned premises capable of avoiding production of CO₂. However, because the human appetite focuses on what is cheap and easy and further because of our consumerist culture that prefers the latest rather than the lasting and the apparent universal desire to purchase anything that is “new,” expensive and luxurious (whether or not there is an actual need), it seems that the majority of people in the United States allow the appetite and not reason to determine the action to be taken.

Focusing on the particular premises in all of the above argument pairs, they are identical and concerned with bodily pleasures and comforts which Aristotle and reason argue must be subject to the virtue of temperance (through the use of Broadie’s phrase “unless it is not better not to”). The excessive involved vice is intemperance/self-indulgence and the mechanism for understanding that excess is the difference again between need and want. What is wanted in the industrial cultures of this world today seems to be far beyond need and, in many cases, is what must be admitted as luxury and in many situations wretched luxury.

In closing her chapter on incontinence, Broadie reminds us that in the case of continence:

the [appetitive] B-argument and its conclusion must be held unconditionally, to the extent that appetite is present creating an actual conflict. No doubt there is the same gamut of possible forms: sometimes appetite distorts or hampers perception; sometimes it gives rise to self-deceptive misinterpretation; **sometimes it takes away the sense of shamefulness of doing B.**

(Emphasis added; Broadie, p.307) While all three of the above reasons given are important, the sense of shamefulness should become more important when the knowledge supporting the universal A premise is more than adequate and future generations are at stake. Those who disregard the universal A premise (or premises) concerning climate change and do nothing in terms of mitigation or adaptation will suffer the disdain and shame of those future generations and should be attending to the shame or other motivator that they now should feel for discarding reasonability and allowing appetite to direct their actions. In light of the above, we in the United States must recognize our incontinence (if not vicious nature) of acting against the reality of climate change and our responsibility for its existence.

Broadie again reminds us of the difference between the two states of character. The conflict that faces both is the same conflict and is the willingness to respond to appetite rather than reason. She states “the continent agent (called so on the basis of what he does) pulls himself together in time to respect his rational choice.” Obviously, the incontinent agent yields to appetite which is so easy today when we especially in the United States have willingly been able to use pleasure as our only metric of acceptance. We have habituated that metric to the extent that it is very difficult to reduce its use.

The last paragraph of Broadie’s Chapter 5 asks the question “by what mechanism does [the continent individual] resist temptation, and the [incontinent individual] does not?” (Broadie, p. 307). She continues to embellish the question: “Aristotle does not trouble about this question let alone about the next round of questions, such as whether the incontinent has the same mechanism and whether, if so, he lacks a further mechanism for activating the first.” She then wonders why Aristotle has not sought out the source of difference between these two states in that regard. She

suggests that the reason is based on practical ethics. “From the point of view of the moral educator the two conditions [continence and incontinence] present more or less the same problem, since it is the purpose of training to minimize both, and the same sorts of methods are called for.” (Broadie, p. 307)

The difficulty today seems to be that there may not be enough moral educators and that society today does not want to listen to moral educators because, concerning climate change, those educators must require that the time, effort and money presently spent on inordinate pleasure should be directed to climate change mitigation and adaptation. Therefore, the moral A-argument is not only unpopular but by some is believed to be unnecessary for some as yet unproven technological proposals and also is rejected simply as a detriment to the present “pleasurable” economy. Further, as James Garvey once attributed to Voltaire, “[n]o snowflake in an avalanche ever feels responsible.”¹³¹ The moral educator therefore is not only stymied by the pleasure to which society has become accustomed over the last decades but by the “snowflake” mentality that is so easily adopted and has only become available through the global reach of climate change through which we all become “snowflakes”.

It seems today critically important to attend to Broadie’s questioning about “seeking out that source” of the difference between the continent and incontinent conditions. Actually, this dissertation argues that Aristotle did provide that mechanism and it is now necessary to concentrate on the source of the difference between these two states. In fact, those two conditions both seem to require a similar motivator which Aristotle offered in the concept of the Greek word *aidōs* which is addressed in the next Chapter. Also, Broadie’s thought of the incontinent possibly needing a further mechanism is also addressed but *aidōs* is argued as sufficient without a further mechanism.

¹³¹ James Garvey, *The Ethics of Climate Change: Right and Wrong in a Warming World* (New York: Continuum International Publishing Group, 2008), p. 57, herein referenced as “Garvey, p. ___”.

C. Summary

As this dissertation argues, either the choice of the moral A-argument instead of the ease of falling into the grip of appetite can only be addressed through an improved character which may only be recognized by a few individuals who are willing to work toward that improved character through the same old tools of time, effort, and concern and the sincere dedication to not only utilize those invaluable tools, but also are willing to work toward the dedication of the funds necessary to support those tools. Maybe those old invaluable tools can be energized by renewed recognition of Aristotle's motivator, *aidōs*, and a new virtue such as primality.

The character of the United States population seems to have changed radically over the last six decades. In the period 1942 through 1950, the character of the United States population looked at and found important the universal moral A premises of "Nazi Germany is bad" as well as "the Japanese invasion of the United States is bad" and applied immediate national effort to relieve both the United States and the world of those vices through World War II. That took great virtuous character both in the leaders and in the citizens of the United States as well as in those of the Allied countries. That virtuous character which at that time embraced those universal moral A premises seems to have changed to the universal premise of "luxury is good and is worthy of making use of any and all other individuals on this Earth (as long as it is arguably legal)" which, of course, transgresses the second formulation of Kant's Categorical Imperative. Those who embraced those prior moral A-premises, let's call them the "original others," are now being used individually and collectively in any way that "still others" can scheme to line their pockets with money from those "original others". In addition, a majority (at least) of our legislators are making that possible by taking support from major fossil fuel producers and utilities and other lobbying entities and failing

to address the necessary tasks which result from anthropogenic causes such as climate change that are presently confronting all of the nations of Earth and Earth itself.

Notwithstanding the apparent inability of argument to encourage the present incontinent individual, the preceding discussion of incontinency is valuable for the following ideas. First, incontinency is useful because it does recognize competing universal premises. Secondly, incontinency highlights the importance of taking the time to conditionally hold conclusions for consideration of alternatives. In this day and age when everything has to happen immediately, there is no time to consider opposing viewpoints but only to immediately respond simply on the basis of pleasure. As life becomes more complex as it continues to do, time must be made available for such things as holding conclusions conditionally so that the person who must make actionable decisions can review alternative universal and particular premises before making a decision. Providing the time for that consideration will be difficult but necessary along with education for the need for opposing conclusions and universal premises. Third, recognizing that climate change is the first global set of circumstances that allow an individual to think that his/her voluntary actions make no difference because of the “snowflake” and “avalanche” comparison that, of course, is invalid. It seems as though society needs assistance with the ability to keep those items in mind as difficult decisions seem to multiply exponentially.

In her last paragraph of Chapter 5, Broadie worries that Aristotle did not provide a mechanism for differentiating continence and incontinence. I argue that he did provide that mechanism in the last two paragraphs of Chapter IV of his *Nicomachean Ethics*. However, I believe that because of his audience— his students and also their parents, he felt that caution and care were required because of the past and present reliance of that audience on Plato and Socrates. The following chapter reviews that mechanism.

Chapter 8 - The *Aidōs* Response

[*Aidōs* is fundamentally related to the terms *aischron* and *kalon*; and if the judgement of the person of practical wisdom that such and such is *aischron* may also encompass affective aspects, then there should presumably be a place for *aidōs* in that person's response.

—Douglas Cairns (Cairns, 1993, 426)

A. *Aidōs* - Motivator and Possible Virtue¹³²

(1) *Aidōs* - generally

Because argument does not seem presently effective for engaging interest in continence and incontinence, it is necessary to consider the motivator, *aidōs*, which, though it is necessary in its own right, could renew interest in those two states of character. *Aidōs* is a possible candidate for a virtue and, as importantly, a candidate for the concept that can encourage the acceptance of those two states because *aidōs* can energize those states. *Aidōs* seems similar to the virtue of practical wisdom (*phronēsis*) because it like practical wisdom can assist in the habituation of the other virtues. Practical wisdom is described as a virtue that must not only include all of the remaining Aristotelian virtues (Ross, p.116 (1144a36-37); p.117 (1144b36-1145a2)) but is also critical in the acquisition of those remaining virtues. *Aidōs* like practical wisdom is also critical to that acquisition.

While review of *aidōs* is required to explain its capacity as a motivator for Aristotle's states of continence and incontinence and also as a motivator for a new virtue such as primality, increased emphasis on the use of *aidōs* is also a necessary ingredient within continuing virtue ethical theory

¹³² I need to thank Dr. Joanne B. Waugh for much and especially because I owe the idea for the use of *aidōs* to her as well as the idea for the use of Paul Woodruff in Chapter 12.

generally and especially regarding climate change. *Aidōs* is applicable to all virtues Aristotelian and other. Its importance results from the prospective inhibitory and deterrent work of *aidōs* and also from its definition that ranges from shame to reverence. It is used by Aristotle because of its prospective nature and it has thus far been translated within Aristotle's works as both shame and modesty. Because it has been translated as both, those Aristotelian texts are initially reviewed.

(2) *Aidōs* - translated as shame

Aidōs defined as shame which, as an antonym of honour, can be an important factor in addressing climate change because both shame and honour are important in most cultures today though not nearly as important as in Aristotle's Greece and previously as early as Homer. Those were shame cultures. Further, shame unfortunately is no longer as important as it has been in the past because of the increased importance of the acquisition of wealth and power where the methods used in that acquisition have become less important. But honouring and shaming politicians, athletes and wall street individuals have been somewhat important and in the recent past. Individually, it still seems that we generally appreciate being honoured and we should abhor shame, whether vocationally or non-vocationally originated. **However, our culture today is not a shame culture but is a denial culture and shame seems to be irrelevant even if the shameless individual is caught— his/her problem was being caught, not doing the shameful act.**

Nevertheless, we do honour, for the most part, and shame, to some extent, individuals that have died. We name buildings such as monuments, libraries, art venues, roadways, bridges, etc. for elected Presidents and other revered individuals and we generally do honour departed family members. Also, we do sometimes blame and censure cheating, lying and other disgraceful acts of character in politicians, athletes, national personalities and even family members when the action is discovered and occasionally after death, i.e. John Wilkes Booth. Further, for example, we

sometimes hold religious organizations accountable for actions occurring in past centuries and do feel that apologies are important even centuries after the involved actions, for example, Galileo's excommunication.

Aidōs translated as "shame" is recognized by Aristotle as a passion but not a virtue although he equivocates a bit. Shame is also used by Confucius.¹³³ Both philosophers lived in shame cultures and both employ it as an element in the production of good character because the feeling of anticipated shame (and then possibly anticipated disgrace) can and should deter an individual from bad action. The Greek word is *αἰδώς*; where *aidōs* is the transliterated version and is recognizable from its pronunciation is — "I ' (long) + dose".¹³⁴ Its concept is the anticipated shame, private or public, and possibly anticipated disgrace (virtually always public) that could follow if the anticipated action is completed. Aristotle distinguishes that anticipated feeling from the feeling of actual previous recognized disgrace resulting from a completed shameful action where the Greek word is *αἰσχύνη* and its transliteration is *aischunē*.¹³⁵ (Ross, p.16 (1100a20); p.32 (1107b23)) The pronunciation of *aischunē* —I (long I) "shune' + knee".

In addition, the Greek word, *aidōs*, while translating to "shame" also translates to a number of positive words: at the Perseus website as "reverence, awe, respect"¹³⁶; also "reverence, awe, respect for the feeling or opinion of others or for one's own conscience, and so *shame, self-respect*

¹³³ For example, Confucius, *The Analects*, trans. R. Dawson (Oxford: Oxford University Press, 2000), p. 52 (Book 13:22) and p. 54 (Book14:1).

¹³⁴ *Greek-English Lexicon*, 9th ed; compiled, H.G. Liddell & R. Scott (Oxford: Oxford University Press, 1940 (9th ed.), 1996 (new supplement)), p.36, "*aidōs*"; herein referenced as "Liddell-Scott, p.____".

¹³⁵ Liddell-Scott, p.43, "*αἰσχύνη*"; Ross, p.79(1128b21); Perseus - shame, dishonour. [http://www.perseus.tufts.edu/hopper/morph?l=ai%29sxu%2Fnh&la=greek&can=ai%29sxu%2Fnh0&prior=e\)sti\n&d=Perseus:text:1999.01.0053:becker%20page=1128b:becker%20line=20&i=1](http://www.perseus.tufts.edu/hopper/morph?l=ai%29sxu%2Fnh&la=greek&can=ai%29sxu%2Fnh0&prior=e)sti\n&d=Perseus:text:1999.01.0053:becker%20page=1128b:becker%20line=20&i=1) ; also at that address click "LSJ".

¹³⁶ Perseus - shame, reverence, awe, respect. [http://www.perseus.tufts.edu/hopper/morph?l=ai%29dw%5Cs&la=greek&can=ai%29dw%5Cs0&prior=h\(&d=Perseus:text:1999.01.0053:becker%20page=1128b:becker%20line=25&i=1](http://www.perseus.tufts.edu/hopper/morph?l=ai%29dw%5Cs&la=greek&can=ai%29dw%5Cs0&prior=h(&d=Perseus:text:1999.01.0053:becker%20page=1128b:becker%20line=25&i=1) "reverence, awe, respect for the feeling or opinion of others or for one's own conscience, and so *shame, self-respect* (in full "*ἔαντροῦ αἰδώς*" *Hiero*cl.in *CA9p.433M.*), sense of honour," [http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.04.0057%3Aentry%3Dai\)dw%2Fs](http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.04.0057%3Aentry%3Dai)dw%2Fs)

... , *sense of honour*" That same website lists the definition of αἰσχύνη as "shame, dishonour". Douglas L. Cairns, in his book, *Aidōs: The Psychology and Ethics of Honour and Shame in Ancient Greek Literature*,¹³⁷ in the Glossary of that book lists the definition of *aidōs* as "*aidōs* (n.) shame, respect, sense of honour, modesty"¹³⁸ and "*aidōios*: (adj.) reverend, deserving *aidōs* (less often: reverent, showing *aidōs*)." (Cairns, p.455) Concerning *aischunē* or disgrace, Cairns also in his Glossary lists: "*aischunē*: (n.) (objective) disgrace; (subjective) shame" which can reference present, past or future feelings about actions. (Ibid.)

Aristotle's use of *aidōs* when translated as "shame" is always an anticipatory feeling and, therefore, is the anticipation of shame or disgrace resulting from a contemplated but unexecuted action that may not ultimately be enacted as a result of the feeling of *aidōs* during deliberation. Therefore, because the bad action will not occur if *aidōs* is successful in its work, *aidōs* as a feeling, cannot result in disgrace under those circumstances but may result in personal shame and even public shame and disgrace if the involved thought is admitted publicly even though not enacted.¹³⁹

All of the additional translations referenced in the prior paragraphs can be forward looking and can become reasons for deciding against a contemplated vicious/bad action. They also seem to form a hierarchy of reasons with arguably different levels of acceptability, shame being the lowest. Consider this structure: shame, conscience or self-respect, awe, respect for others, sense of honour, and reverence.

¹³⁷ Douglas, Cairns, *Aidōs: The Psychology and Ethics of Honour and Shame in Ancient Greek Literature* (Oxford: Oxford University Press, 1993); referenced herein as "Cairns, p.____".

¹³⁸ Cairns footnotes this comment about *aidōs*: "In particular, since *aidōs* relates to others as well as to oneself, it is commonly more positive than shame; it is recommended as a virtue, and is valued for its maintenance of propriety in reciprocal arrangements in which one's own honour is bound up with one's obligations to others." (Cairns, p.14n29)

¹³⁹ But it could also result in public honour if its admission is indicative of a change in disposition to the extent that a vicious desire has been addressed and overcome, for example, President Jimmy Carter's admission of lust.

It seems upon reflection that there are very few people alive that can be considered "virtuous" as Aristotle used that word if that use requires and involves no consideration whatsoever of possible vicious actions or thoughts. It seems that under Aristotle's list of moral (and immoral) states most people fall into the continent and incontinent classes as affirmed by Aristotle and as discussed above.

Aristotle in concluding the *Nicomachean Ethics* states:

[Arguments] are not able to encourage the *many* to nobility and goodness. **For these do not by nature obey the sense of shame [*aidōs*], but only fear, and do not abstain from bad acts because of their baseness but through fear of punishment;** living by passion they pursue their own pleasures and the means to them, and avoid the opposite pains, and have not even a conception of what is noble and truly pleasant, since they have never tasted it. What argument would remold such people? **It is hard, if not impossible, to remove by argument the traits that have long since been incorporated in the character;** and perhaps we must be content if, when all the influences by which we are thought to become good are present, we get some tincture of virtue.

(Emphasis added; Ross, p.199 (1179b-19)) "The many" do not seem to have passed from existence through the generations since the fourth century B.C.E. and especially the "many" today do not seem to be moved by argument or science concerning climate change. Also, the importance of character is once again emphasized. In addition, immediately following the above and in characterizing "the many," Aristotle argues the need for laws to encourage virtues and provide sanctions for vices.

However, the hope is that incontinent people will begin rejecting more of the actions recognized as vicious and begin choosing the virtuous alternative while the continent people will begin habituating the virtuous choices so the appetite no longer suggests action. For these reasons, I argue that, because of its restraining nature, *aidōs* and its hierarchy of meanings beginning with shame, is a necessary candidate for revised emphasis in virtue theory possibly as a virtue or as a positive and necessary concept located immediately below the concept of *phronēsis*.

(3) Aristotle's use of *Aidōs*

For Aristotle and also for virtue ethics today, *aidōs* is a necessary concept because of its restraint on conceived yet unexecuted vicious action even though Aristotle explicitly and repeatedly states that *aidōs* is not a virtue but a passion. As passion it seems that he is arguing that *aidōs* is not a disposition to action and, therefore, does not determine reasonable action. (Ross, p.79 (1128b10-11)) Actually, based on the following discussion, it seems that an argument should be made for the position that *aidōs* obviously does *promote* reasonable action though it still may be argued that continence as a state of character should get the credit for the reasonable choice that results. However, without *aidōs* as motivator that result might not become reality.

While Aristotle uses *aidōs* in a number of locations in the *Nicomachean Ethics*, he uses it most extensively in the last two paragraphs of what has become known as Book IV of those ethics and to which Brown has added the title "A Quasi-virtue". In these two paragraphs which are herein referenced as the "Quasi-virtue Text," Aristotle carefully differentiates between the Greek words *aidōs* and *aischunē*. Both words, *aidōs* and *aischunē*, have been translated at times as the English word "shame" but both have different meanings as used by Aristotle in these two paragraphs. Further, in these two paragraphs, variants of those two words are also used but those variants retain the following identifying features. *Aidōs* and its variants are used as a present feeling about a contemplated but unexecuted bad act while *aischunē* can mean either a prospective feeling or more often the present or past feeling of disgrace that accompanied a completed bad act.

(a) The Quasi-virtue Text

Because of the importance of this text, it is reviewed sentence by sentence below. In the quotations from the *Nicomachean Ethics* found below, the Ross translation is used and the Greek

words listed are confirmed through the Liddell-Scott Lexicon¹⁴⁰ and through the Perseus website.¹⁴¹ Cairns' book contains his own translation of the Quasi-virtue Text and the transliterations included below are those used by Cairns. The Greek word(s) and Cairns' transliterations are shown in brackets [] immediately following Ross's translated English word or phrase which is underlined.

Aidōs is the transliteration of the Greek word “*αἰδώς*”. *Αἰδώς*, *aidōs*, their variants and the transliterations of all those words are words that, like *aidōs*, are prospective in that they incorporate meanings from shame to reverence where those feelings confront the individual who is contemplating a possible bad act. In addition, all those words provide anticipation of the individual's fear of disgrace and, also, thereby, warn of the contemplated bad act. **On pages 193-200, *αἰδώς*, *aidōs*, their variant words, and the transliterations of all those words are bolded for recognition.**

Aischunē is the transliteration of the Greek word “*αἰσχύνη*”. *Αἰσχύνη*, *aischunē*, their variant words and the transliterations of all those words are words that refer specifically to a disgraceful state of affairs, past, present or future. **Again, on pages 194-200, *αἰσχύνη*, *aischunē*, their variant words, and the transliterations of all those words are type set in red for recognition.** Those qualities of the two words are confirmed through their use by Aristotle in the following quotes where *aidōs* can even be seen (in the “eighth sentence” below) as a possible good. However, Aristotle's ideal of the *phronimos* or person of practical wisdom can never have such thoughts of bad acts where probably very few humans fit that description in the fourth century B.C.E. and even today.

¹⁴⁰ *Greek-English Lexicon*, 9th ed; compiled, H.G. Liddell & R. Scott (Oxford: Oxford University Press, 1940 (9th ed.), 1996 (new supplement).

¹⁴¹ Perseus 4.0 aka Perseus Hopper, <http://www.perseus.tufts.edu/hopper/>

These two translated paragraphs contain eleven sentences where six of the sentences use one or more instances of *aidōs* and/or *aischunē* or their variants. The **first sentence** as translated by Ross has been most influential in determining the manner in which *aidōs* is used by Aristotle. That sentence states: “Shame [*αἰδοῦς, aidōs*] should not be described as a virtue; for it is more like a passion than a state of character [*ἔχει, hexis*],” (Ross, p.79 (1128b10-11)) The virtues and vices, of course, are described by Aristotle as “states of character” which Aristotle describes as “the things in virtue of which we stand well or badly with reference to the passions.” (Ross, p.28 (1105b25-26))

Also, recall that Aristotle defines passions as “appetite, anger, fear, confidence, envy, joy, friendly feeling, hatred, longing, emulation, pity, and in general the feelings that accompany pleasure or pain”; and that habits once formed are not easily changed. The virtues and vices of the individual are the habitual activities and actions of the individual and define our states of character.

The **second** sentence provides Aristotle’s understanding of the meaning of *aidōs*. He states: “It [*aidōs*] is defined, at any rate, as a kind of fear of dishonour, and produces an effect similar to that produced by fear of danger; for people who feel disgraced [*οἱ αἰσχυνόμενοι, hoi aischunomenoi*], blush, and those who fear death turn pale.” (Ross, p.79 (1128b11-13)) This is the first appearance in these eleven sentences of a variation of the *aischunē* word which here has been translated as “disgraced”— a feeling brought about by a third-party determination of a completed bad act. Consequently, this sentence initially describes *aidōs* as “a kind of fear of dishonour” and “a fear of danger” which are both feelings of anticipation but based upon prior experience of personal bad acts, the bad acts of others, or education which is why *aischunē* is an important part of the temperate use of the passions. The sentence then continues to describe the physical reaction of “blushing and turning pale” of people who feel “disgraced” as a result of a

completed bad act. Again, in the second sentence, *aidōs* is used in a prospective manner whereas the *aischunē* word is used for a feeling associated with a completed bad act and third-party disgrace. The **third** sentence then concludes that those two bodily conditions of blushing and turning pale characterize a passion.

The **fourth** sentence states that *aidōs*, the passion “is not becoming to every age, but only to youth.” The **fifth** sentence explains the reason for that conclusion. In this sentence, *aidōs* and its variants appear three times whereas *aischunē* and its variants appear twice. Here Aristotle also provides the explanation of the prospective nature of *aidōs*. He states that “young people should be prone to shame [*αἰδήμονας, aidēmōn*], because they live by passion and therefore commit many errors, but are restrained by shame [*αἰδοῦς, aidōs*]; and we praise young people who are prone to this passion [*αἰδήμονας, aidēmōn*]” (Ross, p.79 (1128b16-19)) This prospective restraint of *aidōs* is, of course, critical because of its deterrent effect on the considered but yet unperformed bad act.

Aristotle continues in that **fifth** sentence with the thought that “but an older person no one would praise for being prone to the sense of disgrace [*αἰσχυντηλός, aischuntēlos*], since we think he should not do anything that need cause this sense [of disgrace] [*αἰσχύνη, aischunē*].” Here, when addressing the older person, Aristotle does not use the prospective *aidōs* or its variants but uses the *aischunē* variant word for the retrospective disgrace concept. Aristotle has thus far been consistent in his use of *aidōs* and *aischunē* and their variants.

In the **sixth** sentence, Aristotle uses *aischunē* once and three *aischunē* variants all of which are translated either as sense of disgrace, disgraceful or disgraced. That sentence is:

For the sense of disgrace [*αἰσχύνη, aischunē*] is not even characteristic of a good man, since it is consequent on bad actions (for such actions should not be done; and if some actions are disgraceful [*αἰσχρὰ, aischra*] in very truth and others only according to common opinion, this makes no difference; for neither class of actions

should be done, so that no disgrace [*αἰσχυντέον, aischunē*] should be felt); and it is a mark of a bad man even to be such as to do any disgraceful action [*αἰσχρῶν, aischron*].

(Ross, p.79 (1128b 21-26)) In this sentence, Aristotle is describing feelings of disgrace that result from completed bad actions and, consequently, he uses *aischunē* and *aischunē* variant words.

In the **seventh** sentence Aristotle uses both words or their variants once and, again, the prospective nature of *aidōs* is evident. “To be so constituted as to feel disgraced [*αἰσχύνεσθαι, aischunesthai*] if one does such an action, and for this reason to think oneself good, is absurd; for it is for voluntary actions that shame [*αἰδώς, aidōs*] is felt, and the good man will never voluntarily do bad actions.” (Ross, p.79 (1128b26-30)) Aristotle explains why any concept of “feeling disgraced” [*αἰσχύνεσθαι, aischunesthai*] cannot be viewed as good and that the “good man” will not do or probably even contemplate the kind of actions that raise the sense of *aidōs*. (Ross, p. 120 (1146a10-13)) Again, the “good man,” the *phronimos*, for Aristotle is the individual who has all the virtues and, as Aristotle explains, will not contemplate bad actions. While the *phronimos* is the ideal person, there have been and are now today very few of those it seems on Earth. Also, this sentence emphasizes the need of both states of character, continent and incontinent, to make use of *aidōs*.

In the **eighth** sentence, Aristotle again uses both words or their variants once and, further explains his understanding of *aidōs*. That sentence states: “But shame [*αἰδώς, aidōs*] may be said to be conditionally a good thing; *if* a good man does such actions, he will feel disgraced [*αἰσχύνεσθαι, aischunesthai*]; but the virtues are not subject to such a qualification.” Aristotle here again acknowledges the goodness of *aidōs* in preventing bad action, but, because *aidōs* relies on the recollection of bad actions to prevent further bad actions, the *phronimos* would not be praised by Aristotle for the use of *aidōs*.

In the **ninth** sentence Aristotle uses an *aidōs* variant word once and uses *aischunē* variant words in four locations to explain shamelessness - having no feeling of shame coupled with the lack of any *aidōs* - as bad. Once again, he emphasizes that it cannot be good to be ashamed of having done such actions. “And if shamelessness [*ἀναισχυντία, anaischuntia*] - not to be ashamed [*αἰδεῖσθαι, aidōs*] of doing base actions [*αἰσχρὰ, aischron*] - is bad, that does not make it good to be ashamed [*αἰσχύνεσθαι, aischunē*] of doing such actions [*αἰσχύνεσθαι, {no Cairns word}*].” In this sentence, Aristotle describes shamelessness as having no feeling of *aidōs* which is bad and being ashamed does not make it good to be ashamed if one does such actions.

In the **tenth** sentence,¹⁴² Aristotle states: “Continnence too is not virtue, but a mixed sort of state; this will be shown later [in Book VII].” When Aristotle names continence as describing *aidōs* and uses the phrase “mixed state” to describe both, Aristotle understands both as having virtuous qualities and, as such, they are both very important in understanding Aristotle’s ethics. Because continence is one of Aristotle’s six moral states, *aidōs* does not seem to be a candidate for that type of a moral state. However, *aidōs* does seem to be the device or mechanism through which continence (and incontinence) struggle against conceived but unexecuted bad acts. Continence, through that struggle centered in *aidōs*, succeeds in precluding bad acts. In this regard, *aidōs* seems very much like a virtue because the individual acceptance and habituation of the involved activity determine the value of the activity (for example with liberality, courage and the remaining Aristotelian virtues). As explained by Cairns, *aidōs* has been a very important concept in Greek ethics as far back as Homer. It should continue to be important in this twenty-first century because of its prospective inhibitory, restraining and deterrent qualities.

¹⁴² The eleventh sentence is simply an invitation to begin the discussion of the virtue “justice”.

Therefore, while *aidōs* has been characterized more like a passion than a state of character, it needs to be perceived as a state of character because it must be used much more extensively in this twenty-first century especially because of climate change. In addition, continence, as a “mixed sort of state” and while not like Aristotle’s virtue temperance, the continent’s struggle and the hoped for incontinent’s knowledge of the virtuous action must be emphasized, become much more popular, and be implemented much more extensively because of climate change.

(b) *Aidōs* - translated as modesty

Aristotle does use *aidōs* and its variant words elsewhere in the *Nicomachean Ethics* and in his writings generally. Some of those uses provide additional insight into his understanding and use of that word. However, in the following texts, no translations by Cairns could be found and, therefore, only the Greek words from Perseus are shown in brackets after the underlined words in the following translations. In Book II of the *Nicomachean Ethics*, Aristotle uses *aidōs* which Ross translates as “shame”. However, in this same text, Aristotle uses *aidōs* and an *aidōs* variant word where Ross translates both as “modest”. Aristotle also states that passions can have intermediate states or means and an excess and a deficiency like virtues. Aristotle uses the Greek word *αἰδήμων*, an *aidōs* variant word, which Ross translates as "modest man" (Ross, p.34 (1108a36)) while in that same sentence Aristotle initially uses *aidōs* (*αἰδῶς*) which Ross translates as “shame”. (Ross, p.34 (1108a32-33)) Ross translates the entire sentence as: “There are also means in the passions and concerned with the passions; since shame [*αἰδῶς*] is not a virtue, and yet praise is extended to the modest man [*αἰδήμων*].” Here, Aristotle states unequivocally that *aidōs* is "not a virtue" and, therefore, a passion. (Ross, p.34 (1108a32))¹⁴³ Also, “modesty,” which seems like a virtue, involves a much different feeling or sense than shame.

¹⁴³ But he also states that it only "is more like a passion." (Ross, p.79 (1128b10))

Aristotle elaborates on that “modesty” text: “For even in these matters one man is said to be intermediate, and another to exceed, as for instance the bashful man who is ashamed of everything [*αἰδούμενο*]; while he who falls short or is not ashamed of anything is shameless [*ἀναίσχυντο*], and the intermediate person is modest [*αἰδήμων*].” (Ross, p.34 (1108a33-36)) In addition, Aristotle immediately states that "praise is extended to the modest man [*αἰδήμων*]" (use of an *aidōs* variant word and, therefore, a person who anticipates) where he describes the "bashful man" as the excess and as being "ashamed of everything [*αἰδούμενος*]" (again using an *aidōs* variant word of anticipated feeling) while the deficiency is "not ashamed of anything" and "is shameless [*ἀναίσχυντος*]" (an *aischunē* variant word of a recognized feeling of disgrace).

The deficiency is explained as “shameless” - *ἀναίσχυντο*, an *aischunē* variant word, while the mean or acceptable feeling is “modest,” *αἰδήμων*, an *aidōs* variant word. The excessive vice is ashamed of everything where the word is *αἰδούμενο*, also an *aidōs* variant word. As *aidōs* variant words, they are both prospective words which have the possibility of precluding bad acts. As such, they both would seem to be praiseworthy because of that fact. Even the bashful man who is ashamed of everything is not undertaking bad acts but probably not undertaking good acts either. In any event, the *aidōs* variant words include a praiseworthy quality.

Because Aristotle states that "the intermediate person is modest [*αἰδήμων*]" (Ross, p.34 (1108a31-36)) again an *aidōs* variant word and a person who anticipates, this text seems important to show both that (1) *aidōs* and *aidōs* variant words have more than one meaning where those meanings can be very different, for example, shame and modest, and (2) for *aidōs* and *aidōs* variant

words when translated as modesty, Aristotle found a mean, an excess and a deficiency similar to his virtues.¹⁴⁴

(c) *Aidōs* - a virtue candidate

Generally addressing *aidōs*, Aristotle's description in Book IV as a passion is at least equivocal. Further, he explicitly finds that *aidōs* has a mean, an excess, and a deficiency. Consequently, even he leaves some space for *aidōs* as a virtue, as a state of character. Further, it does seem that *aidōs* does determine reasonable action when steering the continent person to the virtuous action. In addition, *aidōs* does determine "inaction" if the conceived vicious action is not executed where the decision to refrain seems in itself to be virtuous action. As a result and consistent with Cairns' arguments included below, *aidōs* seems to be a candidate for a new virtue or at least a crucial feeling, sense and response that must be associated with a movement away from vicious through incontinence and continence to virtuousness.

Cairns argues that *aidōs* could and possibly should be recognized as a virtue, a state of character, a *hexis*. Cairns reviews the Aristotelian Quasi-virtue Text sentences in much the same manner as those sentences are reviewed above where the above review is consistent with and in part based on Cairns' conclusions about those sentences. (Cairns, p. 414-18) As an example, his translation and transliteration of the ninth sentence follows and is in keeping with the appropriate concepts of both the "*aischunē*" variant words and the "*aidōs*" variant words. "For if *anaischuntia* [shamelessness] and not feeling *aidōs* [shame] at the prospect of doing what is *aischron* [disgraceful] are base, this does not mean that to feel *aischuniē* [ashamed] when one does such

¹⁴⁴ In a similar example, Aristotle, when discussing the virtue of courage, concludes that "the brave man" is correct in fearing "disgrace" [*αἰσχρός*], an *aischunē* variant word, as a result of modesty [*αἰδήμων*], an *aidōs* variant word. He states "disgrace [*αἰσχρός*]; he who fears this is good and modest [*αἰδήμων*, an *aidōs* variant word], and he who does not is shameless [*ἀναίσχυντος*, an *aischunē* variant word]." (Ross, p.49 (1115a10-15))

things is decent." (Bracketed words are not in Cairns quote but are consistent with the above translations; Cairns, p.414-15). Here, two distinct ideas are described as "base" - first, the state of disgrace, *anaischuntia* (shamelessness) and second, the state of "not feeling *aidōs* at the prospect" of doing base acts.

The states of disgrace and shamelessness result from doing base actions while when using *aidōs* at the prospect of such acts can discourage the individual from engaging in the act. In the above quotes, while the first base idea is a feeling or sense following completed base actions, the second base idea is the failure to use *aidōs*. Consequently, the use of *aidōs* becomes the responsibility of the individual in introducing the question of morality at the beginning of the deliberation process and then in producing the hiatus that allows and requires the individual to hold conclusions contingent while the deliberation process proceeds. In pre-Aristotelian Greece and as explained by Cairns, *aidōs* was a feeling that either the individual could self-induce or was a feeling suggested to an individual by actions or others. As such, it was a common and important feeling both for the individual and the *polis*.

Any virtue present or past needs to have a relatively easy mechanism for communication and understanding. *Aidōs*, as a virtue candidate and as explained by Cairns as an emotional response to bad feelings and thoughts, needs something more than resurrection of the Greek word. The pronunciation of that Greek word has the possibility of adopting a presently recognized phrase, "dose response," used in the field of toxicology to describe the toxicity of any given substance.¹⁴⁵ That possible adoption could be through the phrase "*aidōs* response" because *aidōs* as a response

¹⁴⁵ <http://unabridged.merriam-webster.com/unabridged/dose%20response>. "*medical*: of, relating to, or graphing the pattern of physiological response to varied dosage (as of a drug or radiation) in which there is typically little or no effect at very low dosages and a toxic or unchanging effect at high dosages with the maximum increase in effect somewhere between the extremes." In other words, the higher the dosage, the possibility of toxicity increases. Also, a similar definition was obtained through a personal communication with Gary Van Gelder, Ph.D. toxicologist.

to a contemplated activity would be positive in terms of morality. Phonetically that phrase becomes “*I-dose response*” and its application would be closely associated with Aristotle’s virtue “practical wisdom” as a response to recognized circumstances. However, as argued below, I-dose response would be particularly associated with Aristotle’s states of character, continence and incontinence, and would focus on the need for the application of practical wisdom within those two states.

In addition and consistent with the scope of the definition of *aidōs*, that phrase could become associated with its definition as described at pages 189 to 190 above as a feeling of “*reverence, awe, respect* for the feeling or opinion of others or for one's own conscience, and so *shame, self-respect ... , sense of honour;*” so possibly the two sides of another common “coin” - sense of shame and sense of self-respect or honour (combined similarly to primity as the combination of proper pride and proper humility). The involved “*aidōs* response” could begin with shame but could become reverence through the definitional hierarchy as the individual seeks the good through the application of practical wisdom and through the Aristotle/Aquinas method of psychology (discussed below) where the action as deliberated becomes moral.

Continuing with the nature of *aidōs*, Cairns argues that, because of further statements by Aristotle, it should not be characterized as a passion or as a capacity and should be a virtue, because *aidōs* in many or most circumstances can be praised, and, in these cases, because *aidōs* can be viewed as a mean, those attributes rigidly applied would require that *aidōs*, as a praiseworthy mean, is a *hexis* and moral state of character. Cairns recognizes that Aristotle’s *phronimos* must be motivated solely by practical reason and, therefore, by the intrinsic nature of the noble action. Consequently, the truly virtuous “perform the noble action because they see its intrinsic nobility, because they know it is good for them, and because they want to.” (Cairns, p.420) They do not perform the noble action out of “fear of dishonour” or “fear of danger”.

Cairns goes on to argue what does seem to be reality. Aristotle argues the necessity of habituation in realizing any of the virtues including practical wisdom. Cairns states:

The person who has achieved full excellence, then, must have done so with the help of *aidōs*, and it is difficult to imagine that that person can have left *aidōs* entirely behind. Aristotle, moreover, knows very well that emotions have an important evaluative component, and the evaluative judgement that is constitutive of the emotion of *aidōs* has traditionally had as its content the belief that such-and-such is *aischron* [a bad act].

(Cairns, p.427) As Cairns argues, *aidōs* must be involved in reaching full, or even partial, excellence and the habituated person is not likely to forget *aidōs*, its focus on bad acts, and what it helped her/him to achieve.

Cairns continues:

Admittedly, the correct but unjustified judgement that such-and-such is *aischron* is exactly what Aristotle wishes to distinguish from the judgement of the *phronimos* by means of his distinction between 'the that' and 'the because'; but one who knows 'the because' does not abandon his previous appreciation of 'the that', and so the *phronimos* has no need entirely to leave behind his sense of *aidōs*.

(Cairns, p.427) Again, Cairns argues what seems to be reality. Consequently, it is reasonable to believe that the *phronimos* retains her/his sense of *aidōs* even if she/he does not use it.

In addition, Cairns recognizes that *aidōs* can be criticized as being entirely an external factor in the individual's decision-making. As such it would surely not be a candidate for a virtue.

Cairns, in answer, reviews Aristotle's words at the end of the *Nicomachean Ethics* where Aristotle states:

Now if arguments were in themselves enough to make men good, they would justly, as Theognis says, have won very great rewards, and such rewards should have been provided; but as things are, while they seem to have power to encourage and stimulate the generous-minded among our youth, and to make a character which is gently born, and a true lover of what is noble, ready to be possessed by virtue, they are not able to encourage the *many* to nobility and goodness.

(Emphasis in original; Ross, p.199 (1179b5-11)) Having stated the problems with making “the many” amenable to argument as a means of achieving *eudaimonia*, Aristotle continues with the reasons for those problems.

For these [the many] do not by nature obey the sense of shame [*aidōs*], but only fear, and do not abstain from bad acts because of their baseness but through fear of punishment; living by passion they pursue their own pleasures and the means to them, and avoid the opposite pains, and have not even a conception of what is noble and truly pleasant, since they have never tasted it.

(Emphasis added; Ross, p.199 (1179b5-15)) With these thoughts, Aristotle has distinguished *aidōs* from fear and punishment and as Cairns observes:

Here *aidōs* is associated with the possession of a character that truly loves *to kalon* [to act nobly], with avoiding the base because it is *aischron* [bad], and contrasted with fear of external sanctions. Those who possess *aidōs* here are contrasted with those who live by *pathos*, whereas in the previous passage at 1128^b those who possessed *aidōs* were those who lived by their emotions. Here, then, *aidōs* manages to raise its head somewhat above the level of other *pathē*.

(Cairns, p.424) As Cairns here notes, this passage raises *aidōs* “somewhat above the level of other passions” as a feeling through which the individual obeys the sense of *aidōs* not from fear of punishment or not from ignorance of what is noble and truly pleasant.

The penultimate sentence in the Quasi-virtue Text states: “continence too is not virtue, but a mixed sort of state” (Ross, p.79 (1128b34-35)) In commenting on this sentence, Cairns states “*aidōs* being a species of *enkrateia* [continence] ... the presence of the remark in itself suggests that there is some link in Aristotle’s mind between the two concepts.” (Cairns, p.419) Cairns continues and suggests that there is a self-control element in virtuous action generally and specifically in temperance and in continence and states:

This might have something to do with prospective *aidōs*, in that Aristotle might believe that inhibition of an action through prospective *aidōs* is a form of self-control in which the agent actually contemplates and is momentarily attracted by the wrong action, but, if this is Aristotle's opinion, it never permeates to the explicit level; nor is it necessary for the existence of an analogy between *aidōs* and

enkrateia [continence] that *aidōs* be a form of self-control, although it is plausible, and certainly traditional, that *aidōs* should, in certain circumstances, be felt to require such self-control.

(Cairns, p.419) While it may never permeate to “the explicit level” in Aristotle’s written work, it seems to be evident in the Quasi-virtue Text in terms of the “prevention” aspect of *aidōs* which has always been part of the Ross translation. Even if the “prevention” aspect is not included specifically in the definition of *aidōs*, “restraint” is and certainly is a reasonable result of the words that are included in the *aidōs* definition such a shame, modesty, self-respect, reverence, because all of those can have a preventive impact. Synonyms of the word “self-control” include “**continnence**, restraint, self-command, self-control, self-restraint and its definition is “control of oneself: restraint exercised over one’s own impulses, emotions, or desires.”¹⁴⁶

Cairns goes on to argue that *aidōs*, “even in its prospective form as an inhibitory emotion, takes the second place as a motive inferior to that of the truly virtuous, who perform the noble action because they see its intrinsic nobility, because they know it is good for them, and because they want to.” (Cairns, p.420) Here Cairns seems to suggest that the continent person and, for that matter, the incontinent person should be able to use the motive of the truly virtuous person, the recognition of intrinsic nobility, as the reason for and means of the struggle of those individuals in attempting to reach virtuosity. Certainly, the individual experiencing *aidōs* could have that recognition of intrinsic nobility but his/her motive for recognizing that intrinsic nobility seems to be *aidōs*. Without *aidōs*, the continent individual and the incontinent individual do not seem to be able to recognize that intrinsic nobility of the appropriate action rather than the bad action.

Therefore, the difference between the virtuous individual and the continent individual does not seem to be in the vision of the intrinsically noble act but seems to be in the willingness to

¹⁴⁶ Emphasis added; <http://unabridged.merriam-webster.com/unabridged/self-control>.

struggle against appetite when the individual can recognize the vision of the noble act but needs assistance for the struggle in addition to the vision. That assistance seems to be the *willingness to struggle* and that addition seems to be absolutely necessary to get the incontinent person to the continent level and the continent person to the virtuous level. While the vision of the noble act is certainly of primary importance, without the secondary motivation and assistance of *aidōs*, the vision of the noble act will not succeed or be evident in either the continent or incontinent individual respectively. The search for that willingness to struggle will continue in the review of the Aristotelian/Aquinian psychology that may be able to further promote that willingness.

Summarizing (1) Aristotle calls *aidōs* only “more like a passion than a state of character” or virtue, (2) he compares it to continence, a non-virtuous state but preferable to incontinence and vice, (3) he finds that modesty has a mean between an excess and a deficiency, and (4) *aidōs* should be afforded praise and, consequently, Cairns seems correct in suggesting that *aidōs* is a virtue candidate.

(d) *Aidōs* - relationship to praise and honour

As further evidence of its candidacy for virtue, *aidōs* has links to praise and, therefore, to honour. Aristotle suggests praise for *aidōs* when that feeling is found in young people and, in addition, suggests that it “may be said to be conditionally a good thing” because of its restraint. (Ross, p.79 (1128b10-36)) Also, while “*aidōs* is not a virtue,” “praise is extended to the modest man [*αἰδήμων*¹⁴⁷; an *aidōs* variant word]” again because of the restraint of *aidōs*. Because of that praise, the continent agent who uses *aidōs* is entitled to honour but only as a result of the use of *aidōs*. While honour is not a virtue, it is a “noble object” or objective of virtuous behavior. (Ross, p.52 (1116a27-28)) Aristotle also recognized honour as the “prize of virtue” especially for proper

¹⁴⁷ Liddell-Scott, p.36.

pride as the “crown of virtues” (Ross, p.68 (1123b35-1124a2)) Also, honour,¹⁴⁸ as an antonym of dishonour for which shame is a synonym, is the result of or "reward" for honourable behavior where *aidōs* assists in fostering that behavior. Honour is also subject to a mean and, therefore, also something with which *aidōs* can assist. Aristotle discusses honour in relation to ambition which he equates to "love of honour" but finds that people can "desire honour both more than they should and less". Therefore, there should be a mean which he finds to be "unnamed" and which he states is disputed between ambition and unambitiousness where both seem to be honoured under different circumstances. (Ross, p.72 (1125b1-25))¹⁴⁹

Aristotle also states that "honour," not only is the "prize of virtue," but is the "greatest of external goods". (Ross, p.68 (1123b20-21)) In addition, the proud individual is concerned “chiefly with honours and dishonours”. He also states that proper pride is not found without all of the other virtues. He then states “Therefore, **it is hard to be truly proud; for it is impossible without nobility and goodness of character.**” (Emphasis added; Ross, p.69 (1124a1-3)) “Goodness of character” is again necessary. In addition, that seems to suggest that perfect virtue is uncommon because he states that "there can be no honour that is worthy of perfect virtue" (Ross, p.69 (1124a7-12)) apparently because perfect virtue is its own reward. However, Aristotle states that the properly proud man will accept honour because there is nothing greater in the way of reward. (Ross, pp.68-69 (1123b16-1124a10)) He also calls honour "the end [or goal] of the political life" (Ross, p.6 (1095b24)) which is not the current end of the political life as viewed by much of the present electorate and elected in the United States but may still be found in some countries of Earth and in some few within the elected and electorate of the United States.

¹⁴⁸ Ross, p.16 (1100a20); p.32 (1107b23) (Perseus: τιμή - worship, esteem, honour)

¹⁴⁹ Could it be named “proper ambition” as in “proper pride?”

(e) *Aidōs* – how acquired

While *aidōs* as shame seems initially felt through education, after a personal bad action, or understood after the recognition of the shame or disgrace publicly imposed on another, *aidōs* thereafter can accompany an initial perception of a possible disgraceful act. In that regard, it can serve as a deterrent to, or change in, the action decision. In this way, it seems that the individual can be habituated through that type of education to incorporate *aidōs* in his/her deliberation process through which choice is determined. That education, consequently, can occur through personal experience or through parents, teachers or law in the same way that virtues are acquired.

Aristotle in ending his specific thoughts about *aidōs* compares it to continence which he states "too, is not a virtue, but a mixed sort of state". *Aidōs* as "a mixed sort of state" for Aristotle, is a state which incorporates something close to virtue. Aristotle also was not found to have used that description of "mixed state" for any other passion, capacity or state of character other than *aidōs* and continence. Continence (*enkrateia*) is, of course, along with virtue (*aretē*), one of Aristotle's desirable moral states and as argued in this dissertation a "disposition to act" and the one as defined by Aristotle into which hopefully the majority of human beings eventually will fall. Consequently, both Aristotle's *aidōs* and his continent and incontinent states of character are unique in regard to Aristotle's determination of that "mixed sort of state".

It is interesting that Aristotle discusses *aidōs* because he must have believed that it was needed by that portion of his generation that he found in the states of continence and incontinence probably because of the greed, avarice and other vices associated with his generation. It also seems that *aidōs* applies to the present generation for those same vices and specifically the present generation's unwillingness to accept responsibility for climate change and to accept the need for

the serious actions of mitigation and adaptation where this failure to accept seems once again caused by greed, avarice and other vices.

This all seems to be a further method of accepting that even the “ancient” concept of virtue ethics has a point of departure toward a more meaningful ethics of climate change. The view that Aristotle’s ethics reflect something that is “ancient” though seems strange. Recall the thought of John Stuart Mill about “the comparatively early state of human advancement in which we now live” which he wrote in the mid-nineteenth century, not two hundred years ago. (Mill, 1861, p.34) Also recall the fact that this planet Earth is over four billion years old and that Homo sapiens has only been using written language for about six thousand years. Therefore, it seems that our civilization must be characterized as infantile notwithstanding the technological advancements which have been made in those same two hundred years, maybe two thousand years, where that period of time is but a heartbeat in the life of this planet and, for that matter, this civilization. Greed, avarice and lust for power seem as prevalent as ever and where that greed, avarice and lust seem to use much of that technological advantage for the personal advantage of the very few. To Aristotle’s eternal credit, he was extremely insightful about not only human nature during his lifetime but generally to date.

B. *Aischunē* – Another Perspective

Melissa Marie Coakley in her dissertation entitled *Aeschynē in Aristotle's Conception of Human Nature*,¹⁵⁰ argues that *aeschynē*, another transliteration of *αἰσχύνη* as well as *aischunē*,¹⁵¹ can like *aidōs* precede a bad act, and, when coupled with *phronēsis* (*φρόνησις*) can discourage the

¹⁵⁰ Melissa Marie Coakley, *Aeschynē in Aristotle's Conception of Human Nature* (2014). USF Graduate Theses and Dissertations found at <http://scholarcommons.usf.edu/etd/4999> ; referenced herein as "Coakley, p__".

¹⁵¹ Coakley uses the transliteration, *aeschynē*, for the Greek word “*αἰσχύνη*”. Because Cairns uses the transliteration form of “*aischunē*” for that Greek word, this dissertation for consistency uses “*aischunē*”.

individual from engaging in the act. She argues that *aischunē* with *phronēsis* consequently should be accepted as a virtue. Coakley focuses on Aristotle's use of both Greek words, *aidōs* and *aischunē*. While accepting *aischunē* as a passion, Coakley argues that the translation of *aischunē*, solely as a passion, is inaccurate based on Aristotle's use of that word and that the manner of his use of that word allows and requires that *aischunē* with *phronēsis* should be recognized as a virtue. While she notes that the word, *aidōs*, can also be translated differently and more broadly, she accepts Aristotle's stated position of *aidōs* as a passion and focuses on *aischunē* with *phronēsis* as the virtue.¹⁵²

Coakley argues that both *aidōs* and *aischunē* have been translated improperly as simple shame when both have characteristics that significantly differentiate them and allow translation to concepts different than shame. She argues that *aischunē*, when associated with *phronēsis* should be recognized as a "civic virtue," a virtue upon which community depends. While most translations do translate *aischunē* as "shame or a sense of disgrace," she argues that *aischunē* is both a passion that, through the application of practical wisdom, is also a virtue. *Aischunē*, she argues consistently with others, operates individually over the past and in both the present and future, while *aidōs* operates prospectively.

It is that prospective operation that recommends *aidōs* as a virtue or as an idea approaching a virtue, as well as, the traditional use of *aidōs* defined in both negative and positive terms, for example, as shame, respect, self-respect, reverence, and awe. *Aeschynē* is on the other hand defined solely in negative terms such as shame, dishonour and disgrace which are not consistent with the

¹⁵² She argues that *aeschynē*, a Greek word generally incorrectly translated as "shame" and which appeared in the Greek language later than the word *aidōs*, should be recognized as a virtue when associated with *phronēsis* or practical wisdom. Specifically, she argues that "the function and responsibility of *aeschynē* in Aristotle's work is recognized in its full potential as a civic virtue; specifically, in conjunction with *metriopatheia*" which she defines as moderation of passions. (Coakley, pp.iii,104-105) That definition appears accurate because the Greek-English Lexicon defines it as "restraint over the passions." (Liddell-Scott, p.1122, "μετριο-λογέομαι ... πάθεια[πα], ή, restraint over the passions, ..."

concept of a virtue or of an idea approaching a virtue (see page 189 and fn135 on that page). In addition, aligning *aeschynē* with practical wisdom does not seem to specifically identify it as a virtue because Aristotle states that the virtue of practical wisdom is found in an individual with all of the moral virtues. (Ross, p.120 (1146a7-9)) However, Aristotle did not recommend that either *aidōs* or *aeschynē* be given the state of character of a virtue. Actually, as argued in this dissertation below, it does not seem to be necessarily important that *aidōs* be given that state to be effective in Aristotle's virtue ethical theory.

C. *Aidōs* - The Work of *Aidōs* and *Aischunē*

Cairns argues both that *aidōs* would be the proper choice for a virtue and that *aidōs* and *aischunē* work together. This dissertation argues with Cairns for all his reasons reviewed and because *aidōs* is always prospective and, therefore, less complex in regard to application, it would seem to be a better candidate for a virtue. In addition, *aidōs* has positive meanings such as reverence and modesty where Aristotle states that *aidōs* defined as modesty is a mean in the nature of a virtue and where the response associated with *aidōs* can result in praise as is characteristic of all virtues.

Cairns argues that *aidōs* and *aischunē*, while having differences in definition, work together. Cairns argues that, in order to act prospectively, *aidōs* must at least initially rely on past experience for its operation and, therefore, on *aischunē*. Consequently, Cairns argues that *aidōs* and *aischunē* work together though they do have at least one distinguishing characteristic. Cairns states:

In ordinary Greek *aidōs* and *aischunē* are synonyms, except when the latter refers to a disgraceful state of affairs rather than the individual's reaction [*aidōs*] to that [disgraceful] state, but *aidōs* is the older and more poetic term, and it draws its claim to be considered as a virtue from its use in highly poetic contexts where something of its importance originally accorded the concept is preserved.

(Cairns, p.415) When the immoral action is considered, *aidōs* recollects the thought of that disgraceful state when the possibility of a disgraceful action comes to mind.

When considering the possibility of *aidōs* as a possible virtue, Cairns recognizes that Aristotle would not place the full mantle of virtue on *aidōs* because of Aristotle's argument that *phronēsis* is a possibility for any rational human being. Therefore, the existence of any human as *phronimos* is possible and that person should have no need for either *aidōs* or *aischunē*. However, Cairns has reminded us that the *phronimos* "who knows 'the because' does not abandon his previous appreciation of 'the that', and so the *phronimos* has no need entirely to leave behind his sense of *aidōs*." (Cairns, p.427) "An appreciation of *to kalon* ["action 'for the sake of the noble'" (Cairns, p.421)] and *to aischron* [base action, what a good man would never do (Cairns, p.414-15)¹⁵³] in themselves and without reference to external sanctions suggests not a capacity that is totally distinct from *aidōs*, but a variety of *aidōs* which responds to *aischron* without reference to external standards." (Cairns, p.427-28)

Cairns argues that the process through which the individual "is brought to regard *to kalon* as pleasant and *to aischron* as unpleasant" will include *aidōs* as "indispensable, both as the force which makes one sensitive to the opinions of those, such as parents and teachers, who constitute the media through which one learns to subscribe to the standards of one's society, and as the basis for one's acquired sense of the intrinsically *aischron* or *kalon*." (Cairns, p.426-27) Because of this and while Cairns promotes the possibility of *aidōs* as a full-fledged virtue, he states that Aristotle "is right, I think, to resist the temptation to create a revisionary *aretē* out of *aidōs*, and clearly

¹⁵³ Cairns also includes the following as "*aischron*:"—pretending to know what one does not, and failure to pursue the truth (Cairns, p.371n82) See also, Liddell-Scott, p.43 (αἰσχρόν - "*causing shame, dishonouring, reproachful, ... ugly, ... in moral sense, shameful, base ...*."

prefers to treat the concept as a necessary condition and preliminary for complete *aretē*, a crucial element in the acquisition of an attraction to *to kalon* for its own sake.” (Cairns, p.429) Rather than lower the ideal concept of *phronēsis*, it seems actually more appropriate to recognize reality and to emphasize the responsive restraining nature of *aidōs* because of its primary importance to the states of continence and incontinence which are again both very important states in the journey from vicious to virtuous.

D. *Aidōs* - External/Internal Work

Concerning honour and the argument that *aidōs* is merely a mechanism to generate honour for one’s self, Cairns comments that there is "a strong suggestion that *aidōs* is concerned with external honour and reputation alone. Honour is not an ignoble motive for Aristotle (he even posits particular states of character which relate to one's attitude toward honour),^[154] but it is not the supreme motive for moral action." (Cairns, p.420-21) Cairns recognizes that the supreme motive is "a form of conscience based on internalized moral standards". (Cairns, p.430) Still, Cairns concludes that "*aidōs* is an indispensable ally in the process of moral development, something which can give one a genuine desire to do what is *kalon* [good] and avoid what is *aischron* [bad], not because of what others might say or do, but because it encompasses a distaste for the *aischron* [bad] as such." (Cairns, p.425)

Further, Cairns recognizes that *aidōs*, as described particularly in the *Magna Moralia*, is not a limited concept because it is “concerned with the *aischron* and *kalon* across the range of words and deeds.” (Cairns, p.429):

Modesty [*aidōs*] is a mean between shamelessness and bashfulness, and it has to do with deeds and words. For the shameless man is he who says and does anything on any occasion or before any people; but the bashful man is the opposite of this, who

¹⁵⁴ Ross, p.68-69 (1123b35); *Rhetoric*, Roberts, p.38 (1360b24-28).

is afraid to say or do anything before anybody (for such a man is incapacitated for action, who is bashful about everything); but modesty [*aidōs*] and the modest man are a mean between these. For he will not say or do anything under any circumstances, like the shameless man, nor, like the bashful man, be afraid on every occasion and under all circumstances, but will say and do what he ought, where he ought, and when he ought.

(Barnes, p.1887 (1193a1-11))¹⁵⁵ This idea of the modest person is, of course, also found within the *Nicomachean Ethics* and this quote is very similar to the idea found in Book II Chapter 9. The person with *aidōs* will "say and do what he ought, where he ought, and when he ought." That seems to cover just about everything that a person says or does under any set of circumstances. Consequently, the breadth of *aidōs* is as Cairns suggests "across the range of words and deeds".

(Cairns, p.429) For those reasons, Cairns states that:

A full account of the place of *aidōs* in Aristotle's theory of virtue, therefore, must take account of its contribution to excellence of character as a whole, recognizing its importance as a source of the affective and evaluative dispositions which can be developed into that complete form of excellence of character which is informed by *phronēsis*. Seen in this light, *aidōs* emerges as indispensable in the inductive process which develops in tandem the desiderative and the rational aspects of complete *aretē* [virtue], and if Aristotle fails to make the part of *aidōs* in all this as clear as he might have, this is to be taken as a mere lacuna, rather than a substantive defect in his account.

(Emphasis added; Cairns, p.429-30) However, it may not have been "mere lacuna" on the part of Aristotle, but his possible recognition in the Quasi-virtue Text of the work that *aidōs* must do within the states of incontinence and continence and his desire not to alienate the wealthy in Greek society. It is also this "contribution to excellence of character" through its inhibitory properties that makes renewal of the use of *aidōs* necessary in mitigating and adapting to climate change.

Cairns concludes in part that:

Aristotle may leave us to reconstruct his essential position on the true contribution of *aidōs* to excellence of character, but what emerges from such a reconstruction is a mature and suggestive appreciation that *aidōs*, even if conceived as a mere preliminary to complete *aretē*, cannot simply be regarded as a fear of the unpleasant

¹⁵⁵ The Greek from Loeb Classical Library, Aristotle, *Magna Moralia*, 287: 529-531.

consequences of ill-repute and is thus not incompatible with the form of conscience based on internalized moral standards; *aidōs* can encompass rejection of the *aischron* as such, and **it is therefore clear that Aristotle regards it as quite uncontroversial that at least those of his fellow countrymen whose natural aptitudes had received the proper habituation should be concerned for the intrinsic character of their actions rather than simply for their consequences.**

(Emphasis added; Cairns, p.430) It is this “true contribution of *aidōs* to excellence of character” and the recognition that the concern then and the concern today needs to be “the character of our actions” rather than simply the consequences of those actions which for the individual today are more tons of CO₂ and other greenhouse gases into our troposphere that will impact future generations to a much greater extent than that individual.

Again, as James Garvey notes: “No snowflake in an avalanche ever feels responsible.”¹⁵⁶ That tonnage of CO₂ (and other greenhouse gases) for each of the more than three hundred fifty million individuals in the United States and the rest of the seven billion plus people now on Earth is having consequences that are extremely important for our children, grandchildren and for the future generations of all life on Earth. Cairns continues:

To attain the goal of complete excellence may be a rare or impossible achievement, but it is an ideal which Aristotle is able to construct on the basis of the categories of evaluation which he found in ordinary moral discourse, and it is an ideal in whose construction he is remarkably successful in combining a system based on a natural teleology of man with an account which saves most of the phenomena of common belief.

(Cairns, p.431) This seems like an appropriate evaluation of Aristotle’s virtue ideal and yet through concepts like continence and incontinence, he included “ordinary moral discourse”. It certainly has been successful in terms of an enduring ideal but not an embraced ideal.

Aidōs can be both an external motivator and also an internal motivator and through those functions can be a very important part of the individual character.

¹⁵⁶ (Garvey, p.57)

We should thus see in his overall approach to *aidōs*, and to what may be made of *aidōs* in **the good man**, a recognition of the central thesis of this work, that *aidōs* is not solely dependent on the judgements of others, that it can spring from a form of conscience based on internalized moral standards, **and that it can express a concern for the intrinsic character of one's actions.**

(Emphasis added; Cairns, p.431) When understanding *aidōs* as Cairns explains it, one of the most important aspects of *aidōs* is that it is both a standard that is externally imposed and can be or become an extremely important internal moral standard. That again is what is needed to adequately address climate change and its mitigation and adaptation.

In his Epilogue (as in his entire book), Cairns links *aidōs* and the Greek word “*time*” which translates to honour, prestige, and worth. He states

The link between *aidōs* and *timē* is, of course, fundamental, but the crucial point is that *aidōs* includes concern both for one's own *timē* and for that of others. As a result, part of the function of *aidōs* is to recognize the point at which self-assertion encroaches illegitimately upon the *timē* of others, and this means that *aidōs*, while always responding to a situation in which *timē* is relevant, is concerned not only with one's own prestige, but also with the concepts of moderation and appropriateness in the pursuit of prestige.

(Cairns, p.432) Cairns recognizes the community nature of *aidōs* and *timē* and the fact that self-assertion can “encroach illegitimately” upon the *timē* of others. While *timē* – honour – is as Aristotle states a valid reward for a virtuous life, he also understands and has expressed the problems of desiring honour both more and less than is appropriate (Ross, p.72 (1125b1-25)) especially considering the impact that both that excess and deficiency have on community which is a primary concern of Aristotle.

Cairns elaborates on honour as both resulting from “one’s outward reputation” and also one’s “individual determination actually to possess an excellence”:

Behind the idea of one's own *timē*, moreover, lies a subjective claim to honour and an internalized self-image that is not wholly dependent on the opinions of others; to be concerned for one's self-image in Greek is to be concerned for one's *timē*, but **at no stage does this necessarily imply concern for one's outward reputation**

to the exclusion of one's image in one's own eyes. The code of honour to which *aidōs* relates demands individual determination actually to possess an excellence, not merely that one should seem to others to possess it.

(Emphasis added; Cairns, p.432) Here Cairns recognizes Aristotle's plan to use community and the hope for its ability to recognize and reward virtuous character and through that use and ability to instill in the individual the determination to possess the excellences of the virtues and to reject the vices. Also, Cairns recognizes the importance in that regard of the unfinished business involved in promoting and developing that determination.

He then addresses the two-millennial distance between Aristotle's words and today's individuals and institutions who view "ancient" as irrelevant. He comments that the Greek distinctions of *aidōs* such as blushing and lowering of the eyes, are not necessarily what we would associate with *aidōs* today.

[T]his sense of distinctness should not be allowed to dispel a corresponding sense of familiarity, first of all because, to a large extent, the concept of *aidōs* covers aspects of the emotional life of human beings which can be readily recast in our own (more differentiated and less inclusive) terms, and secondly because the conceptual uniqueness of *aidōs* and of the categories of value with which it belongs **does not preclude such familiar features of our moral and emotional life as conscience, the possession of internalized standards, or concern for the character of our actions as such.**

(Emphasis added; Cairns, p.433) Cairns then argues that there is no easy ability to attempt to differentiate the present "us" from the "them" of the Greeks of the fourth century B.C.E. The *aidōs* of "them" is still the operative *aidōs* of today.

Concerning the standards of the honourable, the fine, or the appropriate as discussed [in this book], one major argument of this work is that there is no case for sharp distinctions between self- and other-regarding motives, competitive and co-operative values, non-moral and moral responses.

(Cairns, p.433-34) Cairns then argues that, while these categories concern our present moral thinking and are not the categories of the Greeks, the Greek categories in which *aidōs* belongs can

cover both sides of these modern disjunctions with no implication that either is to be reduced to the terms of the other.

Consequently, I argue with Cairns the importance of *aidōs* today. *Aidōs* is crucially meaningful and understandable as a motivator necessary for addressing climate change in this twenty-first century. *Aidōs* can possibly be accepted as a virtue but its work seems to be needed more importantly as assistance in the determination of the individual human to possess the virtues.

Because of the result of our present vicious appetitive actions, for example, of our addiction to fossil fuel energy here on Earth, all future life-forms, human and non-human, will suffer because of the character of the present individuals in these United States that causes us to deny the importance of climate change through our willingness to disregard science and the importance of present mitigation of, and adaptation to, climate change. As a result, the majority of present individuals particularly in the United States may well find themselves the subject of books entitled "The Dishonourable Generation" or "The Shameful Generation" or "The Disgraced Generation" or "The Condemned Generation" specifically because of climate change. Honour and shame have, of course, been important concepts throughout the millennia because humanity has depended on community for its existence for probably at least the last few millions of years. That community is dependent upon cooperation and technology that improve the community and that does not destroy the community where that destruction seems to be the direction that present actions are taking Earth and its inhabitants today.

Finally, the ultimate concept of *aidōs* is arguably reverence. The final chapter of this dissertation considers the methods for recognition of and feeling awe for the regeneration of *aidōs*, reverence and proper primality in the individual human character. The next Chapter argues that the

Aristotelian/Aquinian psychology is an important mechanism for using *aidōs*, recognizing incontinence, and achieving continence and virtuosity.

Chapter 9 - Aquinas on Aristotelian Psychology and on Law and Community

[W]hen human beings will some particular good, their will is not right unless they refer that good to the common good as an end; after all, even the natural appetite of each part of a thing is directed toward the common good of the whole.

—Thomas Aquinas (Aquinas, circa 1268, 487-488)

A. Aquinas Generally

Knowing the value of *aidōs*, continence, incontinence, proper pride, proper humility, honour and shame is, of course, crucial. The thoughts of Thomas Aquinas (1225-1274) assist in explaining the Aristotelian importance of those concepts. Those thoughts are primarily found in Aquinas's extensive *Commentary on Aristotle's Nicomachean Ethics*¹⁵⁷ (herein referenced as the "Commentary") and are reviewed briefly below. Knowing how to use these concepts in everyday life is equally crucial where the thoughts and psychology of Aquinas (following Aristotle) in two of his written works construct a personal method for that use: his *Treatise on Happiness* (herein referenced as "Happiness") and his *Treatise on Human Acts* (herein referenced as "Human Acts").¹⁵⁸ Additionally, Aquinas had some important thoughts about governing laws and the common welfare that are also included in this dissertation.

¹⁵⁷ Thomas Aquinas, *Commentary on Aristotle's Nicomachean Ethics*, rev. ed and trans. C.I. Litzinger, O.P. (Notre Dame, IN: Dumb Ox Books, 1993) herein referenced as "Commentary, p. ___".

¹⁵⁸ The Thomas Williams' translations of Aquinas's *Treatises on Happiness and Human Acts* are primarily used in this dissertation. Those translations are found in Thomas Aquinas, *The Hackett Aquinas: Basic Works*, ed. Jeffery Hause and Robert Pasnau (Indianapolis: Hackett Publishing Company, Inc., 2014), pp.316-502. Where another translation is used, it is fully cited. All citations to the Williams' translation are included in text as follows: "Williams, p.110, Q20a1" where the "p.____" refers to the page number of the above publication, the "Q20a1" refers to the *Summa Theologicae, Prima secundae*, Question 20, Article 1. Without more, this refers to the "On the Contrary" and/or the "Reply". If the citation is to a Response, the citation is stated as follows: "Williams, p.110, Q20a1r1" where the "r1" refers to "Response to 1".

Aquinas was, of course, Christian but also amazingly Aristotelian. Aquinas completed commentaries or what he called "*sententiae*" on other of Aristotle's works including *On the Soul*, *Physics* and *Metaphysics*. As was true of most 13th-century writers, Aquinas apparently did not know Greek but used Latin translations of these Aristotelian works where those translations were not complete and, while some had been translated from the Greek, others had been translated from Arabic translations of the Greek. Nonetheless, Aquinas's mastery of Aristotle's work is evident from the comparison of the *Commentary* and the most recent Aristotelian translations directly from the Greek. The *Commentary* is about 650 pages in length and, upon review, is extremely accurate based on those recent translations.

B. Aquinas's *Commentary* on the *Nicomachean Ethics*

While the *Commentary* covers the entire *Nicomachean Ethics*, for the purposes of this dissertation, the *Commentary* specifically helps in understanding Aristotle's thoughts about proper pride and humility (Ross, p.67-72 (1123a33-1125b25)), about *aidōs* and *aischune* (found primarily at Ross, p.79 (1128b10-36)), and about continence and incontinence (found primarily at Ross, p.118-141 (1145a15-1154b35)). First, in considering Aquinas's *Commentary*, it is necessary to mention some of the differences between Aristotle and Aquinas. For example, Aquinas is accused of attempting to "baptize Aristotle". Aquinas uses "sin" in many places where Aristotle uses "bad" but both Aristotle and Aquinas use "evil" on occasion. (Ross, p.73 (1126a10-12); *Commentary*, p.255) The word "humility" is not found in the Aquinas translation and, where Ross uses "unduly humble," Aquinas uses "pusillanimous". Interestingly, the present dictionary definition of "pusillanimous" (which includes "mean-spirited") is more demeaning than the dictionary

definition of "humble" which includes "not proud or haughty".¹⁵⁹ Aquinas, because of his religion, can be expected to accentuate the more demeaning definition.

Unlike Ross who translated the Greek word, *μεγαλοψυχία* (or *magnanimitas*), as "proper pride", Aquinas uses the word "magnanimity". Aquinas uses the word "pride" only twice in the *Commentary* at paragraphs 2129 and 2130 on page 636 and as a thing that can stand against a person's happiness. This again can be expected in the thirteenth century when the word "pride" was and is still today thought of Biblically as a detrimental characteristic. This, of course, is one more reason that Ross's translation of "proper pride" is a reasonable translation. Actually, the Perseus-Tufts website which acknowledges the translation "greatness of soul" also states "*μεγαλοψυχία*, *magnanimitas* means lofty pride and self-esteem rather than magnanimity or high-mindedness (in the modern sense of the word)."¹⁶⁰ This Perseus-Tufts translation harmonizes with Ross's translation of "proper pride".

Ross translates the excess and deficiency of proper pride as "empty vanity" and "undue humility" (Ross, p.32 (1107b22)) and the entire sentence as: "With regard to honour and dishonour the mean is proper pride, the excess is known as a sort of 'empty vanity', and the deficiency is undue humility" Aquinas on the other hand uses the following translation of that sentence: "The mean in regard to honor and dishonor is magnanimity. But the excess is chapnotes (i.e., presumption); and the defect, smallness of soul." (*Commentary*, p.115) While no definition of "chapnotes" could be found, the parenthetical of "presumption" helps as its definition includes "the

¹⁵⁹ The Merriam Webster Unabridged Dictionary defines "pusillanimous" as "lacking or showing a lack of courage and manly strength and resolution: marked by mean-spirited and contemptible timidity." (<http://unabridged.merriam-webster.com/unabridged/pusillanimous>) "Humble" is defined as "having a low opinion of one's own importance or merits: modest or meek in spirit, manner, or appearance: not proud or haughty" (<http://unabridged.merriam-webster.com/unabridged/humble>).

¹⁶⁰<http://www.perseus.tufts.edu/hopper/text?doc=Perseus%3Atext%3A1999.01.0054%3Abekker+page%3D1123a%3Abekker+line%3D20>

overstepping of limits of propriety, courtesy, or morality"¹⁶¹ which seems similar to "empty vanity". Also, "smallness of soul" seems similar to "undue humility". Therefore, the Ross translation and Aquinas's translation are consistent despite the difference of about seven-hundred years between them.

Also, Ross translates the Greek word, ἔξει, as "state of character" that differentiates "virtue" from Aristotle's "passions" and "capacities" as the "three kinds of things found in the [human] soul". (Ross, p.28 (1105b19-22)) Aquinas translates ἔξει simply as "habit" apparently because of its Latin root. While a habit is a state of character and while both can be either good or bad, state of character is more descriptive. Also, "state of character" seems a more accurate translation because passions seem amenable to habit as well. (Ross, p.34 (1108a31-36)) State of character is also more appropriate for this dissertation because of its focus on character.¹⁶²

At page 274 of the *Commentary*, Aquinas addresses Aristotle's comments on "shame". (Ross, p.79 (1128b10-35)) Here Aquinas does use "shame" for the translation of *aidōs* and seems to use "disgrace" or "shamelessness" for the translation of *aischunē* and its variants. Regarding, *aidōs*, Aquinas accepts Aristotle's position that it is a passion (though without Aristotle's equivocation) and also that it is not a virtue even though Aquinas admits its laudability in a continent person.¹⁶³ In addition, Aquinas uses "evil actions" where Ross uses "bad actions." In the

¹⁶¹ <http://unabridged.merriam-webster.com/unabridged/presumption>

¹⁶² As one can easily imagine, because of Aquinas's religion, he does use some different terms to describe Aristotle's thought especially of badness. For example, Aquinas may use wicked, evil or sin where Aristotle uses bad. In addition, where Aristotle uses the word "god" Aquinas would be expected to capitalize that word, for example, at 1096a24-26. (Ross, p.8; *Commentary*, p.24). Also, where Aristotle uses the word "gods", Aquinas may use that same word without capitalization, for example, at 1137a28. (Ross, p.98; *Commentary*, p.339). Both philosophers write of things spiritual but differently based on the belief in numerous gods in B.C.E. where for Aquinas spirituality and divinity reside in a single God. Nevertheless, based on those examples, the *Commentary* is still very useful in understanding Aristotle's *Nicomachean Ethics*.

¹⁶³ It is interesting that at 1108a30 (Ross, p.34; *Commentary*, p.115), Aquinas translates *aidōs* as "modesty" unlike its translation of "shame" at 1128b10 (*Commentary*, p.274). In both cases, Ross's translation uses "shame". (Ross, p.34; p.79) Both agree with Aristotle's unequivocal statement at 1108a30 that *aidōs* is not a virtue but a passion that has an excess and a defect and that is praised because of its intermediate nature. Modesty, of course, is an accepted translation of *aidōs*. In that same paragraph, both translate *ἀναισχυντος* as "shameless" and *αἰδήμων* as "modest" but they differ

last sentence of that text, Aquinas's translation states "continence is not a virtue but has a mixture of virtue" while Ross translates "Continence too is not virtue, but a mixed sort of state." While "a mixture of virtue" is not precisely "a mixed sort of state", it is helpful because it includes the word "virtue". Aquinas's *Commentary* thoughts about that sentence are:

Then ... , at "**Likewise, continence,**" he introduces something similar concerning continence which, although laudable is not a virtue but has an admixture of virtue. Certainly, the continent man follows right reason, and this pertains to virtue. Nonetheless, he suffers vehement and evil desires, and this pertains to lack of virtue. It is enough that he brings out in a fitting manner shame's resemblance to continence because shame is especially necessary where evil passions abound, as they do in continent people.

(Emphasis in original; *Commentary*, pp. 276-77) Those last three sentences in the above quotation summarize Aquinas's position on continence. Shame remains laudable because it requires that the continent person ultimately use right reason. However, Aquinas's phrases of "suffers vehement and evil desires" and "evil passions" describe different and more violent feelings than would the Greek word *aischunē* or its variants. Also, it seems that Aquinas's translation is much narrower than *aischunē* or its variants when translated as disgrace or bad and as such would limit the reach of continence to a degree not intended by Aristotle. Possibly, Aquinas was concerned that too permissive a translation might incur the greater wrath of the religious leaders in the thirteenth century.¹⁶⁴

In considering the importance of Aquinas, one must always keep in mind that in addition to being Christian, he was also Aristotelian which, when considering the ideology included in

at 1108a34 in the translation of *αἰδοῦμενος* [to be ashamed] with Ross translating to "ashamed of everything" and Aquinas translating to "bashful". Both translations seem consistent at 1179b11 (Ross, p.199; *Commentary*, p.638) where they both translate *aidōs* as "shame". All of the above translations of the Greek are from Perseus and all seem consistent with Liddell-Scott.

¹⁶⁴ Keep in mind that some of Aquinas's writings were condemned by some religious leaders shortly after his death apparently because of the tension between the Franciscans and the Dominicans.

Christianity at that time, seems to represent considerable courage on the part of Aquinas. It does seem significant that he wrote in the thirteenth century C.E., a difference of about fifteen hundred years after Aristotle wrote. This fact emphasizes the importance of Aristotle's thoughts over those fifteen hundred years and suggests that those thoughts can be as relevant and important today as they were in the fourth century B.C.E and in the thirteenth century C.E.

Today, the three-month period between the financial reports of public corporations may seem lengthy. As a society, a century seems like an eternity today but when one recognizes that Earth has been here for four billion plus years and that Homo sapiens has only been using written expression for about six thousand years, our society is in its infancy. Neither Aristotle's ethical thoughts nor Aquinas's ethical thoughts should or can be considered irrelevant.

C. Aquinas's *Treatises on Happiness and Human Action*

Possibly most importantly, Aquinas's *Treatises on Happiness and Human Action* are extremely helpful in organizing and crystallizing Aristotle's psychology and, through those efforts, those *Treatises* provide an instructive process for acquiring and applying the virtues and thus for realizing flourishing. Aquinas wrote these *Treatises* as the first questions of the *Prima Secundae* of his *Summa Theologiae* sometime between about 1260 and 1273. While that time period may again seem to suggest irrelevancy concerning the twenty-first century, the topics addressed by Aquinas (and Aristotle) are relevant today particularly concerning the fundamental values and virtues of humans and the processes that we can use to acquire and implement those values and virtues. With both Aristotle and modern philosophers as well as many recent philosophers, Aquinas holds that all humans act toward much the same end, goal or good. That end or goal (in this chapter "end" is collectively used) is human happiness and flourishing which is addressed in

the *Treatise on Happiness* where he also endorses free choice (Williams, p.319, Q1a2) though his concept of free choice is still the subject of much attention.¹⁶⁵

(1) *Treatise on Happiness*

In this treatise,¹⁶⁶ Aquinas considers those things of which happiness seems to consist which are wealth, honours, fame or glory, power, bodily health, pleasure, the soul (which consists of such things as power, habit, or act), and what he calls "created good" where this seems to be either a natural physical object or an artifact. He specifically finds that happiness cannot consist of any one or any combination of these things. (Williams, pp.327-39, Q2a1-8) Aristotle, of course, finds happiness or flourishing to be the ultimate lifetime end of all humans where Aquinas also finds the ultimate end to be happiness but he defines it as eternal life with God (Williams, p.341, Q3a2r1) and argues that this ultimate end cannot be experienced during human life. (Williams, p.338-39, Q2a8) However, Aquinas does advocate imperfect happiness which can be experienced during human life. Also, Aquinas does seem to agree with Aristotle's ultimate activity of contemplation.

Contra Aristotle, Aquinas takes the position that companionship of friends is not required for perfect happiness but is required for imperfect happiness where he references Aristotle's unequivocal statement that "the happy person needs friends ... for the sake of good activity." (Williams, p.363, Q4a8; see Ross, p.176 (1169b22)) He asks whether deeds are necessary for happiness and answers, with Aristotle, "one comes to happiness through action" (Williams, p.373, Q5a7; see Ross, p.15 (1099b25-27)) that seems at odds with some interpretations of Christianity which require only grace and personal acceptance of that grace. He addresses grace in an

¹⁶⁵ For an in-depth discussion of this topic, see Thomas Williams, "Human Freedom and Agency," in *The Oxford Handbook of Aquinas*, ed. Brian Davies and Eleonore Stump (Oxford: Oxford University Press, 2012), pp. 199-208.

¹⁶⁶ The *Treatise on Happiness* is herein referenced as "*Happiness*".

interesting way. (*Commentary*, p.420, Q12a2) While he acknowledges that grace "is not given on account of prior works," he states that "grace, after all, is not a term of motion, as happiness is; rather, [grace] is a starting point of the motion by which one tends toward happiness." (Williams, p.374, Q5a7r3)

Aquinas argues that both the intellect as the seat of reason and the will as the seat of action are involved in his process of the development of proximate or intermediate ends but not in the development of the ultimate end. (Hereinafter "proximate/intermediate ends" will be referenced simply as "ends" while "ultimate ends" will always be so named.) For both Aquinas and Aristotle, the ultimate end for all humans is not developed by the individual but for all humans is simply happiness or flourishing. For example, Aquinas states: "there is only one ultimate end." (Williams, p.420, Q12a2; Ross, p.10 (1097b1-7); p.14 (1099a26-31)) In the process of achieving ends, Aquinas holds that the concept of any good end and also any "apparently good end" (which is actually bad) (Williams, p.407, Q9a6r3), first occurs in an act of the intellect and not of the will which upon reflection seems to be the way things work. "Apparently good (but bad) ends" are always named in that manner in this dissertation.

He further states that external goods are not required for perfect happiness which of course is not available during one's life but are required for "imperfect happiness" which again can be experienced during an individual's life. He states that external goods do not "belong to the essence of happiness; rather, they are instruments that are of service to happiness, which consists in the activity of virtue" where he does reference Aristotle for the thought that "happiness is an activity of the soul in accordance with perfect virtue". (Ross, p.19 (1102a5); see Williams, p.362, Q4a2)

Aquinas also addresses things that he finds required for happiness which are delight, comprehension, rectitude of will (morally correct behavior or thinking) and something like the resurrection of the body. (Williams, p.352, Q4) Aquinas concludes that everyone "wants to be

happy" but that "not everyone grasps happiness, because not everyone knows the particular thing to which the abstract notion of happiness applies" and in this case "not everyone wants happiness".

(Williams, p.375, Q5a8) In this regard, he states:

[I]f one understands that [definition of happiness] in terms of the things that human beings will according to the apprehension of reason, **then having everything one wants is not characteristic of happiness, but rather of misery**, since having such things can stand in the way of having everything one wills naturally, in much the same way that reason sometimes takes certain things to be true that in fact stand in the way of knowing the truth. It is because he understands the definition in this way that Augustine adds "and wants nothing bad" to complete the definition, although the first part—"they are happy who have everything they will"—would be sufficient if interpreted correctly.

(Emphasis added; Williams, p.375, Q5a8r3) The concept of this "understanding" that focuses on "wants" rather than what one would "will naturally" has not changed since the thirteenth century.

In the twenty-first century, we have a name for this "want" problem - consumerism - which also stands in the way of having natural and virtuous happiness and arises because the individual has dispensed with her/his own reason and focuses on what someone else for profit suggests is the source of happiness. This explains why an automobile seems not to be a means of moving from one location to another but a means of displaying a hoped-for exhibition of material wealth. This is an example of how Aquinas's thoughts in the thirteenth century apply directly to one of the major problems of the twenty-first century. Mere material wealth displayed through costly "stuff" but lacking any connection to valid intentionality is looked upon as a source of happiness when in reality it becomes a burden to happiness/flourishing because of its requirements of care, for example, cost of insurance, maintenance, our time. etc.

The use of the concept of happiness or flourishing, as it has been for Aristotle, Aquinas, Kant, Bentham, Mill and many others, will continue to be of primary importance to the future of humankind and Earth and can be of extreme importance in displacing the present perceived primary importance of material wealth, consumerism, economic growth, pleasure and other things

which “promise” but (if we are honest with ourselves and others) fail to produce those results. Further, those items when subjected to Aquinas’s psychological process confirm the opposite results. Therefore, Aquinas's *Treatise on Happiness* with its emphasis on the need for some ultimate moral end which is reasonable for both the individual and her/his community present and future, is extremely valuable in this twenty-first century.

Some ultimate end is necessary for all humans as it is for both Aristotle and Aquinas—perhaps preservation of Earth to the extent possible for the promotion of all life on Earth present and future through proper primality or another new or revised virtue. As Aquinas capably argues, it will not consist in any of those items listed above on page 226. In addition, it is consistent with proper primality, the combination of proper humility and proper pride as defined in Chapter 11. Aquinas's position on happiness is as good today (maybe better) than it was in the thirteenth century. Therefore, it should continue to be taught, embraced and implemented. In *Human Acts*, Aquinas details his psychology for acquiring happiness.

(2) *Treatise on Human Acts*

(a) Generally - Aristotle’s psychology organized by Aquinas

Aquinas's *Human Acts* immediately follows *Happiness* because it is through his concept of the “human act” that the individual finds that happiness or flourishing. This treatise addresses and details the acts necessary for the origination of an end, for the required intermediate events of thought about and action for that end, and for the means— the object—of achieving that act’s end. Further, that process can guarantee that the identified end is moral and, therefore, represents the good for not only the individual but also for her/his community on which each individual depends now more than ever in the past. Therefore, careful attention to this process seems capable of providing the basis for achieving the good and for avoiding apparent but false goods and for

promoting a new or revised virtue, always keeping in mind that Aristotle and Aquinas following him, agree that habituation is necessary for all Human Acts if they are good. Human Acts include the measures for the formation of virtues where the virtues are the measures for achieving happiness and flourishing. (Williams, pp.428, Q13a3r2)

Aquinas's process is argued as capable of achieving the climate change goals of mitigation and adaptation. Its value is evident though the following summary. Initially, it is necessary to understand Aquinas's differentiation between "human acts" and "acts of human beings". Aquinas defines "human acts" as those willed, voluntary acts that result from rational, moral deliberation. (Williams, p.376, Q6) In this dissertation, the terms "human act" and "human acts" use initial capitals to ensure that those terms are recognized specifically as those of Aquinas. Also, as Aquinas states, Human Acts are always for the sake of an end where that end can be a good end or an end perceived as good—an apparently good end which for Aquinas is a bad end. All other acts that are not so willed, Aquinas calls "acts of human beings" which are somewhat difficult to find because Aquinas states that even an "idle word" can have good or bad effects. (Williams, pp.471, Q18a9)

(b) Aquinas's Interior Acts and Exterior Acts generally

In *Human Acts*, Aquinas names twelve possible individual events or acts that identify his process from inception to completion of the Human Act. Those twelve acts are explained in detail in Section (1)(d) below but are first explained generally concerning their interaction. Aquinas's process codifies Aristotle and identifies the separate events or acts through which an individual makes a decision for acting. Therefore, it applies to practically every voluntary movement of the individual's body.¹⁶⁷ I argue that using Aquinas's process, when consciously adopted, greatly assists in the everyday individual decisions necessary to meaningfully move toward mitigation of,

¹⁶⁷ An example of a movement or action that would not qualify as voluntary, would be the motion of the human heart pumping blood or an action where the individual was not in control of her/his own movements.

and adaptation to, climate change. I argue that this assistance is provided by recognizing that these possible twelve events are discrete opportunities for using (1) Aristotle's states of continence and incontinence, (2) Broadie's Contingent Conclusion, and (3) the motivation of the *Aidōs* Response.

Aquinas's Human Act involves both the individual's power of the intellect and the individual's power of the will where both are rational powers. (Williams, p.409, Q10a2) The intellect makes use of the individual's cognitive powers those being knowledge, imagination, wisdom and reasoning to instruct the individual's will and, therefore, the individual's action through the development of both the act's end and the object necessary to achieve that end. The will makes use of its ability to initiate action in itself and also to initiate action through the separate powers of the motive parts of the individual, i.e., the individual's muscles, and other motive components of the human body.

For Aquinas, the will's power is restricted to accepting or rejecting intellect's instructions because the will itself has no power to change the details of either the end or the object as presented by the intellect. Aquinas states:

Now there are two ways in which a power of the soul can be in potentiality to diverse things: [first] *with respect to acting and not acting*, and [second] with respect to doing this or that. ... The exercise of the act depends on the subject, which sometimes acts and sometimes does not act [by the power of the will]; but the determination of the act depends on the object by which the act is specified [by the power of the intellect].

(Emphasis added; Williams, p.399-400, Q9a1) Intellect's reason determines the "doing this or that" while the will acts or doesn't act. The intellect controls the generation of the details of the doing of the act but the will determines whether the act will occur or not. Aquinas confirms this in Question 10 and adds an additional characterization: "particular goods ... can be regarded as not-good insofar as they are lacking some good; thus, depending on how one looks at them, *the will can either reject them or approve them*" (Emphasis added; Williams, p.410, Q10a2; see also,

p.397-98, Q9a1; p.381, Q6a3) Based on the above references, the will can only act or not act, and, through this response to the intellect, either reject or approve goods or apparent goods as presented by the intellect.

Of the twelve possible acts, he assigns six to the reason of the individual's intellect and the other six to the individual's will. The intellect and the will interact in the following manner: the intellect initiates the idea of the action including its end and object and provides those ideas as instructions to the will. The involved end can be a good end or an apparently good (but bad) end. The will does not have the power to revise the details of the intellect's instruction but does have the power to accept or reject that instruction. If it rejects, the process can begin again. If it accepts, then the intellect once again takes charge and moves on to its next act in the process. Each of those possible twelve acts is subject to the Aristotelian process of habituation where hopefully those habits that the individual literally creates will be virtuous and not vicious. The twelve acts and their associated citations are provided and explained in detail at C.(2)(d) below and in Appendix B.

He places the initial eight acts of the intellect and the will where the will exercises its own internal power in his Order of Intention. These acts are totally within the control of the agent because they are internal to the agent and depend solely on the agent's power of will. When the act uses the individual's muscles and other bodily physical components, Aquinas places these four acts in his Order of Execution. While the will has the power to direct those other powers, Aquinas now recognizes that in the Order of Execution the action is underway and, while the action may possibly be aborted by the individual, the details of the implementation of the act cannot now be changed by either the intellect or the will but can be somewhat influenced by the agent as explained below in his Question 20 and certainly by forces outside the agent (such as climate). Those exterior

forces and obstacles, of course, may frustrate those exterior acts and the actualization of the intended end. (Williams, p.484, Q19a8)

In addition, Aquinas names the eight specific acts of the intellect and the will where those acts of the will originate through the will's own power, "interior acts" that make up his Order of Intention. Aquinas names the four remaining possible acts "exterior acts," which occur in his Order of Execution. While those four acts occur in that Order of Execution, they are planned in the Order of Intention.

(c) Aquinas's Object, End and Circumstances and their goodness and badness

David Gallagher summarizes and explains Aquinas's moral Human Acts in his essay "Aquinas on Moral Action: Interior and Exterior Acts".¹⁶⁸ Gallagher's essay covers most of the above as the requirements of Aquinas's Human Act and, therefore, is recommended as a good read involving Aquinas's Human Acts. Gallagher states that for Aquinas the three elements that determine the moral goodness of an act are "1) the object of the act, 2) the end for which it is done, and 3) the circumstances which surround it". He elaborates: "The object of the act is what is done; the end is why the agent does it. . . . Properly speaking, circumstances alone [for Aquinas] do not make an act good or bad, but only increase or diminish the goodness or badness contributed by the other two elements." (Gallagher, p.119) The object of the act provides the means through which the end is achieved. Hereinafter, the word "object" includes those "means".

To explain these elements, Aquinas and Gallagher use the example of an agent who gives alms to the poor where this "giving" is the object of the act—what happens in the world.¹⁶⁹ The end of the act is the agent's motive and could be one of a number of things; two of which could be

¹⁶⁸ David Gallagher, "Aquinas on Moral Action: Interior and Exterior Acts" in *Proceedings of the American Catholic Association*, vol. 64, 1990, pp. 118-129., herein referenced as "Gallagher, p.____".

¹⁶⁹ While Aristotle could not be found to have used this precise example, the example is consistent with Aristotle's text. (See Ross, p.61 (1120a15-31))

assisting the poor or could be improving the agent's image in his community. The first is a good end while the second is a bad end because it is self-serving and results from the vice of vanity. For Aristotle and Aquinas, one bad element in the twelve possible acts is enough to render the entire action bad. Consequently, attention to all of these acts is important.

As further suggested in this example, the agent steals the funds which are given which is obviously bad for Aristotle and Aquinas in any set of end, object and circumstances. This method of acquiring funds could be seen as the circumstance of "how" or, as Aquinas explains, it can become part of the object and then render the object bad in its entirety and not only in regard to increasing or diminishing that result.¹⁷⁰ (Williams, pp.472-73, Q18a10; Gallagher, p.119fn3) Because of the difficulty of determining whether a detail of an act is part of the object or is simply a circumstance, hereinafter all "circumstances" are included in the "object" of the action. The complexity of the world today introduces the possibility of goodness or badness much more frequently in the elements of actions that Aristotle and Aquinas call "circumstances" and especially for actions addressing climate change. Actually, while attempting to retain the distinction between object and circumstances in the first portion of his essay, Gallagher also in finishing his essay includes "circumstances" in the "object". (Gallagher, p.124fn19)

Concerning the end, Aquinas always uses the word "end" as the name of this element which describes the agent's motive for the act. In the alms giving example, the end is, of course, *why* the agent does the act and, for Aristotle and Aquinas, is the important element and could be generosity in the form of assistance to the poor (which is good) or could be vanity and the improvement of the agent's reputation in the his/her community (which is bad). The object of giving to the poor is

¹⁷⁰ "Circumstances" are explained by Aquinas referencing Aristotle as "who, what, where, by what helps, why, how, when". (Williams, p.392, Q7a3) Aquinas explains that Aristotle's "particulars" (also "circumstances; "Ross, p.40;1110b34)) are external to the act but can be important in determining the morality of any possible human act. (*Human Acts*, p.389, Q7)

a good in itself but can become bad as a result of the end.¹⁷¹ Concerning, for example, climate change, adaptation and mitigation would be part of the object as well as the reduction of CO₂ and other greenhouse gases in the troposphere. The end would be a future climate that promotes future life. However, the present object today of burning fossil fuel to produce energy is the “apparently good (but bad) end”.¹⁷² Because of our past habituation and addiction to fossil fuel energy, it cannot be eliminated immediately even though it is bad. But its use needs to be reduced to zero as soon as possible. For climate change, that explains the end where the object also needs to include a carbon tax and/or a better method for reducing CO₂ and the other greenhouse gases.

(d) Aquinas’s Interior Acts and Exterior Acts

Aquinas explains the twelve possible events of the Human Act in Questions 11 through 17 of *Human Acts*. Recall that the first eight are in Aquinas’s Order of Intention and are named “internal acts” because they are totally controlled by the agent. The final four acts are in his Order of Execution and are named “external acts” because they are no longer within the total control of the agent after they originate in the Order of Intention. To assist in understanding the twelve acts, Appendix B is included which also contains the citations for both the Aquinas and Aristotle references. Further, though the order of the internal acts can vary, the order used here and in Appendix B assists explanation.¹⁷³

In the Order of Intention, Aquinas names the four possible acts of the intellect “apprehensive” acts collectively and “perception”, “presentation”, “deliberation”, and “judgment”

¹⁷¹ Gallagher points out that Aquinas at least once specifically suggests that the end is included in the object which Gallagher states causes a certain ambiguity in Aquinas’s use of the word “object”. (Williams, p.,466-67, Q18a6; Gallagher, p. 125) While Gallagher notes that, for Aquinas, the end maybe included in the object, it seems to be included only as recognition of what the object must keep in mind.

¹⁷² As explained in Part I, CO₂ is only one of the greenhouse gases but it is by far the most important because of the quantity generated through the combustion of fossil fuels.

¹⁷³ Citations to the Aquinas and Aristotle texts that explain these acts are not given in text in order to avoid clutter but are provided in the chart attached as “Appendix B”.

individually. Each of these apprehensive acts is followed by one of the four possible responsive acts of the will named “appetitive” acts collectively and “wish”, “intention”, “consent”, and “choice” individually. Intellect’s reason initiates an apprehensive act and the will responds with its appetitive act. In the first four acts in the Order of Intention, the intellect and the will determine the act’s end. In the second four acts, the intellect and the will determine the act’s object. Also, any of these first eight possible acts can determine the goodness or badness of the act as described below. Aquinas places the last four acts in his Order of Execution where the end can be actualized. As explained, these four acts can still be aborted through the efforts of the agent but the details of the act as finalized in the act of choice cannot be discarded for alternative acts.

Questions 11 through 17 of Aquinas’s *Human Acts* detail the six possible apprehensive exercises or acts of the intellect and the six possible appetitive responsive acts of the will that collectively take the Human Act from the intellect’s “perception” of an end to the will’s “enjoyment” of that end. Those Questions also describe the method through which those acts of the will and the intellect interact.

The power of the intellect constructs the details of the act while the power of the will provides the doing necessary for the realization of the act. The first two acts of the intellect of perception and presentation and the two responsive acts of the will, wish and intention, establish the end of the Human Act. The next two acts of the intellect of deliberation and judgment and the two responsive acts of the will, consent and choice, establish the object necessary to reach the end.

Concerning deliberation, while Aquinas identifies a specific act of deliberation, Aquinas also states generally that “You see, since it is reason’s job to direct, if an act that proceeds from deliberative reason is not directed to an appropriate end, that very fact makes the act repugnant to reason, and the act is bad.” (Williams, p.471, Q18a9) Consequently, it seems as though the

intellect relies on deliberative reason for all of its acts that instruct the will. However, the intellect's specific act of deliberation regards the act's object.

It is important to detail the nature of each of these possible acts. While all twelve acts of Aquinas's process may not be used when the act is simple such as opening a door to go outside, all twelve acts can be illustrated through a common end such as "enjoy a healthy dinner". Here the first exercise of the intellect is "perception" of the good end, "enjoy a healthy dinner". The first responsive act of the will is "wish" through which Aquinas provides that the agent's will approves that perception of "enjoy a healthy dinner" as the end of a possible action. Of course, the will could reject that because there may be a host of other acts needed before planning to "enjoy a healthy dinner". But just assuming that now is a good time to think about enjoying a healthy dinner, the will accepts that preliminary instruction of the intellect. Aquinas then gives the intellect and the will the opportunity to think more seriously about that end in the intellect's act of presentation and the will's finalizing that end in its act of intention. Aquinas supports this result of first finalizing the end through the acts prior to and including the will's act of "intention" when he states: "[T]here can be intention of an end even when one has not yet figured out the things that are for the end which are the objects of choice." (Williams, p.422, Q12a4r3)

Having the end finalized, the process then moves to two further acts of the intellect and two acts of the will where these four acts, of course, are still within the Order of Intention. The intellect first "deliberates" about the generation of the object or what happens in the world to accomplish the end. The intellect could suggest "eat out at a restaurant". The will in its act of "consent" can respond with an acceptance of "sounds good" or "let's review that" because of the habit of considering cost or increased fossil fuel use or home cooking is always healthier, etc. In the event of rejection, the intellect can then revise its deliberation instruction to the object of "a

home-cooked meal of pot roast, mashed potatoes, green beans, salad and low-calorie dessert". If the will "consents" to that instruction, that object is once again considered by the intellect in its act of "judgment" where the intellect can apparently embellish that object further through the instruction to "drive to the store for those ingredients and cook them at home". The will then responds with its acceptance or rejection through Aquinas's act of "choice".

The will could agree or could reject possibly on the basis of the habit of looking in the freezer to see if the ingredients can be found there. If the latter, the intellect could revisit its act of "judgment" and recommend "go to the store for pot roast" because the other ingredients were found in the freezer or it could suggest "no need to go the store because there is salmon in the freezer" which is healthier. At that point, the will through its act of "choice" resolves the determination of the dinner ingredients and how those ingredients will be obtained and prepared. Aquinas's procedure up to "choice" has provided as many as eight opportunities to question the morality of the intellect's perception of the act where that questioning is based on the prior habituation of both the intellect and the will possibly through the individual's prior opportunities of Aristotle's states of continence and incontinence, Broadie's Contingent Conclusion, and/or the *Aidōs* Response. If any one of those opportunities indicates a bad item, the entire act is doomed to be bad. That process has allowed consideration, for example, of the morality of any use of fossil fuel through use of an automobile or through use of natural gas which might produce less CO₂ or through use of electrical energy from the solar panels on the roof which would produce no CO₂. And there are still four more acts where morality can further be questioned.

After choice, those remaining possible two acts of the intellect and two acts of the will that bring the end to "enjoyment" or fruition are again part of Aquinas's Order of Execution. Immediately following the will's acceptance through "choice," the intellect exercises "command"

through which. for example, it suggests the actual movements of the muscles and the timing necessary for preparation of the dinner. Again, the will, the appetitive actor, through its act of “use” responds and rejects or employs the instruction through the other powers that must be involved. Again, the opportunity for accepting or rejecting arises if the will’s prior habituation does not conform or if, for example, the *Aidōs* Response suggests something better. Possibly prior habituation requires that, if the clouds are opening, it is better to wait to allow the sun to generate electrical energy through use of the solar panels. If the will accepts that command, the intellect through its exercise of "execution" apparently reconsiders or endorses that use. If the intellect endorses, the will and the intellect then have the pleasure of the experience of the healthy dinner through exercise of the will’s act of "enjoyment".

While Aquinas specifically restricts the act of “choice” to the determination of the things that are for the end (i.e., the object of the act— the measures to achieve the end) and not to the end itself, he also states that there can be “choice” between and among proximate ends: “Whenever there is more than one end, there can be choice among the various ends insofar as they are directed toward a further end.” (Williams, p.428, Q13a3, Q13a3r2) This seems to provide that Aquinas recognizes that his twelve-step psychology can be used to make choices among various proximate ends and not only among available objects. This would suggest that in making choices between various proximate ends, the agent would utilize the internal acts in the Order of Intention and not the external acts because this decision is not one that is necessarily made “in the world”. The opportunity for seeking third-party advice seems always to be available in Aquinas’s specific act of deliberation and possibly in the intellect’s other acts.

The importance of the eight acts in the Order of Intention resides in the opportunity to review possible alternatives for the end and the object and then choose the most suitable object to

morally achieve the end while the four acts in the Order of Execution provide further opportunities for assessing the morality of the act and continuing toward, or aborting, the achievement of the end. As examples of possible acts that presently require some electricity generated through the burning of fossil fuel and that therefore will exacerbate climate change, the following are offered:

- Provide a meal as above.
- Operating an automobile through the use of the power generated by a fossil fuel internal combustion engine that produces CO₂ (among a few other unhealthy compounds) or through the use of electricity generated by a fossil fuel electric utility or by solar panels.
- Boiling water through combustion of natural gas or propane on the stove top or through use of electricity as generated above.
- Turning on a water faucet that requires electricity to operate the pump needed to keep pressure on the water pipe through the use of electrical power generated as above.
- Turning up the temperature in the house or building (1) through use of a fossil fuel furnace at the house or building or (2) through a heat pump at the house or building both of which use electricity generated as above.
- Turning down the temperature in an air-conditioned house or building through use of electricity generated as above.
- Turning electric lights on in a home or building or at a sports stadium or field through use of electricity generated as above.
- Turning on the computer or TV through use of electricity generated as above.
- Any other activity that requires electricity generated as above.

Concerning climate change, all of those actions must be powered by solar panels or curtailed to the extent possible if powered by fossil fuel generated electricity to minimize the generation of CO₂. Unfortunately, very little present thought is involved in those actions if we even think about them because, since about 1960, they have involved little relative cost. However, before about 1960, they were kept to a minimum to save money - all of them. Also, keep in mind that in 1960 there were only about three billion people on Earth and now there are about seven billion and estimated at about nine to eleven billion by 2050. Also, in 1960 most households only had one vehicle and now have two, three or four. In addition, few homes and buildings (except in the

southern states) were air-conditioned and now most all are air-conditioned throughout the United States where that use requires large quantities of electrical energy.

Therefore, Aquinas's psychology (or at least an equivalent psychology) for making decisions about the generation of CO₂ has become extremely important. That decision process can include those possible six acts of the intellect and as many acts of the will. Keep in mind that both Aquinas and Aristotle maintain that the intellect generates all the ends such as providing a healthy dinner or picking up one's son or daughter after school, etc. (actions that require the generation of CO₂) and the object (vehicle trips, use of electricity and natural gas, etc.) for attaining those ends (providing a healthy dinner, picking up children, etc.). The intellect has the knowledge, recollection, and reasoning necessary to generate those ends and the necessary objects. The will has the power to reject or implement those ends and those objects but, without the necessary habituation, that rejection will never occur. That habituation can only occur through education and repeated actions and the above process must become second nature to produce that habituation.

Most if not all of above twelve acts of Aristotle/Aquinas that involve the human intellect and will can be necessary for complex decisions. For many ends, there are fewer necessary acts because of the lack of complexity of the ends involved. If we are attempting to open a door, the intellect's act of deliberation may include only whether it will be done with the left or right hand but, if it is a door to the cold out-of-doors, the thought of opening the door less often may be appropriate. However, with most ends and objects in this twenty-first century, the use of considerable quantities of energy will be required where the generation of that energy from fossil fuel will produce CO₂. Therefore, those ends and objects must be considered as complex and therefore requiring consideration of many if not all of the twelve acts of the Aristotle/Aquinas psychology or some equivalent psychology.

The moral psychology found in Aquinas's *Human Acts* provides a process which obviously cannot be employed in making every decision that faces a human being on a day-to-day basis. However, it or a similar process must be embraced globally by individual humans to begin to adequately address the mitigation of, and adaptation to, climate change and, in addition, generally in making important decisions such as determining how wealth, time, energy and honour (among other aspects of life) should be morally employed. The vocabulary of that process may arguably need some review but Aquinas's framework seems conducive to proper moral thought, especially the idea of the importance of habituation in assisting in the generation and realization of moral ends and objects.

(e) The requirement of habituation

Because of the requirement of the generation of good habits for both Aristotle and Aquinas, an explanation of the development of habituation in both the will and the intellect is important. Initially, Aquinas confirms that "acts of the will and of reason can be directed to each other ... an act of the will proceeds from an act of reason and vice versa." (Williams, p.448; Q17a1) He also cites Aristotle for the proposition that while the intellect rules over the will, that rule is not dictatorial but of a "constitutional and royal rule" nature (Everson, p.16 (1254b3-7); *Human Acts*, p.455, Q17a7) and, consequently, again both the intellect and the will can change the morality of an act and acts of the intellect influence acts of the will and vice versa. In Question 20, Aquinas specifically provides that an act of will can change the moral nature of the human act when he states that "moral goodness and badness resides primarily in the will." (Williams, p.490, Q20a1) However, the will cannot change the details of the act because again it can only accept or reject the instruction of the intellect as good or bad based on prior habituation.

Aquinas is clear in describing the inability of the will to revise the details of any of intellect's apprehensive instructions. In Article 2 of Question 20, the question presented is whether the morality of the exterior act depends totally on the will. Aquinas's answer is that it does not. Relying on other portions of the *Summa Theologicae* and Aristotle's central importance of habituation, Aquinas argues that the will through habituation has the power of acceptance or rejection of both the end and the object of a Human Act. That power is the power to simply accept or reject intellect's apprehensive instruction where that ability is associated with the generation of habits in powers (FF, p.331, Q50a2)¹⁷⁴ such as the will because again habits result from actions and repeated actions.

Aquinas defines "habit" with Aristotle as "a disposition in accord with which what is disposed is disposed either well or badly, and this either in its own right or with respect to another ... in the way that health is a certain habit." (FF, p.326, Q49a1; see Barnes, p.1614 (1122b10-12)) Further, "As for the nature of the habit, it belongs to every habit to have in some way an ordering toward an act. ... Hence, a habit implies an ordering not only to the thing's very nature but also, as a consequence, to an [act], insofar as that [act] is the end of the nature or something that leads to that end." (FF, p.329; Q49a3) As a result, habit of both the will and the intellect is ordered to both an act's end and object but it can be ordered to each differently which is confirmed in Article 8 of Question 19. (Williams, p.484-485, Q19a8) There, Aquinas states and argues that "[i]t is possible for an intention to be good but the will bad."

Again, for Aquinas, both the will and the intellect are powers and habituated powers. (FF, p.328, Q49a4r3; p.334, Q50a5; p.349, Q53a1) Because the influence of intellect's reason in the presentation of an end or object can be inconsistent relative to good and bad, that seems to indicate

¹⁷⁴ Alfred J. Freddoso, *New English Translation of St. Thomas Aquinas's Summa Theologiae (Summa Theologica)* (University of Notre Dame) which is available at <http://www.nd.edu/~afreddos/summa-translation/TOC.htm>. Citations are similar to those given in footnote 158 but are preceded by "FF".

that reason's intellect, which is again capable of habituation (FF, pp.333-34, Q50a4), can be differently habituated in relation to the end and to the object. That ability is again associated with the generation of habits in powers (FF, p.331, Q50a2) such as the will because habits result from actions and repeated actions. (FF, p.340, Q51a3) In other words, the end may involve the reduction of the use of fossil fuels while the object can require excessive use of fossil fuels, for example, "let's eat at home but make three trips to the store."

The process of habituation is as follows. If the will is *drawn* to, influenced toward, or attracted to a particular act as presented by the intellect, then, once attracted, the will may only act or not act because those are its only options. However, once habits begin to form, the result changes from the will being *drawn* to the idea of the action suggested by the intellect to the result that the will, with the assistance of the habit, becomes *disposed* toward or against that suggested action. In other words, the nature of the will's desire initially is simply *drawn* to a suggested action through whatever desires are present but then, with the assistance of habit, can change to the *disposition* of embracing or rejecting that action through the will's applicable habituated virtues or vices and hopefully virtues.

Further, if the presented action is recognized as good, an individual may not need to reflect on her/his habituation because habits can become automatic. However, if the action is bad, conscious reflection is necessary, for example, through the use of continence and incontinence, Broadie's Contingent Conclusion, and/or the *Aidōs* Response. In any event, reflection provides reinforcement for the good in the individual's habit repertory and also constant presentation can illustrate the need for rectification of a bad in that repertory. To illustrate, both the intellect and the will can develop the habit that requires certain circumstances to turn the heat up from 68 to 72°F or develop the habit of putting on a sweater or coat. The intellect may say "I'm cold" and

present the alternative of turning up the heat and the will may then because of habituation reject that action because it has become a habit for the will to reject turning up the heat in favor of putting on a sweater or coat. In any event, both the intellect and the will, for Aquinas can develop habits either good or bad. If the will is confronted with something that is not in its habit repertory, the will seems required to follow the intellect's recommendation.

The important benefit of this process involves the availability of opportunities to question the intended act and its morality and to develop good habits. The process, therefore, provides illumination of moral concerns associated with an apparently good (but bad) end such as “use fossil fuels” and then requiring avoidance of the use of any fossil fuels.

(f) Further determination of the goodness or badness of a Human Act

The primary purpose of Aquinas’s psychology is the determination of goodness or badness before acting. Aquinas confirms that every Human Act is not necessarily good because the initial perception of the end, while it may seem good to the agent, may only be an apparently good (but bad) end which is, therefore, "deficient". (Williams, p.461, Q18a1r1; p.464, Q1a4r1) Aquinas in Questions 18 through 20 explains further how human acts can be determined to be good or bad. Because habituation can be either good or bad, we can become habituated to apparent goods rather than goods. Therefore, an individual must continually question her/his habituation. Also, in Question 19, Aquinas explains that “good and bad are intrinsic differences of an act of will because good and bad pertain to the will intrinsically, just as true and false pertain to reason intrinsically” and, therefore, to acts of the intellect as well. (Williams, p.475, Q19a1)

While the goodness and badness of an act relate to the will, because it is the acting element in a Human Act, the will receives its instruction from the intellect where that instruction can be either good or bad. Aquinas also states in Question 18 that goodness and badness can be the result

of the end, the object or the circumstances of the act as described above. If any of those items indicate the presence of a vice, that item or those items make the entire act bad. While Aquinas discusses badness at some length, he also seems to indicate that there are opportunities for eliminating badness that are found in his twelve-step process. He states:

[A]ssuming that someone seeks an empty reputation, he will sin if he does what is necessary for him to achieve such a reputation, Even so, he is not in a state of perplexity, because he can get rid of his bad intention. And similarly, assuming a mistake of reason or conscience that arises from nonexcusing ignorance, something bad in the will necessarily follows yet one is not in a state of perplexity, because one can correct the mistake, since the ignorance is voluntary and can be overcome.

(Williams, p.482, Q19a6r3) The idea of the ability to “get rid of his bad intention” seems to be through the will’s rejection of the intellect’s intention as found in its act of “presentation” where the exercise within the Order of Intention then seems to return to the intellect to suggest another intention, this time hopefully good. In other words, the opportunity for the “get rid” seems to result from the will’s ability to reject the intellect’s bad intention that has been provided. On the other hand, if the instruction of the intellect is good and the will rejects that instruction, then the will by definition is bad. Further, Aquinas seems to provide that a mistake of reason or conscience can occur but that it can “be overcome”. (Williams, p.479, Q19a5) Again, it seems that the correction takes place as a result of a rejection by the will. All of this accentuates the importance of habituation.

It is also possible for the intellect to generate a good end and then generate a bad object as a result of habit or mistake. (Williams, p.484-85, Q19a8; p.482, Q19a6r3) Both the end and the object can be apparently good or one can be apparently good while the other is actually good. In either case, the entire Human Act is bad because a single bad in a Human Act makes the whole act bad. Aquinas states: “It is important to note that (as I said above [I-II.19.6 resp. 1]) one individual defect is sufficient for something to be bad, whereas in order for something to be unqualifiedly

good, one individual good is not enough; instead, complete goodness is necessary.” (Williams, p. 491, Q19a2) Again, habituation is necessary to avoid defects in a Human Act.

The goodness or badness of the exterior acts is a special problem for Aquinas and he devotes Question 20 to that matter. The exterior acts are formulated through the interior acts and, therefore, will have a certain goodness or badness after completion of the will’s act of choice. The intellect’s acts are command and execution which relate to the determination of the exterior powers other than that of the will where the will seems to be able to energize those exterior powers but does not directly control their activities. Also, recall that the will’s exterior acts can be interrupted by outside obstacles. However, it still seems that the will can, through its powers of acceptance and rejection, decide that its powers of “use” and “enjoyment” should or should not act. Therefore, the question seems to be whether intellect’s reason can somehow affect the goodness or badness of its acts through its command and execution acts.

Possibly to keep interest alive in the exterior acts, Aquinas raises the argument that they can be good or bad in two ways:

[O]ne based on appropriate matter and circumstances, the other based on [the exterior act’s] order to an end. And of course the one that depends on its order to an end depends wholly on the will. But the one that derives from appropriate matter or circumstances depends on reason, and the goodness of the will *insofar as it is drawn to that act* depends in turn on this second goodness.

(Emphasis in original; Williams, p.491, Q20a2) The “order to an end” goodness or badness of the will seems to be clearly in the will’s decision to accept or reject. The will when making that decision must keep the end as its focus of determination. If the end is good, the act can be good. If the end is an apparently good (but bad) end, the act will be bad. Again, habituation determines the will’s decision.

When one observes the second way—deriving from appropriate matter and/or circumstances depending on reason—if it involves an inappropriate instruction, the will is, of course, involved in deciding to accept or reject. Now the will's involvement depends upon the will being drawn toward or disposed to the instruction provided. If the instruction is bad and if the will is drawn toward or disposed to that instruction, then the act is bad. While reason formulated the bad instruction in the Order of Intention, the badness of the act depends upon the will's acceptance of that instruction. This seems like "a second bite at the apple" because the will apparently had its first bite through its act of choice. However, here matter and circumstances are at issue, and not the end. While the will should be focused on the end involved, the matter and circumstances may be sufficient to distract the will.

Aquinas provides one more thought about the exterior act when he questions whether that act can add any goodness or badness beyond that which is already in the exterior act because of an interior act. He states that there are three ways through which that can occur where they all individually seem to involve either the persistence of the agent (or agents) or the intensity of the agent with which the act is done. Obviously, agents act differently in terms of both persistence and intensity in the manner in which the agent addresses the object of the act. This difference can be easily observed and possibly Aquinas is, through this Question, encouraging both of these attributes and, in that way, is making use of the exterior acts.¹⁷⁵

Aquinas does caution that some acts can be indifferent in species such as "walking through a field". (Williams, p.469, Q18a8) Consequently, indifferent acts are not moral acts and, therefore, would not be Human Acts but acts of a human being. However, again, Aquinas says that all

¹⁷⁵ In these exterior acts in which reason is involved, and if there is goodness in either the end or the matter and/or circumstances, Aquinas even argues that apparently the goodness of the one can "overflow" into the other if the agent will encourage that overflow. (Williams, p.492, Q20a3)

"individual acts" have the potential to be Human Acts because even an "idle word" can have moral implications and, therefore, be a Human Act. (Williams, p.470, Q18a9) That is especially true today where practically all (if not all) of our acts involve some generation of CO₂ through the use of fossil fuel electrical energy where that CO₂ affects all present and future life on this Earth through climate change.

In addition to arguing the goodness or badness of an act in relation to other individuals, Aquinas also argues that an individual good or bad Human Act will not only affect the agent and another individual but also the entire community of which the agent is a part. This is an important aspect of Aquinas's psychology. His Question 21, the last in the *Human Acts* treatise, does discuss the two kinds of end, ultimate and proximate. The ultimate end is, of course, that happiness or flourishing which Aristotle argues can be enjoyed during life and Aquinas argues cannot be experienced in this life but only after death. A proximate end however should be ordered to the ultimate end and again can be either good or bad. Aquinas also states that a Human Act is praiseworthy or blameworthy "simply because it is good or bad." (Williams, p.499, Q21a2) He then considers whether a Human Act is "meritorious" or "demeritorious" simply because it is good or bad and concludes that those adjectives apply and are the result of the act's badness or goodness.

However, he explains this result further on the basis of community:

[I]t is important to note that everyone who lives in any society is in a way a part and a member of the whole society. So whatever anyone does for the good or bad of someone who lives in a society overflows into the whole society, as someone who causes injury to a hand causes injury to a person. Therefore, when someone acts for the good or bad of another individual, the act is meritorious or demeritorious in two ways: first, in that it deserves recompense from the individual who is helped or harmed; and second, in that it deserves recompense from society as a whole.

(Williams, p.500, Q21a3) Recognition of the community is, of course, of central importance in all concepts of virtue ethics and especially that of Aristotle which Aquinas follows because community provides the opportunity for happiness and flourishing but, as a result, requires ethics.

Aquinas, in the last article of Question 21, argues that God cannot "acquire or lose anything in and of himself through a Human Act, but human beings, for their part, do take something away from God or offer something to him when they preserve, or fail to preserve, the order that God has instituted." (Williams, p.502, Q21a4r1) Even when a person does not accept the concept of God as originating that order, it seems that somewhere within every person there must, at least should, be the belief that that order is worthy of awe and should be preserved for an infinite number of reasons including the reason that it will be at least as important to future generations as it has been to generations past and present.

Concerning climate change, that order is maintenance of the approximate concentrations of CO₂ and other greenhouse gases in the troposphere prior to the anthropogenic increases of those gases. Therefore, Aquinas's statement reflects the need for concern about order without necessarily involving concern about the origination of that order. However, recall Part II of this dissertation which referenced evidence that the United States has played the major role in the increases of CO₂ and a number of the other greenhouse gases until the last few years when other nations have for the first recent time exceeded the emissions of the United States. However, the per capita emissions of the United States are now only exceeded by Australia, a number of the fossil fuel producing countries, and a few much smaller countries.¹⁷⁶

¹⁷⁶ "United Nations Statistics Division, Environmental Indicators, GHGs, Last update: July 2010" found at https://unstats.un.org/unsd/ENVIRONMENT/air_greenhouse_emissions.htm

So, from an ethical theory point of view, what can Aristotelian ethics and Aquinas's process as presently conceived offer as a point of departure for a virtue ethical theory that might be able to address some or many of the needs associated with climate change that neither utilitarian nor deontologic theories offer? Virtue ethics offers the following opportunities: the states of character of continency and incontinence which recognize the real world but within the ideal, Broadie's Contingent Conclusion, and the *Aidōs* Response, where Aquinas's codification of Aristotelian psychology provides for the implementation of all these opportunities. Actually, Broadie's "Contingent Conclusion" can be revised without affecting any change in its effect through naming it "Contingent Choice" consistent with Aquinas.

In light of the above process and its twelve possible acts, an acceptable single Human Act can take much thought, time and energy of the involved agent or agents in considering both the object and the end of the action. As one might perceive, there has been much discussion about the need for some of the above twelve acts. However, the concept of the individual will responding in all the above acts to the intellect is a productive concept especially where the use of fossil fuel energy is involved. Each instruction and each response provides an opportunity for a moral assessment before an object or end is finalized. Further, through the increased use of this process and its increased habituation, the more quickly it will become second nature. Where both the will and the intellect are habituated and take the time and make the effort to reject the bad—more than likely the apparent good, more good choices will be made more easily.

For climate change, that requires less CO₂ in the troposphere so that future generations will experience a more acceptable climate rather than an intolerable climate produced by excessive CO₂ which will remain in the troposphere for centuries and possibly millennia.

(g) Precautionary Principle assistance

The precautionary principle has been invoked in 1992 in Item 3 of Article 3 of the 1992 United Nations Framework Commission On Climate Change¹⁷⁷ where that Principle is stated as follows:

Principles: Article 3. The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account the policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost.

In the last twenty-five years, this Principle has received little attention. A host of arguments have been made against this Principle by entities who have invested far too heavily in fossil fuel assets and production. These arguments have failed to address the basic science of climate change apparently for the primary reasons of greed and avarice. Also, the Precautionary Principle has been ignored even though the science of climate change continues to advance rapidly and the impact of climate change continues to worsen as revealed in the IPCC's Assessment Report 5. As Stephen M. Gardiner argued in 2011:¹⁷⁸

[T]he precautionary principle is sometimes said to be vacuous, extreme, or myopic. There is something to these charges if the principle is conceived of in a completely open-ended way. But there are more restricted ways to understand it, and under these kinds of conditions the principle signals a reasonable concern. **In addition, the case for precaution is stronger when the decision-makers are not those vulnerable to unacceptable outcomes, but impose the threat of them on innocent others.** Given that the main actors have already accepted the need for precaution as part of the UNFCCC [the United Nations Framework Convention On Climate Change], the burden of proof on inaction is even greater.

¹⁷⁷ *United Nations Framework Convention On Climate Change*, 1992; Article 3, p.9, the United States is a signatory; http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

¹⁷⁸ (Emphasis added: Gardiner, Stephen M., *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (Oxford: Oxford University Press, 2011), p.402)

This Principle can be implemented by Aquinas’s twelve step psychology to a much greater extent than without that psychology. The Precautionary Principle addresses a primary concern of climate change, the imposition of harm on nonexistent future generations by decision makers who are not those vulnerable to the unacceptable outcomes of climate change. Because the nations of Earth have stated the need for precaution and embraced the Precautionary Principle, Gardiner argues that the burden of proof for inaction becomes much greater and is placed squarely on those arguing inaction especially where their offered “proof” is bad science or where that proof is non-existent. Aquinas’s psychology can assist.

D. Aquinas on Law and the Common Welfare

Recognizing that climate change requires law for its adaptation and mitigation, both Aristotle’s thoughts¹⁷⁹ and Aquinas’s thoughts about the laws enacted by society are relevant. Aquinas argues as follows in Question 97: “Changes in Human Law”, where Article 1 posed the question “Should human law in any way be changed?” As is his pattern, he presents a proposed answer contrary to his position in order to generate argument. For Question 97, he offers the argumentative answer as “It seems that human law should not in any way be changed” Aquinas’s “But contrary to this” response is “In *De Libero Arbitrio* 1 Augustine says, ‘Even if a temporal law is just, it can nonetheless be justifiably modified as time goes on.’” He states his Reply or response in part as:

As was explained above (q. 91, a. 3), human law is a certain type of dictate of reason by which human acts are directed. Accordingly, **there are two possible reasons why human law might justifiably be changed, one on the side of *reason* and the other on the side of the *men* whose acts are regulated by the law.**

On the side of *reason*, it seems natural to human reason that it should gradually move from what is imperfect toward what is perfect. Hence, we see in

¹⁷⁹ Aristotle’s thoughts the necessity of laws is found initially in the *Nicomachean Ethics* (Ross, p. 199-203 (1179b 5-1181b25)) and then, of course, in his *Politics*.

the speculative sciences that those who first philosophized handed down what was imperfect and this was later made more perfect by their successors. The same thing holds true in the practical sciences. **Those who first intended to discover something useful for the human community, unable to take everything into consideration on their own, instituted certain practices which were deficient in many ways and which their successors changed by instituting other practices that were less prone to fail with respect to the common welfare.**

(Italicized emphasis in original, bolded emphasis added; FF, p.665, Q97a1)¹⁸⁰ The two ways that Aquinas presents should always control the legislative mind. Reason, as the first way, is obviously necessary because circumstances and conditions change and, as that change occurs, laws need to change to reasonably address those changes in present and anticipated situations. His second way seems unfortunately many times lost to greed and avarice. He suggests that lawmakers should intend “to discover something useful for the human community” but, because being human, those lawmakers cannot contemplate all circumstances that need to be addressed and, therefore, the laws that they pass will be imperfect. Consequently, the legislature who should discover things useful for the human community should be vigilant and continually be prepared to institute laws that are “less prone to fail with respect to the common welfare,” in other words, establishing laws that better serve the common welfare. Not unexpectedly, it seems that the lobbyists are continually successful in their efforts to have legislative bodies pass laws that serve the personal interest of those that can afford the fees of the lobbyists and also afford to support the legislators. Therefore, the concept of legislating for the common welfare seems lost. In addition, the “common welfare” is no longer only the welfare of the present generation but also that of the future generations of all life. It must again be noted, that at least in the 1950s humanity had discovered that it was anthropogenically possible to change the global climate system.¹⁸¹

¹⁸⁰ Thomas Aquinas, *Treatise on Law*, trans. Alfred J. Freddoso (South Bend, IN: St. Augustine’s Press, 2009), hereinafter referenced as “FF, p.____.” Also available at Alfred J. Freddoso, *New English Translation of St. Thomas Aquinas’s Summa Theologiae (Summa Theologica)* (University of Notre Dame) at <http://www.nd.edu/~afreddos/summa-translation/TOC.htm> , p.28.

¹⁸¹ Gilbert N. Plass (Michigan State University), “Effect of Carbon Dioxide Variations on Climate” in *American Journal of Physics* (1956) vol. 24, p376, 384, 385.

Aquinas, in Article 2 of Question 97, asks: “Should human law always be changed when something better comes along?” As usual, he then presents an answer that is contrary to his own position; “It seems that human laws should always be changed when something better comes along” His “But contrary to this” response is “Decretals, dist. 12, says, ‘It is a ridiculous and wholly abominable disgrace for us to break off the traditions which we have received from our fathers.’” In his Response, he reminds us that in Article 1, he recommends change when it serves “the common welfare”. (FF, p.72, Q97a2)

He also argues that custom “contributes to the observance” of laws and therefore, “the constraining force of law is diminished” when custom is nullified. He then argues that “**human law should never be changed unless the damage done to the common welfare by the change is wholly compensated for in some other way.**” (Emphasis added; FF, p.72, Q97a2) He offers two ways in which this compensation can occur. The first he states is a change through which “some very great and obvious advantage comes from the new statute,” and second where “there is some urgent necessity stemming from the fact that the established law either involves a manifest iniquity or is such that its observance is very harmful.” (FF, p.72, Q97a2)¹⁸² Climate change meets all of these requirements for change where the iniquity is directed most importantly at future generations and for centuries if not millennia.

E. Chapter Summary

Aquinas’s codification of Aristotle’s psychology provides up to twelve different possible specific acts between the individual’s intellectual “perception of good” in terms of the ability to focus on the ends whether proximate or otherwise that are actually beneficial to the individual,

¹⁸² Also available at <http://www3.nd.edu/~afreddos/summa-translation/Part%201-2/st1-2-ques97.pdf> (p.665, Q97a2)

his/her community, and her/his enjoyment of attaining those ends. Again, Aquinas argues that it is the individual's intellect which generates those ends while it is the individual's will that mobilizes the effort necessary to attain those ends. For Aquinas and Aristotle, the intellect has the freedom to focus on the multitude of beneficial ends available and provide its instruction to the will. The will has the freedom to either reject or embrace the instruction presented. That process for the intellect begins with "perception" and depending on acceptance by the will, then proceeds through its work of "presentation", "deliberation", "judgment", "command", and "execution". Upon the instruction of each of those acts by the intellect, the will has its own acts of rejection or acceptance through its acts of "wish", "intention", "consent", "choice", "use", and finally "enjoyment".

If an individual considers each of those opportunities of both of the intellect and the will, it provides up to twelve opportunities to ensure that both the object and the end are carefully assessed to ensure that they are moral and, therefore, beneficial. Certainly, all twelve of those opportunities are not necessary for many of the moral decisions that need to be made. However, if the objective is the consideration of the purchase of a new or used vehicle under the conditions that exist today, more or all of those twelve acts represent opportunities for the recognition of continence and incontinence, the use of Broadie's Contingent Choice, and the *Aidōs* Response are available and are needed to determine whether the purchase should be a vehicle powered by fossil fuel or electricity which today is a moral decision. Keep in mind, power plants are much more efficient in terms of producing energy than are individual internal combustion engines and, therefore, for a given quantity of energy a power plant will produce less CO₂.

If all of Aquinas's twelve acts are used, the first letters of those names produce the acronym PWPI-DCJC-CUEE which could bring to mind the names of those responsive acts but which is far from an easily used acronym. However, to facilitate the use of Aquinas's process, elimination

of some of those acts produces an acronym that may be more memorable, for example PIDCJC for presentation, intention, deliberation, consent, judgment, and choice. A shorter acronym of PIDC for presentation, intention, deliberation and choice might provide for even greater use of the concept.

This dissertation has thus far attempted to cover the “what”—climate change, the “why”—insufficient mitigation of and adaptation to climate change, the “when”—now because of the relatively indestructible nature of CO₂, the “how”—changing our moral attitude toward climate change through (1) Aristotelian incontinence and continence, (2) Broadie’s “Contingent Choice”, (3) the *Aidōs* Response—development of feelings from shame to awe and reverence, and (4) Aquinas’s PIDCJC or possibly just PIDC. Chapter 10 summarizes the importance of the combination of these elements. Chapter 11 defines the needed new virtue and Chapter 12 then is of extreme importance in identifying the “where” of the generation of the necessary awe and reverence to encourage the use of those concepts.

Part V Proper Primility: An Aristotelian Answer for Climate Change and Beyond

This is *aischron* [disgraceful] even for future generations to hear,¹⁸³
Shameful indeed that future men should hear,¹⁸⁴
A shameful thing is this even for the hearing of men that are yet to be,¹⁸⁵

—Homer (*Iliad*, ca. 1300 B.C.E)

Granting that the earth is for man — there is still the question: what man? ... Five races—five cultures— have flourished here. We may truthfully say of our four predecessors that they left the earth alive, undamaged.

Is it possibly a proper question for us to consider what the sixth shall say about us?
If we are logically anthropomorphic, yes.¹⁸⁶

—Aldo Leopold (Leopold, ca. 1923 C.E)

Chapter 10 – The Aristotelian Combination and Climate Change

Homer’s words resulted from the Athenian army’s retreat before the victory was won and the attendant shame and disgrace that would last through future generations. Again, Greece in the times of Homer through Aristotle was a culture in which shame was a serious concept. It is not such a concept within the United States today where the United States’ culture is recognized as a denial culture. However, fast-forward to the twentieth century and, while Aldo Leopold does not

¹⁸³ Homer, *Iliad* 2. 119-22; translation by Douglas L Cairns, *Aidōs: The Psychology and Ethics of Honour and Shame in Ancient Greek Literature* (Oxford: Oxford University Press, 1993), p.59.

¹⁸⁴ Homer, *Iliad* 2. 138; translation by Robert Fitzgerald (New York: Farrar, Straus and Giroux, 2004), p.33.

¹⁸⁵ Homer, *Iliad* 2. 119-22; translation by A.T. Murray, in two volumes. (Cambridge, MA., Harvard University Press; London, William Heinemann, Ltd., 1924), or at http://www.perseus.tufts.edu/hopper/text;jsessionid=6BC8042CD*85C5327A83B69C979D492CE?doc=Perseus%3Atext%3A1999.01.0134%3Abook%3D2%3Acard%3D119. (* Eliminate the space at this location of the address.)

¹⁸⁶ Leopold includes in this quote at the ellipses the following text: "Granting that the earth is for man— there is still a question: what man? Did not the cliff dwellers who tilled and irrigated these our valleys think that they were the pinnacle of cration [sic]— that these valleys were made for them? Undoubtedly. Then the Pueblos? Yes, and then the Spaniards? Not only thought so, but said so. And now we Americans? Ours beyond a doubt! (How happy a definition is that one of Hadley's which states, 'truth is that which prevails in the long run'!) Aldo Leopold, "Fundamentals of Conservation in the Southwest" (ca. 1923) in *Environmental Ethics*, vol. 1, issue 2, 1979, pp.131-141; herein referenced as "Leopold, 1923, p.____".

use the word shame or disgrace, in or about 1923, he was concerned about the shame and disgrace that would be attributed to the “fifth culture”—us—by the “sixth culture”—the next generation or generations that will inhabit what is now, and what hopefully will continue to be, the United States. Climate change will be one of the major sources of our shame and disgrace if not *the* major source.

We who are presently citizens of the United States have virtually lost our appreciation of, respect for, and awe of, Earth and its inhabitants, even its human inhabitants. The citizens of this country, virtually all of us, have come to look upon Earth and most of its inhabitants, human and nonhuman—even ourselves as individuals—as entities to be exploited which generally results in benefit for the few, not even the many. We have let ourselves believe that we must exploit ourselves and forgo possible joy in order to further benefit the few through our fossil fuel addiction, our rampant consumerism, and our un- or under-regulated capitalism and we will fight to the death to retain those vices.

As a result, that exploitation seems to rein in the United States because those losses seem to be caused by the greed and avarice of the few, not the many. The many are encouraged by the few to accept the idea of greed and avarice in the few through the life focus of materialism that the many are led to believe that they “enjoy”. But that materialism is not the source of the honour and joy that would result from flourishing. We seem to have come to believe that materialism is a virtue simply because it is struggle which we seem to exert against our fellows in an effort to increase our own material wealth which the few encourage us to do without ceasing because through that effort of the many, the few are able to increase their material wealth to a wretched level. That level becomes wretched when it merely increases the level of luxury of the few and does not promote the common advantage rather than the unfair advantage that the few are able to promote through their ability to line the pockets of individual legislators.

Can the combination of Aristotelian continence and incontinence, the Broadie Contingent Choice, the *Aidōs* Response, and Aquinas's psychology help us to avoid that disgrace and shame through the implementation of the new virtue, Proper Primality, (or something similar) and for a renewed interest in virtue ethics generally for providing the necessary interest in attacking our anthropogenic climate change and implementing the mitigation and adaptation necessary for that attack? A review is helpful. Virtues and vices as Aristotle argues are states of character and, of course, can be either good or bad. Again, Aristotle names four practical kinds of moral states where two kinds are to be avoided - vice and incontinence - and where "the contraries of two of these are evident - one we call virtue, the other continence" (Ross, p.118 (1145a15-20)) When defining continence and incontinence, he states that they are neither virtue nor vice but that the former is "thought to be included among things good and praiseworthy" while the latter is "among things bad and blameworthy". (Ross, p.119 (1145b7-20)) This dissertation is concerned with all four of those states which have been discussed at length previously in this dissertation.

In summary, Aristotle's route to a virtuous and, therefore, a flourishing life (likely a happy life) and to avoidance of personal and public shame and disgrace is through a moral character that results from the rational recognition that doing actions based on the deliberated choice of a mean or intermediate action - a virtue as a state of character - is the correct choice between possible actions that exhibit vices as excess or deficiency of that virtuous intermediate action. Also, that character that requires recognition and choice of the intermediate or mean will not only promote individual relationships but will support a virtuous and flourishing community in which the individual will have a much better opportunity of living that flourishing and truly enjoyable life. Recognizing (1) the importance of Aristotle's states of continence and incontinence, (2) the Broadie Contingent Choice, (3) the *Aidōs* Response and (4) Aquinas's systematic means of

adopting Aristotle's psychology of habitual action (items (2) through (4) facilitate the development and maintenance of the continent and incontinent states of character) provide the method for the valuable struggle of developing a flourishing and happy life and on the way necessarily undertaking the work of the mitigation of and adaptation to climate change. Without this work which addresses the concern of the present human generation for the future generations of all life on Earth and without the necessary awe and reverence for those generations and Earth generally, there will likely be no continuing flourishing or happiness to be found on Earth.

Initially, a quick review of Aristotle's available virtues brings to light their invaluable worth but also their inability to address the crisis of climate change through promotion of a character needed to address that necessary mitigation and adaptation. Aristotle's moral virtues or virtues of character include courage, liberality (generosity), temperance, truthfulness (about one's self), justice (including honesty and equity) (Ross, Brown; p.xxiii (1138a1-3)), friendliness, proper pride (magnanimity; literally "greatness of soul"), ready wit, good temperedness, magnificence, righteous indignation and the "no name" virtue (between ambition and unambitiousness (being properly honourable?)). His chief intellectual virtues are scientific knowledge, art, intuitive reason (which constitute wisdom and includes philosophic wisdom) and practical wisdom (prudence, *phronēsis*). His minor intellectual virtues are goodness in deliberation, understanding, and judgment.

He also includes *aidōs* in his *Nicomachean Ethics*, generally translated as shame, with his virtues of character but states that *aidōs* is "more like a passion than a [virtue]." (Ross, p.79 (1128b10)) The fact that he includes *aidōs* with his virtues of character indicates the importance that he attaches to *aidōs* in the development of virtuous character and most importantly and necessary for the incontinent person and continent person on the way to the hoped for capacity of

phronēsis and virtue. Mitigation of and adaptation to climate change would seem addressed through some if not all of Aristotle's virtues listed above. However, because again the immediately existing generation is not harmed to the severe extent of future generations of all life, the present generation, at least in the United States, is for the most part, conveniently refusing to accept the science of climate change (though that generation is aware of the IPCC and the AR5) and is placing the blame elsewhere (for example, on China and India where those countries are, in fact, becoming leaders in the use of alternative energy sources). For either of those excuses, the present United States generation is for all practical purposes willing to continue life on a "business as usual" basis.

A further associated problem is that those virtues (save possibly "proper pride") seem to relate to relationships between existing individuals and societies. However, if honour, dishonour and *aidōs* (translated as "shame") are the result of the practice or failure of the practice of those present virtues, then we should also recognize that those three concepts transcend the idea of present existence. Individuals have been, are, and will be honoured and dishonoured after death. Further, honour, dishonour and shame are, of course, not only applied to individuals but the societies and cultures, for example Tom Brokaw's recognition of honour for the Great Generation. It is snowflakes that cause the avalanche and it is us snowflakes that are causing climate change and will be honoured or shamed by the future as a result. Therefore, we should recognize honour and shame as of primary importance for addressing future generations and climate change.

Relative to the mitigation of and adaptation to climate change, I argue that present virtues or states of character, Aristotelian or otherwise, are not sufficient to address that work because they are not presently equipped to address the extension of ethical consideration to unborn life or to address Earth-wide crises such as climate change because those virtues and their underlying principle of reciprocity do not address transgenerational concerns or anthropogenic planet wide

pollution such as that which causes climate change. Those present virtues are therefore temporary and unenduring in this age of fossil fuel energy and expanding population for the benefit primarily of ephemeral, individual wealth and its accompanying vicious luxury.

The task of the needed new virtue is the extension of that ethical consideration to unborn generations of not only *Homo sapiens* but all of Earthly life including, but not limited to, Earth herself because she sustains all of that life. Future life is of critical importance if present life has any meaningful importance. The accumulation of wealth for other than the common welfare is without any permanent worth because of its lack of distributive justice, especially to future generations. Therefore, proper primality as the inseparable combination of proper pride and proper humility is offered as a possibility of addressing all of those concerns. Proper primality may not be the best concept or the appropriate name for a new virtue but it is offered as a foundational virtuous concept.

In addition, Aristotle and the Greeks who inspired him also have given us, not only the intermediate states of character of continence and incontinence as methods to achieve virtuosity but also a major and multifaceted motivator that seems to have been overlooked for centuries, *aidōs*. Aristotle called this motivator “more of the passion than a state of character.” Aristotle’s virtues are states of character while this motivator is “more like a passion.” At least one author and philosopher, Douglas Cairns, argues that this motivator should be accepted as a virtuous state of character. In this twenty-first century, this motivator needs to be no less than a state immediately below that of a virtuous character especially in light of its importance to the states of continence and incontinence and also in light of climate change.

That motivator is enshrined in the Greek word “*aidōs*” and can be further enshrined in the phrase, the *Aidōs* Response. The elegance, beauty and value of *aidōs* is found in its numerous

meanings that range from shame to reverence with a number of intermediate meanings. Further, *aidōs* is a prospective concept and, as such, for Aristotle and the Greek authors before him, becomes apparent to an agent as an action is conceived but is as yet unexecuted. Aristotle found *aidōs* morally useful because of its ability to question a conceived action concerning its immorality and, therefore, because of the ability of *aidōs* to preclude the agent from executing the vicious action. Finally, Aquinas organized Aristotle's psychology/procedure which provides a method for the requirement of calling *aidōs* to mind when morality is involved which today is virtually always because fossil fuel generates at least 85% of the electricity that creates CO₂, the material cause of climate change where we as the users of fossil fuels that generate that CO₂ are the efficient cause.

Again, Aristotle's four moral states of (1) virtue, (2) continence, (3) incontinence and (4) vice are critical for addressing climate change. Incontinence is of particular importance in addressing climate change because of its anthropogenic origin - its sole present cause being Homo sapiens and its addiction to fossil fuel energy and population growth for the benefit of consumerism and un- and under-regulated capitalism. Aristotle's concept of incontinence includes the ability of the agent to recognize (1) the immorality of conceived action but also (2) the inability of the agent to engage any and/or all of her/his action attributes toward that moral action and (3) then the willingness of that agent to nonetheless engage in the immoral/bad action. At the very least, there is recognition of the moral action when otherwise the vicious action could somehow be rationalized as virtuous. *Aidōs* was, is, and will be available to remind the agent of the moral alternative and, thus, to possibly preclude the agent from immoral action. Agent activity that promotes climate change is immoral. Consequently, *aidōs* is available in this twenty-first century to preclude agents from taking actions which promote climate change.

This Chapter 10 brings together the argument that Aristotle's states of vice and incontinence are the cause of climate change and that *aidōs* is necessary to convert that vice and incontinence into Aristotle's state of continence which then serves to facilitate the mitigation of, and adaptation to, climate change. The explanation of these Aristotelian states of character and the nature of *aidōs* are found in Chapters 7 and 8 above. The procedure or psychology for their effective implementation as organized by Aquinas is found in his *Treatises on Happiness and Human Action* reviewed in Chapter 9 above. Through that psychology, those elements provide a possible method for the effective implementation of Aristotelian continence, Broadie's Contingent Choice, *aidōs* and a new virtue, possibly proper primality. Aristotle's incontinence as exhibited especially in the United States today and the application of Broadie's Contingent Choice, *aidōs* and proper primality are argued as having the possibility of addressing that incontinence and reforming it at least to Aristotle's concept of continence if not to his concept of virtue, thereby addressing climate change's mitigation and adaptation for the benefit of our present generation and the unborn generations of all life on Earth.

Again, in Chapter 11, proper primality is explained and argued as necessary to address the crisis of climate change where that crisis is recognized in large part as the lifespan of centuries and possibly millennia of the waste of all fossil fuel combustion, CO₂, and its durability for those periods. Chapter 12 suggests the method of finding proper primality through the geography in which its components, proper pride and proper humility, can be most directly and easily found and enjoyed and then implemented through the elements summarized in this Chapter 10.

Chapter 11 - Proper Primality: The Concept of a New Virtue

The crisis, in sum, consists in the overshoot and its climatic effects. As we turn Earth into a harsher world, we make it into an enemy of civilization. ... The ecological crisis of the twentieth century is becoming a *human* crisis in the twenty-first century. And as that, its root cause is a market failure; its beneficiaries are corporations, banks and the top one percent income holders. Everyone else is in harm's way: young and old, men and women, states and societies, affluent and poor nations, we and posterity.

Martin Schönfeld (Wisdom, 2016, pp.194-195)

So, what can be done? As Schönfeld observes, climate change highlights gaps in our conventional notions of accountability, responsibility and guilt. In addition and of major concern is the fact that our society generally and our laws specifically are virtually all the result of our reliance on the concept of reciprocity where there is no provision within that present concept for any notion of reciprocity with unborn entities.¹⁸⁷ While it seems that the present United States' generation cannot help but understand the importance of these climate change concerns, that generation finds at least as inconvenient any real constructive action for resolution of those concerns in terms of its apparent desire for an ever increasing attempt at an ever increasing materialistic standard of living. Also, our present generation in the United States appears to be willing to take full credit for our "improved" standard of living which may only be a detrimental result of the apparent willingness to worship at the altars of an overly free-market capitalism, rampant consumerism, and a rampant willingness to promote increased population for the purpose of serving that capitalism and consumerism.

¹⁸⁷ As above, it is suggested that a sense of reciprocity may be involved in the honour to be bestowed on the present generation by future generations. Aristotle does argue that honour and not material wealth is or should be the greatest of external goods. (Ross, p.68 (1123b18-22))

The importance of recognizing ancestral or future generations and the present generation's "benefits from," "debts to," or "dependence on" and the associated accountability and responsibility are concerns about which present Western ethical theories say very little and nothing substantial. In addition, the deontological and utilitarian theories seem to have nothing to say about humility, guilt or shame, which at this point in Earth's history, are of critical importance and sorely needed especially in the United States. However, virtue ethics, both Aristotelian and Confucian, at least, begin to address some of those concerns where some of those beginnings suggest the ability to bear further fruit.

To address these problems through a climate ethic, proper primality combines the concepts of proper pride and proper humility as those terms have previously been defined and are further defined herein. While "ancient" virtue ethical theory as stated by Aristotle, Confucius, Mencius, Aquinas and others did not specifically and clearly consider future generations or global concerns such as climate change (because they were not issues during their lifetimes), all of those philosophers do provide support for extending ethical consideration to future generations and for addressing concerns such as climate change. Further, I argue that they all support concepts of proper pride and proper humility. In this dissertation, only Aristotle and Aquinas particularly have been reviewed for their support for those considerations and concepts. The Eastern philosophers mentioned above will need to be reviewed in a further paper. While proper primality is offered, other concepts may be more successful in extending and improving moral consideration. In any event, something new and/or revised is required.

Generally, both Aristotle and Aquinas do address both the individual and community. In addition, it seems that initially attempting through community to reform the individuals necessary to bring about change is at least difficult if not impossible. What seems needed presently are a few

individuals within community who understand the need for change and are equipped to act accordingly.

Whether this virtue should be called “proper primality”¹⁸⁸ or given some other name, I argue that to consider extension of ethical consideration to unborn generations of all life and to address climate change, a concept incorporating both “proper pride” and “proper humility” as indivisible components is critical. Schönfeld argues that these two concepts are really two sides of the same coin and virtue. As such, they represent a kind of Western version of the Eastern *yinyang* which represents the interdependence of what seem to be opposites.

I argue that it is not simple pride and simple humility that can be brought together in primality because they are indeed opposites. More appropriately, proper primality becomes the conjoining of proper pride and proper humility. Within proper primality, neither can be present without the other. Proper primality then becomes a concept similar to that of the *yinyang* concept which has been described as follows:¹⁸⁹

Yinyang (yin-yang) is one of the dominant concepts shared by different schools throughout the history of Chinese philosophy. ... [T]hree basic themes underlie nearly all deployments of [yinyang] in Chinese philosophy: (1) *yinyang* as the coherent fabric of nature and mind, exhibited in all existence, (2) *yinyang* as *jiao* (interaction) between the waxing and waning of the cosmic and human realms, and (3) *yinyang* as a process of harmonization ensuring a constant, dynamic balance of all things.

¹⁸⁸ If the word “primality” is “googled,” websites containing that word are retrieved. Those websites are maintained by Jerod Morris who apparently generated the word some years ago and applied it to individuals but not to humankind in general as it is, in addition, applied in this dissertation. Morris indicates a definition of having a high opinion of one's own importance while simultaneously maintaining a modest opinion or estimation of that importance. Because these seem to be opposites, the definitions and concepts included in this dissertation among other purposes seek to eliminate that appearance. Morris's websites relate to achieving success vocationally and in life generally which are certainly worthy causes. See, www.primality.com/about/

¹⁸⁹ *Internet Encyclopedia of Philosophy*, (ISSN 2161-0002), author, Robin R. Wang, PhD., Loyola Marymount University.

Concerning climate change and its issues, it seems that all three of these themes are required. Initially, that "coherent fabric" seems to have been rejected during prior decades at least in the United States. Secondly, that "interaction" has yielded to the human attempt at control through the human causes of climate change, while, thirdly, that "harmony" is in the process of being destroyed over that same period by the imbalance causing climate change.

Dr. Wang's definition continues with a reference from the *Zhuangzi* (*Chuang-tzu*).¹⁹⁰

As the *Zhuangzi* (*Chuang-tzu*) claims, "Yin in its highest form is freezing while yang in its highest form is boiling. The chilliness comes from heaven while the warmth comes from the earth. The interaction of these two establishes *he* (harmony), so it gives birth to things. Perhaps this is the law of everything yet there is no form being seen." (*Zhuangzi*, Chapter 21).

The rebirth of that harmony is critical. His definition concludes with the following characterization of the *yinyang*:

In none of these conceptions of *yinyang* is there a valuational hierarchy, as if *yin* could be abstracted from *yang* (or *vice versa*), regarded as superior or considered metaphysically separated and distinct. Instead, *yinyang* is emblematic of valuational equality rooted in the unified, dynamic, and harmonized structure of the cosmos. As such, it has served as a heuristic mechanism for formulating a coherent view of the world throughout Chinese intellectual and religious history.

Because proper primality is being suggested as similar to *yinyang*, it is hoped that it can be seen as a "process of harmonization" ensuring not only a return to a prior "constant, dynamic [natural] balance," but also the ongoing heightened balance required by climate change. That balance needs to be viewed as the "valuational equality" of those two concepts "rooted in the unified, dynamic, and harmonized structure" of a flourishing ontology of all life on Earth. In order for this to be achieved, a heightened respect for, and relationship with, Earth and all of its present

¹⁹⁰The source of this translation is not provided with the definition, but a translation can be found in Victor Mair's *Wandering on the Way* where the translation is somewhat different. (See, Chuang Tzu, *Wandering on the Way: Early Taoist Tales and Parables of Chuang Tzu*, trans. Victor H. Mair (Honolulu: University of Hawaii Press, 1998), p.202 (Book 21, Chapter 4))

and future content must be generated. Initially, each of these "proper" concepts needs to be fleshed out to begin to understand this hoped for appropriate balance. Consequently, proper pride, an Aristotelian virtue, is described and then proper humility is described. Thereafter, proper primality can be described and defined.

A. Proper Pride - An Aristotelian Virtue

David Ross, in his translation of Aristotle's *Nicomachean Ethics*, translates the Greek word "*megalopsychia*" (*μεγαλοψυχία*, literally "great souledness") as "proper pride" remembering that Aristotle is describing a virtue. (Ross, p.32 (1107b22); fn pp.224-25) Also, recall that the Perseus-Tufts website which acknowledges the translation "greatness of soul" also states "*μεγαλοψυχία*, magnanimitas means lofty pride and self-esteem rather than magnanimity or high-mindedness (in the modern sense of the word)." (See page 222 above) The term "proper pride" harmonizes with "lofty pride" and, therefore, Ross's translation of proper pride is used. As a result, proper pride cannot include the state of having hubris or inordinate self-esteem, being conceited, being ostentatious, being avaricious, greedy or engaging in disdainful behavior or treatment of other life. Aristotle initially states: "With regard to honour and dishonour the mean is proper pride, the excess is known as a sort of 'empty vanity', and the deficiency is undue humility" (Ross, p.32 (1107b22-24)) As argued below, this deficiency of undue humility or "being too humble" strongly suggests that humility could be a mean and a virtue with "unduly humble" as the excess and possibly "arrogance" or "hubris" as the deficiency. More on humility below.

Continuing with proper pride and expanding that concept, Aristotle states: "he who thinks himself worthy of great things, being unworthy of them, is vain" though Aristotle qualifies this by suggesting that the properly proud man must at times think of himself as worthy of more than he may be at the moment in order to continually advance with this virtue. In addition, "it is

hard to be truly proud; for it is impossible without nobility and goodness of character.” (Ross, p. 69 (1124a3-4))

Aristotle states that the desert of pride is "honour" and, concerning "desert," Aristotle states: "Desert is relative to external goods ... and the greatest of these [external goods] ... is honour ... [;] [i]t is evident that proud men are concerned with honour; for it is honour that they chiefly claim, but in accordance with their deserts." Aristotle continues: "The proud man, then, is an extreme in respect of the greatness of his claims, but intermediate in respect of the rightness of them; for he claims what is in accordance with his merits, while the others go to excess or fall short." (Ross, p.68 (1123b13-15)) He further requires that: "the truly proud man must be good. And greatness in every virtue would seem to be characteristic of a proud man. ... Pride, then, seems to be a sort of crown of the virtues." (Ross, p.68-69 (1123b29-1124a2))

Aristotle addresses the desert of honour again immediately following his thoughts about proper pride in his discussion of ambition and unambitiousness. Concerning ambition and unambitiousness, Aristotle associates ambition with honour. He initially suggests that we blame ambition as seeking honour excessively and from improper sources and blame unambitiousness as being unwilling to accept honour even where noble reasons are involved and honour is merited. However, Aristotle capitulates a bit and maintains that praise and honour are sometimes due the ambitious person "as being manly and a lover of what is noble" and are sometimes appropriate for the unambitious person for "being moderate and self-controlled". He argues that there must be a mean between ambition and unambitiousness but finds that it is without a name.

Further, he opines that sometimes in regard to ambition, unambitiousness may seem to be the mean while in certain circumstances ambition appears to be the mean. He states: "Relatively to ambition [the mean] seems to be unambitiousness and relatively to unambitiousness [the mean]

seems to be ambition, while relatively to both severally [the mean] seems in a sense to be both together." (Ross, p.72 (1125b1-25)) While giving the mean this seemingly confused definition, Aristotle still specifically says that this "without a name" mean "is a state of character that is praised" (Ross, p.72 (1125b21-22)), and, it, therefore, is a virtue.

In addition, this seemingly confused definition can be construed as Aristotle's recognition of two ideas, the first of which is that not only are there some virtues that have not yet been named, and there may be virtues that have not been recognized especially in light of changes in culture, tradition, science and human behavior in general. Secondly, his thought that, depending on the circumstances, both ambition and unambitiousness could be means, would seem to be one more example of the appropriate mean being "proper ambition" where the object is being "properly honourable". Also, his use of the phrase, "both together," is an argument for the association of proper pride with proper humility becoming the single virtue of proper primality.

Aristotle also describes the proud person as one that "will also bear himself [/herself] with moderation towards wealth and power and all good or evil fortune ... and will be neither overjoyed by good fortune nor over-pained by evil." (Ross, p.69 (1124a13-15)) Also, Brown in a note reminds us that the good person does not actually focus on the honour but on the virtue that merits it. (Ross, Brown; p.225) While the honour is desirable, it is virtue that creates it if, and only if, the ambition is genuine. Aristotle comments further and specifically on the goods of power and wealth which are "thought to contribute towards pride". He states and warns:

Hence even [goods of fortune and wealth and power] make men prouder; for they are honoured by some for having them; but in truth the good man alone is to be honoured But those who without virtue have such goods are neither justified in making great claims nor entitled to the name of "proud"; for these things **imply perfect virtue**. Disdainful and insolent, however, even those who have such goods become. For without virtue it is not easy to bear gracefully the goods of fortune; and, being unable to bear them, and thinking themselves superior to others, they despise others and themselves do what they please.

(Emphasis added; Ross, p.69 (1124a21-b5)) It is important to note that Aristotle states that it is the proud *virtuous* man that should receive honour and that there are dangers associated with the goods of fortune, wealth and power. In the United States, these dangers have been realized as the result of those “apparent goods”. As is widely recognized, pride is not necessarily looked upon as a virtue, for example, in the Bible where pride is generally looked upon as a sinful disposition. (Proverbs 16:18; Isaiah 2:11; Daniel 4:37; Mark 7:22)¹⁹¹ This, of course, is one more reason why the virtue should not be common pride but must be "proper pride".

B. Proper Humility

(1) Aristotle's humility

Aristotle does not specifically address humility other than in his discussion about pride. While the mean is proper pride, the excess is "vanity" and the deficiency, also a vice, is "unduly humble" (Ross, p.68 (1123b5-14)) or "undue humility". (Ross, p.71 (1125a32)) Ross translates "*μικρόψυχος*" as "unduly humble" and *μικροψυχία* as "undue humility." (Ross, p.32 (1107b26); p.71 (1125a32))¹⁹² Ross translates Aristotle's description of this person as:

[T]he unduly humble man, being worthy of good things, robs himself of what he deserves, and seems to have something bad about him from the fact that he does not think himself worthy of good things, and seems also not to know himself Yet such people are not thought to be fools, but rather unduly retiring.

¹⁹¹ *New Revised Standard Version* (New York: HarperCollins Publishers, 1989); *The New Oxford Annotated Bible: New Revised Standard Version With The Apocrypha*, ed. M.D. Coogan (Oxford: Oxford University Press, 2010). But see Hebrews 3: 6 (pride of hope).

¹⁹² The Perseus website translates "*μικρόψυχος*" as "meanspirited" and "*μικροψυχία*" as "littleness of soul, meanness of spirit" all of which seem to be descriptive of a vice. (http://www.perseus.tufts.edu/hopper/text?doc=*Perseus%3Atext%3A1999.01.0053%3Abekker+page%3D1123b%3Abekker+line%3D10). Ross may actually be purposely understating his translation in an effort to mollify the twentieth century reader. (* - Eliminate the space at this location of the internet address.)

(Ross, p.71 (1125a19-24)) Aristotle's thought here seems applicable to the early twenty-first century in the following way. The present generation seems to be so focused on the goods of fortune, wealth and power that it robs itself of true flourishing and, therein, has become vicious or at least incontinent and without virtue. Aristotle then immediately concludes that undue humility is actually more common and, in fact, worse than vanity because unduly humble people may refrain from taking noble actions. This emphasizes the value of the virtue of proper pride through encouraging the individual to undertake virtuous and honourable actions because of the appropriate pride involved in the willingness to undertake and complete those actions.

Continuing with Aristotle's idea of undue humility, he states: "The man who thinks himself worthy of less than he is really worthy of is unduly humble whether his deserts be great or moderate And [that] man whose deserts are great would seem most unduly humble" (Ross, p.68 (1123b8-14)) Therefore, "proper humility," for Aristotle could arguably be a virtue with the excess as "undue humility" or too much humility and its deficiency, too little humility or improper pride or arrogance which then would make the mean either proper pride or proper humility both of which could be collectively called "proper primility" as the single mean. While there may be logical arguments against that conclusion, it seems on its face to be a good modality for understanding "undue humility" as Aristotle's and Ross's vice.

As an additional thought about the concept of proper humility, it seems we should feel proper humility when we truly understand our absolute dependence on others and on Earth in this present world. We are *totally dependent* on those others (and Earth) that grow and those others who process our food, that produce our electricity and water supply, that provide our means of communication, etc.

(2) Proper Humility - a present definition

Present environmental ethics offers many positive recommendations for climate change, one of which is the "proper humility" offered by Thomas E. Hill, Jr. as a necessary virtue. Aristotelian and Confucian ethics, while considering humility, do not seem to embrace it as a full virtue. As above, humility is not an Aristotelian virtue but, as above, the thought of proper humility can be found within Aristotle's *Nicomachean Ethics*.

Proper humility, as an individual virtue, was introduced by Hill in his environmental ethics essay published in 1983,¹⁹³ where he argues that the problem of the human animal concerning his/her respect for the natural environment is the lack of "a proper humility, self-acceptance, gratitude, and appreciation of the good in others". With Hill, I argue that the climate change intergenerational problem stems primarily from a lack of proper humility and that the lack of self-acceptance, gratitude, and appreciation of the good in others, whether life forms or inanimate things, is a result of the lack of a proper humility in the agent. This lack along with the problem of reciprocity seems to preclude this present generation from collectively concerning itself with the good of unborn generations and with recognizing its own reasonable good for that matter.

Hill offers that idea as an addition to virtue ethical theory generally. While Hill is commenting on someone who is needlessly replacing plants with asphalt, his comments about humility regard present society collectively. Initially, he suggests that those who destroy the natural environment are thought to lack an appreciation for their position in the natural order of things because they are thought to

be ignorant or have too little humility ... [where] their attitude may well be rooted in [1] ignorance, [2] a narrow perspective, [producing the] inability to see things as important apart from themselves and the limited groups they associate with, or [3] reluctance to accept themselves as natural beings. Overcoming these deficiencies

¹⁹³ Hill, Thomas E. Jr., "Ideals of Human Excellence and Preserving Natural Environments," in *Environmental Ethics*, Vol. 5, No. 3 (1983), pp. 211-224; herein referenced as "Hill, 1983, p.____".

will not guarantee a proper moral humility, but for most of us it is probably an important psychological preliminary.

(Hill, 1983, p.216) All of the above three deficiencies are present in at least the United States community today. If an individual, corporation, community, or nation can begin to accept accountability, responsibility, guilt and shame for climate change, Hill's proper humility seems like a required initial step toward a meaningful climate change ethic.

He defines proper humility as involving "that sort and degree of humility that is a morally admirable character trait. How precisely to define this is, of course, a controversial matter; but the point for present purposes is just to set aside obsequiousness, false modesty, underestimation of one's abilities, and the like." (Hill, 1983, p.219) He further states "Learning humility requires learning to feel that something matters besides what will affect oneself and one's circle of associates." (Hill, 1983; p.220)¹⁹⁴ The means of acquiring proper humility is through habituation as recommended by both Aristotle and Aquinas and as addressed in Chapters 7 and 9 above.

But even with Hill's proper humility, no importance seems to be placed directly on the dishonour that future generations will feel toward our present generation and the attendant disgrace of our generation instead of the honour, for example, that has been expressed for the "Great Generation" of the United States born in the first twenty-five years of the twentieth century. In fact, the present generation does not seem to even remember that it owes that generation anything. Therefore, anticipated shame as expressed through the word *aidōs* seems necessary. Further, *aidōs* with its breadth of translated meaning, offers if not a new standalone virtue, the opportunity of growth from Aristotelian incontinentancy toward Aristotelian continency and virtuosity as argued above. If viciousness exists, Aristotle argues that in some cases it cannot be cured. (Ross,

¹⁹⁴ Here, Hill's reference to "one's circle of associates," clearly reflects those associates who are presently in existence and, therefore, some intergenerational concept needs to be added.

p.130(1150a15-23)). For Aristotle, self-indulgence is the vice associated with the virtue of temperance (Ross, p.32 (1107b6); p.25 (1109a317-18); p.57 (1118b7-1119b18)) and self-indulgence seems rampant in this twenty-first century, especially in the United States.

C. Proper Primality

If virtues are defined as “dispositions to act,” can proper primality and its component of proper humility be considered "dispositions to act"? I argue that they are dispositions to act because proper pride is a recognized Aristotelian virtue, a virtuous state of character and disposition to act, and, therefore, as an accepted antonym of proper pride, "proper humility" is a virtue as well. Proper primality then by definition is also a virtuous disposition to act.

Further, in light of the above non-proper descriptions, the following possible definitions are suggested for proper pride and its partner, proper humility.

Proper pride - (1) the informed knowledge and appreciation of, and respect for, one's own **strengths** both physical and mental, and, (2) also, the informed knowledge and appreciation of, respect for, and felt imaginative empathy with, the beauty, bounty, capacities, and capabilities and the strengths (a) of Earth and (b) all its life forms including, without limitation, the global human community of which each human is a part and a co-creator, and, also, including all future generations of that community.

Hill's proper humility then can be further defined as:

Proper humility - (1) the informed knowledge and appreciation of, and respect for, one's own **limits** both physical and mental, and, (2) also, the informed knowledge and appreciation of, respect for, and felt imaginative empathy with, the beauty, bounty, capacities, and capabilities of Earth and the limits (a) of Earth and (b) all of Earth's life forms including, without limitation, the global human community of which each human is part and co-creator, and including all future generations of that community.¹⁹⁵

¹⁹⁵ Because this concept of "co-creator" is that authored by Roger T. Ames in his essay, "Reading the *Zhongyong* 'Metaphysically'", in *Chinese Metaphysics and Its Problems*, ed. Chenyang Li and Franklin Perkins (Cambridge: Cambridge University Press, 2015); pp.85-104, I attempt to incorporate that concept in this dissertation. His concept involves humans as co-creator with Earth to achieve a dynamic and flourishing Earth and its life. In at least one respect of many, humanity is a co-creator, at least, in a negative sense because it has generated climate change. Maybe humanity can cognitively embrace its positive co-creator potential and responsibility in that regard and otherwise.

Proper primility then cannot be described as just a combination of pride and humility but can be defined as:

Proper primility - the dynamic ability of knowing, appreciating, respecting and **using one's own strengths and knowing, appreciating and respecting one's own limits, both physical and mental,** and also of **knowing, appreciating, respecting, promoting, and, the felt empathizing with, (1) the beauty, bounty, capacities and capabilities and the balance and limits of those attributes** (1) of Earth and (2) all of Earth's past, present and future life of which each human is a part and a co-creator, and, as a co-creator, of ensuring continuance of that life and that beauty and bounty and those capacities and capabilities.

Also, it must be a very personal virtue because accepting that definition must begin with the individual who, to the extent possible, fully understands the personal and social benefits of that dynamic ability and responsibility and the balance of a proper humility and a proper pride.

As an alternative to the vicious characters of self-indulgence, insensibility, vanity and undue humility, among others, that have generated climate change, proper primility is offered as the mean necessary to exceed the virtuous character of the Great Generation. The individual must better understand both her/his own limits and strengths, physical and mental, but must better understand Earth's strengths and limits, both physical and spiritual. Humanity since the industrial revolution has chosen to test and then exceed Earth's physical limits and, as a result, its spiritual limits as well. Exceeding Earth's physical limits is the result of humanity's hubris exhibited through its willingness to allow rivers to burn, to allow waste to pollute (including nuclear waste especially without any yet acceptable solution), to allow other forms of genial life to disappear, to allow Hume's "unlimited abundance" to become limited to the extent that they have become private property.

Chapter 12 - Finding Proper Humility, Proper Pride and, Therefore, Proper Primality Through Awe and Reverence

Reverence is not enough by itself for completely good character.

You need to develop other capacities in order to live a morally good life. ... Does it take reverence to be courageous? I think so. ... [C]ourageous people would be ashamed and therefore afraid of doing wrong because of the respect they feel for moral ideals. Their capacities for shame and respect grow from reverence.

—Paul Woodruff (Woodruff, 2014, 58)

Paul Woodruff in his book *Reverence: Renewing a Forgotten Virtue*¹⁹⁶ argues that while we should not attempt to imitate ancient Greek or Chinese cultures, “we are better off for studying them”. Also, recalling that *aidōs* has been and can be translated as awe and reverence, his book is another necessary read concerning proper primality and its components of proper pride and proper humility. He defines reverence as “the capacity to feel respect in the right way toward the right people, and **to feel awe toward an object that transcends particular human interests.**” (Emphasis added; Woodruff, p.184) Particularly concerning leaders, Woodruff argues that “Reverence, not justice, is the virtue that separates leaders from tyrants, as the old Greek poets knew well. ... When leaders are reverent, they are reverent along with their followers, and their common reverence unites them in feelings that overcome personal interests, feelings such as mutual respect.” (Woodruff, p.184) He argues that this mutual respect takes the “sting” out of the normal tools of leaders those being “persuasion, threats of punishment and manipulation by means

¹⁹⁶ Paul Woodruff, *Reverence: Renewing a Forgotten Virtue* (New York: Oxford University Press, 2014); herein referenced as "Woodruff, p.____".

of rewards” because “there are no winners and losers where there is reverence. Success and failure are dwarfed” by the object that both the leader and the followers hold in awe. It is important further to recall that *aidōs* has been and can also be translated as “respect, awe and reverence”.

Woodruff argues that it is crucial to be able to feel an honest sense of awe to experience the virtue of reverence. I argue that it is crucial to feel an honest sense of awe to begin to understand proper primality and its components of proper pride and proper humility. In addition, I argue with Woodruff that this feeling of an honest sense of awe can be a foundation of virtue ethical theory. He argues that reverence requires “feelings and emotions that are linked; it is a sense that there is something larger than a human being, accompanied by capacities for awe, respect, and shame; it is often expressed in, and reinforced by, ceremony.” (Woodruff, p.57) He argues that we can feel awe when we recognize and feel that there is something or there are some things that are “above us all as human beings” where “this feeling helps us to avoid treating other human beings with contempt.”

In addition, both Greek and Chinese traditions (that are about as much as a mere 6000 years old) hold that a sense of shame is always important to all humanity. That sense keeps our primality and our pride and humility in equilibrium and, therefore, at the proper level. Woodruff argues that it is reverence with its sense of awe that accomplishes this leveling. He states

Without reverence, we may feel shame as the pain of being exposed to other people for having violated community standards— and this is not a virtuous response, because it may have nothing to do with right and wrong. But when reverence is in play, we feel shame when exposed in our own minds to shortcomings vis-à-vis the ideals toward which we stand in awe, and this reaction does belong to virtue

(Woodruff, p.57)¹⁹⁷ Woodruff has specific recommendations as to where we can expect to find this honest sense of awe. He begins with the following statement “Reverence is a matter of feeling,

¹⁹⁷ A central problem of present humanity is that we at times hold vicious ideals in awe.

and as far as feelings go, it doesn't much matter what you believe. Reverence makes few demands on belief. ... Reverence must stand in awe of something—something I will call the object of reverence.” (Woodruff, p.113) That something must be “Something that reminds us of human limitations ...” which with but little reflection is easily recognized.

He then lists four conditions and states that the “Something” must satisfy at least one of these conditions “[1] it cannot be controlled by human means, [2] was not created by human beings, [3] is not fully understood by human experts, and [4] is transcendent. Such beliefs are the least an individual must have in order to be reverent.” He states that, therefore, this Something “is usually inarticulate”—unable to be fully articulated. (Woodruff, p.60) He lists a number of examples one of which is the following: “For a reverent statesperson, the Something might be justice, conceived as an ideal, dimly grasped and much disputed, by which we should try to regulate our poor systems of law. This might satisfy all four conditions.”

Future generations as the object or source of awe and reverence seem also to satisfy all four conditions because they are always transcendent in relation to the present generation and without question satisfy the first three of these conditions because (1) those beings cannot be controlled totally by the present generation, (2) those beings are not artifacts created by the present generation, and (3), because they are not present, they are not fully understood by the present generation. Therefore, future generations should be an object—more a source—of awe and reverence of the present generation and, therefore, climate change cannot be ignored or denied but must be embraced as an opportunity by the present generation.

Woodruff suggests that, the Something, the object or source “could be nature or the universe”. No matter what the Something, object or source is, Woodruff argues that it must not

require that the individual “abandon the feelings that keep us humble and respectful of each other”. (Woodruff, p.113-114) He considers creation and when reviewing Tennyson states: “Many of us are awestruck when we contemplate the design we see in nature or the universe, and from awe we find our way quickly to reverence. So far, so good.” However, we should always recognize that nature and the universe among certain other identifiable objects, though they are identifiable to a degree, they have always and still do retain that inability of full articulation which result in awe and reverence.¹⁹⁸

Those four conditions require frequent review and reinforcement through the following questions.

1. Can the Source be controlled by human means?
2. Is the Source a creation solely of humans (remembering that houses, cathedrals, and skyscrapers are all artifacts)?
3. Is the Source fully understood by human experts?
4. Is the Source transcendent?

While he describes transcendent as “otherworldly”, he suggests that “readers who wish to reserve reverence for transcendent objects may respect non-transcendent objects for representing to us the majesty of otherworldly powers (as a great tree might be thought to represent the majesty of God).” (Woodruff, p.276). Actually, a great tree is certainly something that we do not yet fully understand. For example, to my knowledge, science and technology have not yet harnessed chlorophyll so that it is able to turn all of our anthropomorphic production of CO₂ into cellulose and oxygen (O₂).

Woodruff again uses trees as a method of attaining awe and reverence. He quotes the following passage from John Steinbeck’s *Travels with Charlie: In Search of America*.

¹⁹⁸ Woodruff refers us to David Hume who he says asked questions about creation and "showed that there is no particular story of creation by a specific deity that we can reasonably infer from our empirical observations. [Hume] has never been refuted." (Woodruff, p.119)

The redwoods, once seen, leave a mark or create a vision that stays with you always. No one has ever successfully painted or photographed a redwood tree. The feeling they produce is not transferable. From them comes silence and awe. It's not their unbelievable stature, nor the color which seems to shift and vary under your eyes, no, they are ambassadors from another time. They have the mystery of ferns that disappeared a million years ago into the coal of the carboniferous era. They carry their own light and shade. The vainest, most slap-happy and irreverent of men, in the presence of redwoods, goes under a spell of wonder and respect. Respect—that's the word. One feels the need to bow to unquestioned sovereigns.

(Woodruff, p.276) While Woodruff does not list Hill in his bibliography, both use trees as examples of the ability to generate the awe necessary to achieve reverence and proper humility respectively. Hill in his essay, "Ideals of Human Excellence and Preserving Natural Environments", in which he endorses "proper humility" states the following as a means of recognizing proper humility in the experience of "standing humbly before nature".

That idea [standing humbly before nature] is not simply that experiencing nature tends to foster proper humility before other people; it is, in part, that natural surroundings encourage and are appropriate to an ideal sense of oneself as part of the natural world. **Standing alone in the forest, after months in the city, is not merely good as a means of curbing one's arrogance before others; it reinforces and fittingly expresses one's acceptance of oneself as a natural being.**

(Emphasis added; Hill, 1983: p.221) While Hill does not explicitly state that acceptance of oneself as a natural being is necessary for the experience of proper humility, the above quotation requires that result.

The German language has a word for that feeling. The word is "Waldeinsamkeit" which can be defined as "the feeling of being alone in the woods, and easy solitude and a connectedness to nature." Ella Frances Sanders in her book *Lost in Translation* includes the following comment about that word: "A feeling that most of us don't often experience anymore, as city parks are a poor substitute for the woods. It seems that we are connected to just about everything except nature,

where reality can be allowed to slip away between the branches. Your soul will thank you for some time in the trees.”¹⁹⁹

In support of that “standing alone” concept, Hill states the following: “As human beings we are part of nature, living, growing, declining, and dying by natural laws similar to those governing other living beings; despite our awesomely distinctive human powers, we share many of the needs, limits and liabilities of [nonhuman] animals and plants.” (Hill, 1983: p.222) ²⁰⁰ Hill uses an additional natural occurrence as another method of gaining proper humility. He states:

A storm in the wilds helps us to appreciate our animal vulnerability, but, equally important, the reluctance to experience it may *reflect* an unwillingness to accept this aspect of ourselves. The person who is too ready to destroy the ancient red woods may lack humility, not so much in the sense that he exaggerates his importance relative to others, but rather in the sense that he tries to avoid seeing himself as one among many natural creatures.

(Emphasis in original; Hill, 1983: p.222) “A storm in the wilds!” It is truly something to experience and is something that very few humans especially today have ever experienced.²⁰¹ However, that was something that was obviously experienced by Americans and by the citizens of all countries not so many centuries ago. That storm is an important leveling experience but not near the leveling quality of Schönfeld’s waterfall experience. As we continue to read more about and experience more of climate change henceforth as we will, it will be well to keep that storm and more importantly Schönfeld’s waterfall experience in mind.

¹⁹⁹ Ella Frances Sanders, *Lost in Translation: An Illustrated Compendium of Untranslatable Words from Around the World* (Berkeley, CA: Ten Speed Press (2014) (unpaginated) (ISBN 978-1-60774-710-9).

²⁰⁰ Konrad Lorenz made this point very forcefully in his 1966 book *On Aggression* in which he noted that human beings have the following instincts common to all animals, human and nonhuman: (1) aggression, (2) flight, (3) hunger and (4) reproduction. This book in part was responsible for his receipt of the Nobel Prize in Physiology or Medicine in 1973. In that book Lorenz searches for the mechanics of redirecting aggression to a neutral drive in light of the fact that the aggression instinct is the cause of war. Actually, those four instincts are also found in plants but are observed over much longer periods of time. Konrad Lorenz, *On Aggression*, trans. M K Wilson (Orlando, Florida: Houghton Mifflin Harcourt Publishing Company, 1963,1966) herein referenced as “Lorenz, p.____”. See Lorenz generally in *On Aggression*.

²⁰¹ A good example that comes very close to “being there” is the following book: Jon Krakauer, *Into Thin Air* (New York: Anchor Books, published by Doubleday,1997).

Hill ends his 1983 essay with the following sentence: “The point is not to insinuate that all anti-environmentalists are defective, but to see that those who value such traits as humility, gratitude, and sensitivity to others have reason to promote the love of nature.” (Hill, p. 224) In this twenty-first century, the love of nature seems necessary, of course, because climate change impacts all life and detrimentally. Of great importance to climate change generally is emphasis on the traits of humility, gratitude and sensitivity to others where that sensitivity now becomes necessary to future generations of all life on Earth.²⁰²

To promote Hill’s “love of nature,” an individual must experience nature that can only occur by physically being “in nature”. It is impossible to experience nature through any medium such as television, film, etc. or through the experiences of zoological parks, circus performances or the like. To experience nature, an individual must go to the woods, to uninhabited portions of mountains, to rivers and streams from which one can drink clean water where those rivers and streams are much fewer and farther between than they were a mere eight to nine decades ago. It is, however, possible to find one or more of those opportunities even today in most of the States of these United States.

It further must occur without the music created by human beings. To experience nature, one must search for and listen to the music of nature—the songs of birds and whales, the wind in the leaves of a forest, the quiet of a snowfall, the roar of a stream cascading down a mountainside, the regular crash of waves against a shoreline—and it certainly is not the sound of a battery-operated boombox anywhere nor it is the sounds emitted from prerecorded records or CDs even of nature. It is standing alone without other humans if possible in the forest, in the mountains, on the seashore, or anywhere in those locations where one is not enclosed within walls, floors and

²⁰² In Hill's works referenced in the Bibliography of this dissertation, no reference to reverence or to Woodruff could be found.

ceilings even with windows and doors. To even begin to experience nature, the individual needs to be in what is sometimes called the “out-of-doors”.

In addition to Woodruff and Hill, many others value the natural Earth for finding the virtues which must include proper humility, proper pride and, therefore, proper primality. The following additional examples are offered. In October, 2015, the journal *Science* published an article entitled “The rewards of roughing it” written by Xin Lu, a professor of zoology at Wuhan University in China and the co-director of the Wuhan University-Tibet University Field Research Station for Tibetan Wildlife. He is also Vice President of the China Ornithological Society. In that article he writes as follows about his fieldwork “on the cold, windy and oxygen-poor Tibetan Plateau”.

Getting into the fantastic wild of Tibet through fieldwork feeds my imagination and inspires me to view the world in ways that go beyond science. ... I have experienced the generosity of Tibetan villagers who, despite the hardships they have suffered, always gave me as much help as they could when I needed shelter, food, horses, and dogs. **Fieldwork teaches me that struggle can lead to joy.**

(Emphasis added; *Science*, vol. 350, issue 6258; p.350 (sciencemag.org)) The references to inspiration and struggle indicate the value of both and, therefore, concerning struggle, the value of the struggle that is involved in Aristotelian continence and incontinence against the vicious.

In or about 1861, John Stuart Mill listed nature as the first item of “inexhaustible interest” in the exercise of human faculties as follows: “the objects of nature, the achievements of art, the imaginations of poetry, the incidents of history, the ways of mankind, past and present, and their prospects in the future.” (Mill, 1861, p.14) Possibly Mill’s word “objects” could better have been “entities”. The word “object” seems to include a context of lifelessness, for example a stone. However, a human being which could be considered an object of nature would never appreciate being considered within the same genus as a stone. The word “entity” seems to carry a greater

possibility of active life. Nevertheless, Mill placed nature at the head of this list of items which he felt provide “inexhaustible interest” for the human faculties.

Albert Schweitzer in or about 1923 in his book, *Civilization and Ethics*, devoted the two final chapters to “The Ethic of Reverence for Life”.²⁰³ Schweitzer begins by recommending three things for ethical thought and theory. That thought and theory (1) “must have nothing to do with an ethical interpretation of the world”; (2) “must become cosmic and mystical, that is to say, it must seek to conceive all the self-devotion which rules in ethics as a manifestation of an inward, spiritual relationship to the world”; and (3) “must not lapse into abstract thinking, but must remain elemental, understanding self-devotion to the world to be self-devotion of human life to every form of living being with which it can come into relation”. (Schweitzer, p.307) That seems to say that those ethics (1) cannot begin with any kind of a theory of the world and its beginnings, (2) must include devotion of the individual human being conceived as a requirement for a spiritual relationship of that individual with all life in the world, and (3) must require a relationship that cannot be an abstract feeling but must be a feeling of individual devotion to every form of living being in the world with which the individual can come into relation. Those devotion and relationship requirements unfortunately do not seem common in this twenty-first century but seem as though they should be.

That devotion needs to be founded on a personal level and must include a personal respect for the recognition that the life enjoyed by that individual is an integral part but nonetheless just a part of all life in the world. Schweitzer argues “Reverence for life as the highest court of appeal” of the determination of the individual’s actions. Woodruff comments that Schweitzer “writes eloquently of reverence for life, but he does not propose to worship life, and so by monotheistic

²⁰³ Albert Schweitzer, *The Philosophy Of Civilization, Part 1, The Decay And The Restoration Of Civilization; Part 2, Civilization And Ethics* (New York: The Macmillan Company, 1959); herein referenced as "Schweitzer, p.____".

standards is not guilty of idolatry.” (Woodruff, p.121) Woodruff further comments that “Reverence stands in awe, but awe is not the same thing as fear. Schweitzer was never afraid of life, though life was an object of his reverence.” Woodruff in explaining reverence states “fear of punishment is the opposite of reverence; if all you have to keep you in line is the fear of God, then you have denied yourself all of the virtues, including reverence. Virtues are the source of feelings that make you want to do the right things” (Woodruff, p.121)

Life as the object or source of one’s reverence or spirituality could be the source of reverence for Woodruff and the source of spirituality for Schweitzer and could easily include future life as well as present life. For climate change, life in general seems to be the appropriate object or source of spirituality, reverence and awe as indicated by the above proposed definitions for proper pride, proper humility and proper primality. Concerning Woodruff’s transcendence, Konrad Lorenz (zoologist, ethologist and Nobel Laureate) makes the statement: “[T]he origin of life is still the most puzzling of all natural phenomena.” (Lorenz, p.227)

Aldo Leopold (1886-1948) in his book, *A Sand County Almanac and Sketches Here and There*, first published in 1949,²⁰⁴ includes what he calls “three kinds of cultural nutriment available to our outdoor roots.” The first he calls the “value in any experience that reminds us of our distinctive national origins and evolution, i.e. that stimulates awareness of our history. ... I shall call this, in our case, the ‘split-rail value.’” He gives the examples of a Boy Scout who “has tanned a coonskin cap, and goes Daniel Booneing in the Willow thicket below the tracks” and “a farmer boy [who] arrives in the school room wreaking of muskrat [because] he has tended his traps before

²⁰⁴ Aldo Leopold, *A Sand County Almanac And Sketches Here and There* (Oxford: Oxford University Press, 1989 (copyright 1949) and published earlier by others, for example, *A Sand County Almanac with Essays on Conservation from Round River* (New York: Ballantine Books, 1970). Herein this book is referenced with two page numbers; the first referencing the 1989 publication first referenced in this footnote and the second to the 1970 publication as follows "Leopold, 1989, p.____; 1970, p.____".

breakfast.” Leopold then states “Ontogeny repeats phylogeny in society as well is in the individual.” (Leopold, 1989, p.177-78; 1970, p.211-12) Not difficult to endorse.

The second nutrient is the “value in any experience that reminds us of our dependency on the soil-plant-animal-man food chain, and of the fundamental organization of the biota.” He then states:

Civilization has so cluttered this elemental man-[E]arth relation with gadgets and middlemen that awareness of it is growing thin. We fancy that industry supports us, forgetting what supports industry. Time was when education moved toward soil, not away from it. The nursery jingle about bringing home a rabbit skin to wrap the baby bunting in is one of many reminders in folklore that man once hunted to feed and clothe his family.

(Leopold, 1989, p.178; 1970, p.212) In a few short seven or eight decades, this concept has not only grown thin, we in the United States, have forgotten it. Leopold’s third nutrient is the “value in any experience that exercises those ethical restraints collectively called ‘sportsmanship’.” He explains this value as follows: “Voluntary adherence to an ethical code elevates the self-respect of the sportsman, but it should not be forgotten that voluntary disregard of the code degenerates and depraves him.” This admonition of course relates not only to the sportsman but to every human being.

After having described these three nutrients for “our outdoor roots” which are as valid today as they were in 1948, he reminds us that “[t]he extraction of value is never automatic; only a healthy culture can feed and grow. Is culture fed by our present forms of outdoor recreation?” That question is also as valid today as it was in 1948 and today it reasonably must be answered “not generally”. Sitting in a sports stadium or watching a golf tournament can hardly be called outdoor recreation that can feed and grow our culture. Hiking in our wilderness areas in the United States comes much closer to outdoor recreation that feeds and grows our culture by providing

opportunities for the awe and reverence required for the virtues of proper pride, proper humility and proper primality.

Leopold closes this chapter with a short discussion of behavior patterns in rabbits. He comments that these patterns can be described as cycles of which the animal itself is unaware and which cannot be understood in the individual rabbit or in a short period of time. “The cycle concept springs from the scrutiny of the mass through decades.” He then questions whether human populations are similar. “This [concept of cycles] raises the disquieting question: do human populations have behavior patterns of which we are unaware, but which we help to execute? Are mobs and wars, unrests and revolutions, cut of such cloth?” He then states:

It is reasonable to suppose that our social processes have a higher volitional content than those of the rabbit, but it is also reasonable to suppose that we, as a species, contain population behavior patterns of which nothing is known because circumstance has never evoked them. We may have others the meaning of which we have misread.

(Leopold, 1989, p.186; 1970, p.222) Today it seems that our population behavior patterns of fossil fuel addiction, consumerism, and un- and under-regulated capitalism have produced climate change because anthropogenic circumstances never before evoked the result of global climate change. At best, we have misread the meaning of those patterns and need to recognize and react to those present circumstances and admit our past inability to read the meaning of those patterns correctly.

Leopold ends his chapter on our “wild rootage” with the following paragraph.

To sum up, wildlife once fed us and shaped our culture. It still yields us pleasure for leisure hours, but we try to reap that pleasure by modern machinery and thus destroy part of its value. Reaping it by modern mentality would yield not only pleasure, but wisdom as well.

(Leopold, 1989, p.187; 1970, p.222) Immediately prior to that closing paragraph he describes what he means by “modern mentality”. He recognizes how “ecology is now teaching us to search

in [nonhuman] animal populations for analogies to our own problems.”²⁰⁵ He opines that this learning of “some small part of the biota” instructs us about how “the whole mechanism ticks”. He then states “the ability to perceive these deeper meanings and to appraise them correctly, is the woodcraft of the future.”

His “woodcraft of the future” is his “modern mentality”. Through this modern mentality, our civilization needs to perceive the deeper meanings of climate change and to appraise them correctly and to address them correctly. Leopold recognized that there would be situations and circumstances that require our species to recognize our patterns that are leading us down the wrong path in light of present situations and circumstances like the wrong path of the anthropogenic creation of global climate change which the United States generally refuses to acknowledge because of the greed and avarice involved in fossil fuel addiction, consumerism and un- and under-regulated capitalism.

Recall that in or about 1923, Leopold wrote the following:

Granting that the earth is for man— there is still a question: what man? Did not the cliff dwellers who tilled and irrigated these our valleys think that they were the pinnacle of cration [sic]— that these valleys were made for them? Undoubtedly. And then the Pueblos? Yes. And then the Spaniards? Not only thought so, but said so. And now we Americans? Ours beyond a doubt! (How happy a definition is that one of Hadley’s which states, “truth is that which prevails in the long run”!) Five races— five cultures— have flourished here. We may truthfully say of our four predecessors that they left the earth alive, undamaged. Is it possibly a proper question for us to consider what the sixth shall say about us? If we are logically anthropomorphic, yes.

(Leopold, 1923, p.141) Also recall that even Homer some thousands of years ago commented that the present generation should not participate in actions such as those that promote climate change where the present refusal to adequately address climate change is “a shameful thing ... for the

²⁰⁵ See, of course, Lorenz generally in *On Aggression*.

hearing of men [and women] that are yet to be,”—those future generations that have a right to life just as we have had.

Piers H. G. Stephens in 2009 in his essay “Toward A Jamesian Environmental Philosophy”²⁰⁶ in supporting the natural philosophy of William James and that of Leopold as well, comments on James’s “introspective attention to quiet experience” available through immediate natural experiences which “are more like surprises or gifts, not amenable to production on demand or to ordinary goal-seeking rationality” where Stephens offers the language of Anthony Weston.²⁰⁷ Stephens then notes the experience of Iris Murdoch when, brooding about personal image, “a hovering kestrel” is observed and “in a moment everything is altered. The brooding self with its hurt vanity has disappeared. There is nothing now but kestrel. And when I return to thinking of the other matter it seems less important.”²⁰⁸ (Stephens, p.235)

After Stephens’ convincing argument that the kestrel cannot be duplicated through a Disneyland robot, Stephens describes these experiences as follows: “The experiential paradox is this: *nature can fulfill instrumental purposes of mental well-being only if we avoid initially approaching it with instrumental rationality in mind.*” (Emphasis in original; Stephens, p.236) Stephens further describes what the Jamesian component offers.

What the Jamesian component provides is an anti-reductionist commitment to appreciate the non-instrumental elements in the experience of valuing nature, a commitment that may better capture the value of nature as experienced, and thus also help bring on board those environmentalists who now see pragmatism as too managerialist or technocratic to properly capture the valuing of nature.

(Stephens, p.237) Stephens argues that there is a need in the human being for “self-transcendence” through identifying ourselves “in a field of other selves” which need not be human selves but better

²⁰⁶ Piers H. G. Stephens, “Toward A Jamesian Environmental Philosophy” in *Environmental Ethics*, vol. 31, pp.227-244; herein referenced as "Stephens, p.____".

²⁰⁷ Anthony Weston, “Between Means and Ends,” *The Monist* 75 (1992): pp.236–49,237.

²⁰⁸ Iris Murdoch, *The Sovereignty of Good* (London: Routledge,1989); p.84.

can be wild species “precisely to the degree that they are valued and admired not for *our* sake and gratification but for *themselves* — for *what* they are” which he borrows from Ernest Partridge.²⁰⁹ He then states “Once again, ... the paradox arises that attaining certain goods instrumental to flourishing, such as the meaningful moral location of the self in a broader context, can only be achieved by a willingness to initially ‘let be’ and be informed.” He then comments on the danger of “a truly post-natural artifactual world”.

Whereas evolutionary nature provides grounds for human collective identity—that is, other humans and creatures for us to be related to and differentiated from in the stream of life—a truly post-natural artifactual world would rip us asunder from the regularity and coherence which makes freedom meaningful. Only nature, precisely because it operates outside the domain of arbitrary will, can provide such a *grounding* context of coherence upon which culture may build, and thus provide a bedrock within which value judgments may be made and freedom exercised, in which a human being may be led to a *whole* and fulfilled life rather than a fragmented, power-driven, estranged one.

(Emphasis in original; Stephens, p.243-44) Here Stephens argues the necessity that human animals not only need relation to other human beings but also need relation to nonhuman beings that are found in nature and only in nature.

Of course, a human being can stand alone in the forest only where that aloneness is the absence of other human beings. If one has tried to stand alone in a forest, the knowledge is immediate that you are standing in the midst of teeming life in the form of plants and nonhuman animals. One of the joys of standing alone in a forest is the opportunity to listen to the indigenous birds singing magnificently. Unless one is standing in that forest and not otherwise moving, those birds cannot be heard as clearly because the footfalls on the trail or path discourage that singing or cover it and the benefit of that experience is lost. Just the experience of standing silently in a forest is the experience of “letting be” and through that letting be we find our relation to the stream of

²⁰⁹ Emphasis in original; Ernest Partridge, “Nature as a Moral Resource,” in *Environmental Ethics* 6 (1984): 102, 121.

life much more readily and easily than in a city or even in a city park where other human animals and artifacts are sure to abound.

Also, Stephens draws a meaningful distinction which he says provides the clarity that there is a difference in “having an interest in” something rather than “being interested in” something and describes this as the “having/being distinction” and that “to be initially interested in an item is not thereby to define it in use-value terms.” (Stephens, p.240)²¹⁰

There is further a need to make this natural distinction early in life as it then provides an easier transition to the later life much or most of which is confined to four walls, a floor and a ceiling and from that confining experience to the necessary concept of the value that results from the truly natural experience. Richard Louv in his book *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* [“NDD”]²¹¹ recognizes that “Within the space of a few decades the way children understand and experience nature has changed radically. The polarity of the relationship is reversed. Today, kids are aware of the global threats to the environment— but their physical contact, their intimacy with nature is fading” and not only fading but becoming nonexistent. Even Henry David Thoreau (1817-1862) recognized this disappearing relationship. “Here is this vast, savage, howling mother of ours, Nature, lying all around, with such beauty, and such affection for her children, as the leopard; and yet we are so early weaned from her breast to society, to that culture which is exclusively an interaction man on man”²¹²

Louv’s book and the other seven books that he has written about NDD represent an extreme effort to renew this relationship even in the face of the greater difficulty today of finding the wild

²¹⁰ Erich Fromm agrees that there is a huge difference between being and having. See Erich Fromm, *To Have or To Be* (New York: Continuum, 1977).

²¹¹ Richard Louv, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (Chapel Hill, NC: Algonquin Books of Chapel Hill, 2008), herein referenced in text as “Louv, Last Child, p. ___”; see also Richard Louv’s seven other books on the same general topic.

²¹² Emphasis in original; Henry David Thoreau, *Civil Disobedience and Other Essays* (New York: Dover Publications, Inc., 1993), p. 68.

or wilderness. Earth is being over-populated because the few have come to believe that Earth is here only for exploitation and for the expanding population needed to feed the greed and avarice of those few. Louv ends his book with the following paragraph: “We have such a brief opportunity to pass on to our children our love for Earth, and to tell our stories. These are the moments when the world is made whole. In my children’s memories, the adventures we’ve had together in nature will always exist.” However, if the foremost desire is to exploit Earth, there will be no love which will be tragic. Without love for Earth that sustains us, there will no longer be real love between human beings. Without love for the non-human inhabitants of Earth, there will be no love for the human inhabitants. One way to extend that love is to recognize that love must be extended beyond the life that exists today. Without the necessary love, respect, awe and reverence for future as well as present life and for Earth to support that life, the desire for exploitation continues.

With that love, respect, awe and reverence, we in these United States and elsewhere will be better able to extend ethical consideration to future life and Earth generally and we are being challenged today by climate change to extend that ethical consideration. Will we, or won’t we? Aristotelian incontinence and then continence, the *Aidōs* Response, Broadie’s Contingent Choice and Aquinas’s psychology will help if we will struggle to incorporate those concepts into our lives. When was anything really worthwhile without struggle? However, the struggle seems considerably less difficult when we human beings learn once again to enjoy nature and the quiet and the “let be” that it offers when it is not being exploited for the greed and avarice of the few and when it is allowed to provide not only that quiet and “let be” but the sustenance that a reasonable population needs for that life, human and nonhuman.

No respected philosophers were found that promoted the exploitation of Earth beyond its reasonable capacities. Those capacities were exceeded when Hume’s natural “unlimited

abundance” no longer existed. It certainly no longer existed when laws became necessary to privatize what was no longer an unlimited abundance. Schönfeld concludes as follows:

[S]ince the consequences of boundary-crossing will only worsen the deeper the overshoot gets, the consequence of this outcome is that any further demographic and material growth is unsustainable. This is the ultimate meaning of the crisis: *we have finally reached the limits of growth.*

(Schönfeld, Wisdom, p.195) “We have finally reached the limits of growth” on Earth and not far beyond the prediction of John Stuart Mill in or about 1849.

As a result, it seems that the focus must become the “common advantage” of the many instead of the “unfair advantage” exercised to promote the luxury of the few, and in some cases its wretchedly excessive luxury. How and when were the many convinced that Earth was here to promote the luxury of the few? Greed, avarice and *pleonexia* are powerful vices but can be overcome by powerful virtues. The promotion of the common advantage needs more powerful virtues that extend ethical consideration to all life—present and future—and to Earth which is and for the foreseeable centuries will be necessary to support that life—present and future. Maybe proper primality or a similar virtue.²¹³

In the meantime, think CO₂ and continence/incontinence, Broadie’s Contingent Choice, the Aristotelian/Aquinian psychology, and the *Aidōs* Response when doing any of those actions listed on page 240 above or similar actions. Also, remember that we should constantly focus on our responsibility individually for looking for the “common advantage” and we should think seriously about rejecting the “unfair advantage” especially for the purpose of accumulating “wealth” that will ultimately turn to dust. That just does not seem to have anything to do with a

²¹³ Possibly humanity should ponder the need for reciprocity in our ethics. This may be necessary because humanity seems to have found ways to circumvent Lorenz’s two great constructors, natural selection and mutation. Humanity has found the means to change natural systems, for example climate but also the means to pollute and thereby destroy Earth’s air, water and soil.

truly flourishing life or society. And globally and individually, based on the above and especially Chapters 2 and 3, there is enormous work to be done by most disciplines, especially philosophy, to confront and reverse climate change toward the flourishing of all of Earth's life.

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Appendices

Appendix A: Further Empirical Facts:

The entire explanation for SYR Figure.SPM.4 (referenced on page 29 above) follows:

“Figure SPM.4 | Based on the available scientific literature since the IPCC Fourth Assessment Report (AR4), there are substantially more impacts in recent decades now attributed to climate change. Attribution requires defined scientific evidence on the role of climate change. Absence from the map of additional impacts attributed to climate change does not imply that such impacts have not occurred. The publications supporting attributed impacts reflect a growing knowledge base, but publications are still limited for many regions, systems and processes, highlighting gaps in data and studies. Symbols indicate categories of attributed impacts, the relative contribution of climate change (major or minor) to the observed impact and confidence in attribution. **Each symbol refers to one or more entries in WGII Table SPM.A1, grouping related regional-scale impacts.** Numbers in ovals indicate regional totals of climate change publications from 2001 to 2010, based on the Scopus bibliographic database for publications in English with individual countries mentioned in title, abstract or key words (as of July 2011). These numbers provide an overall measure of the available scientific literature on climate change across regions; they do not indicate the number of publications supporting attribution of climate change impacts in each region. Studies for polar regions and small islands are grouped with neighbouring continental regions. The inclusion of publications for assessment of attribution followed IPCC scientific evidence criteria defined in WGII Chapter 18. Publications considered in the attribution analyses come from a broader range of literature assessed in the WGII AR5. **See WGII Table SPM.A1 for descriptions of the attributed impacts.** {Figure 1.11}”

(Emphasis added; SYR, p.7)

In addition; Table WGII, SPM.A1 which is referenced in the explanation of SPM Figure.4 immediately above (and on pages 29 and 30 above) is included below in its entirety.²¹⁴ The explanation for Table SPM.A1 (below) follows:

“Table SPM.A1 | Observed impacts attributed to climate change reported in the scientific literature since the AR4. These impacts have been attributed to climate change with very low, low, medium, or high confidence, with the relative contribution of climate change to the observed change indicated (major or minor), for natural and human systems across eight major world regions over the past several decades. [Tables 18-5, 18-6, 18-7, 18-8, and 18-9] Absence from the table of additional impacts attributed to climate change does not imply that such impacts have not occurred.”

(WGII (Part A), p.30)

²¹⁴ All Figures and Tables referenced in Table WG II, SPM.A1 (which is included below) can be found in the AR5 WGII full publication:

Appendix A: Additional Empirical Facts:

Table WGII (Part A), SPM.A1 (WGIII, p.30-32):

Africa	
Snow & Ice, Rivers & Lakes, Floods & Drought	<ul style="list-style-type: none"> Retreat of tropical highland glaciers in East Africa (<i>high confidence</i>, major contribution from climate change) Reduced discharge in West African rivers (<i>low confidence</i>, major contribution from climate change) Lake surface warming and water column stratification increases in the Great Lakes and Lake Kariba (<i>high confidence</i>, major contribution from climate change) Increased soil moisture drought in the Sahel since 1970, partially wetter conditions since 1990 (<i>medium confidence</i>, major contribution from climate change) <p>[22.2-3, Tables 18-5, 18-6, and 22-3]</p>
Terrestrial Ecosystems	<ul style="list-style-type: none"> Tree density decreases in western Sahel and semi-arid Morocco, beyond changes due to land use (<i>medium confidence</i>, major contribution from climate change) Range shifts of several southern plants and animals, beyond changes due to land use (<i>medium confidence</i>, major contribution from climate change) Increases in wildfires on Mt. Kilimanjaro (<i>low confidence</i>, major contribution from climate change) <p>[22.3, Tables 18-7 and 22-3]</p>
Coastal Erosion & Marine Ecosystems	<ul style="list-style-type: none"> Decline in coral reefs in tropical African waters, beyond decline due to human impacts (<i>high confidence</i>, major contribution from climate change) <p>[Table 18-8]</p>
Food Production & Livelihoods	<ul style="list-style-type: none"> Adaptive responses to changing rainfall by South African farmers, beyond changes due to economic conditions (<i>very low confidence</i>, major contribution from climate change) Decline in fruit-bearing trees in Sahel (<i>low confidence</i>, major contribution from climate change) Malaria increases in Kenyan highlands, beyond changes due to vaccination, drug resistance, demography, and livelihoods (<i>low confidence</i>, minor contribution from climate change) Reduced fisheries productivity of Great Lakes and Lake Kariba, beyond changes due to fisheries management and land use (<i>low confidence</i>, minor contribution from climate change) <p>[7.2, 11.5, 13.2, 22.3, Table 18-9]</p>
Europe	
Snow & Ice, Rivers & Lakes, Floods & Drought	<ul style="list-style-type: none"> Retreat of Alpine, Scandinavian, and Icelandic glaciers (<i>high confidence</i>, major contribution from climate change) Increase in rock slope failures in western Alps (<i>medium confidence</i>, major contribution from climate change) Changed occurrence of extreme river discharges and floods (<i>very low confidence</i>, minor contribution from climate change) <p>[18.3, 23.2-3, Tables 18-5 and 18-6; WGI AR5 4.3]</p>
Terrestrial Ecosystems	<ul style="list-style-type: none"> Earlier greening, leaf emergence, and fruiting in temperate and boreal trees (<i>high confidence</i>, major contribution from climate change) Increased colonization of alien plant species in Europe, beyond a baseline of some invasion (<i>medium confidence</i>, major contribution from climate change) Earlier arrival of migratory birds in Europe since 1970 (<i>medium confidence</i>, major contribution from climate change) Upward shift in tree-line in Europe, beyond changes due to land use (<i>low confidence</i>, major contribution from climate change) Increasing burnt forest areas during recent decades in Portugal and Greece, beyond some increase due to land use (<i>high confidence</i>, major contribution from climate change) <p>[4.3, 18.3, Tables 18-7 and 23-6]</p>
Coastal Erosion & Marine Ecosystems	<ul style="list-style-type: none"> Northward distributional shifts of zooplankton, fishes, seabirds, and benthic invertebrates in northeast Atlantic (<i>high confidence</i>, major contribution from climate change) Northward and depth shift in distribution of many fish species across European seas (<i>medium confidence</i>, major contribution from climate change) Plankton phenology changes in northeast Atlantic (<i>medium confidence</i>, major contribution from climate change) Spread of warm water species into the Mediterranean, beyond changes due to invasive species and human impacts (<i>medium confidence</i>, major contribution from climate change) <p>[6.3, 23.6, 30.5, Tables 6-2 and 18-8, Boxes 6-1 and CC-MB]</p>
Food Production & Livelihoods	<ul style="list-style-type: none"> Shift from cold-related mortality to heat-related mortality in England and Wales, beyond changes due to exposure and health care (<i>low confidence</i>, major contribution from climate change) Impacts on livelihoods of Sámi people in northern Europe, beyond effects of economic and sociopolitical changes (<i>medium confidence</i>, major contribution from climate change) Stagnation of wheat yields in some countries in recent decades, despite improved technology (<i>medium confidence</i>, minor contribution from climate change) Positive yield impacts for some crops mainly in northern Europe, beyond increase due to improved technology (<i>medium confidence</i>, minor contribution from climate change) Spread of bluetongue virus in sheep and of ticks across parts of Europe (<i>medium confidence</i>, minor contribution from climate change) <p>[18.4, 23.4-5, Table 18-9, Figure 7-2]</p>

Appendix A: Additional Empirical Facts (cont.):

Table SPM.A1 (continued)

Asia	
Snow & Ice, Rivers & Lakes, Floods & Drought	<ul style="list-style-type: none"> Permafrost degradation in Siberia, Central Asia, and Tibetan Plateau (<i>high confidence</i>, major contribution from climate change) Shrinking mountain glaciers across most of Asia (<i>medium confidence</i>, major contribution from climate change) Changed water availability in many Chinese rivers, beyond changes due to land use (<i>low confidence</i>, minor contribution from climate change) Increased flow in several rivers due to shrinking glaciers (<i>high confidence</i>, major contribution from climate change) Earlier timing of maximum spring flood in Russian rivers (<i>medium confidence</i>, major contribution from climate change) Reduced soil moisture in north-central and northeast China (1950–2006) (<i>medium confidence</i>, major contribution from climate change) Surface water degradation in parts of Asia, beyond changes due to land use (<i>medium confidence</i>, minor contribution from climate change) <p>[24.3-4, 28.2, Tables 18-5, 18-6, and SM24-4, Box 3-1; WGI AR5 4.3, 10.5]</p>
Terrestrial Ecosystems	<ul style="list-style-type: none"> Changes in plant phenology and growth in many parts of Asia (earlier greening), particularly in the north and east (<i>medium confidence</i>, major contribution from climate change) Distribution shifts of many plant and animal species upwards in elevation or polewards, particularly in the north of Asia (<i>medium confidence</i>, major contribution from climate change) Invasion of Siberian larch forests by pine and spruce during recent decades (<i>low confidence</i>, major contribution from climate change) Advance of shrubs into the Siberian tundra (<i>high confidence</i>, major contribution from climate change) <p>[4.3, 24.4, 28.2, Table 18-7, Figure 4-4]</p>
Coastal Erosion & Marine Ecosystems	<ul style="list-style-type: none"> Decline in coral reefs in tropical Asian waters, beyond decline due to human impacts (<i>high confidence</i>, major contribution from climate change) Northward range extension of corals in the East China Sea and western Pacific, and of a predatory fish in the Sea of Japan (<i>medium confidence</i>, major contribution from climate change) Shift from sardines to anchovies in the western North Pacific, beyond fluctuations due to fisheries (<i>low confidence</i>, major contribution from climate change) Increased coastal erosion in Arctic Asia (<i>low confidence</i>, major contribution from climate change) <p>[6.3, 24.4, 30.5, Tables 6-2 and 18-8]</p>
Food Production & Livelihoods	<ul style="list-style-type: none"> Impacts on livelihoods of indigenous groups in Arctic Russia, beyond economic and sociopolitical changes (<i>low confidence</i>, major contribution from climate change) Negative impacts on aggregate wheat yields in South Asia, beyond increase due to improved technology (<i>medium confidence</i>, minor contribution from climate change) Negative impacts on aggregate wheat and maize yields in China, beyond increase due to improved technology (<i>low confidence</i>, minor contribution from climate change) Increases in a water-borne disease in Israel (<i>low confidence</i>, minor contribution from climate change) <p>[7.2, 13.2, 18.4, 28.2, Tables 18-4 and 18-9, Figure 7-2]</p>
Australasia	
Snow & Ice, Rivers & Lakes, Floods & Drought	<ul style="list-style-type: none"> Significant decline in late-season snow depth at 3 of 4 alpine sites in Australia (1957–2002) (<i>medium confidence</i>, major contribution from climate change) Substantial reduction in ice and glacier ice volume in New Zealand (<i>medium confidence</i>, major contribution from climate change) Intensification of hydrological drought due to regional warming in southeast Australia (<i>low confidence</i>, minor contribution from climate change) Reduced inflow in river systems in southwestern Australia (since the mid-1970s) (<i>high confidence</i>, major contribution from climate change) <p>[25.5, Tables 18-5, 18-6, and 25-1; WGI AR5 4.3]</p>
Terrestrial Ecosystems	<ul style="list-style-type: none"> Changes in genetics, growth, distribution, and phenology of many species, in particular birds, butterflies, and plants in Australia, beyond fluctuations due to variable local climates, land use, pollution, and invasive species (<i>high confidence</i>, major contribution from climate change) Expansion of some wetlands and contraction of adjacent woodlands in southeast Australia (<i>low confidence</i>, major contribution from climate change) Expansion of monsoon rainforest at expense of savannah and grasslands in northern Australia (<i>medium confidence</i>, major contribution from climate change) Migration of glass eels advanced by several weeks in Waikato River, New Zealand (<i>low confidence</i>, major contribution from climate change) <p>[Tables 18-7 and 25-3]</p>
Coastal Erosion & Marine Ecosystems	<ul style="list-style-type: none"> Southward shifts in the distribution of marine species near Australia, beyond changes due to short-term environmental fluctuations, fishing, and pollution (<i>medium confidence</i>, major contribution from climate change) Change in timing of migration of seabirds in Australia (<i>low confidence</i>, major contribution from climate change) Increased coral bleaching in Great Barrier Reef and western Australian reefs, beyond effects from pollution and physical disturbance (<i>high confidence</i>, major contribution from climate change) Changed coral disease patterns at Great Barrier Reef, beyond effects from pollution (<i>medium confidence</i>, major contribution from climate change) <p>[6.3, 25.6, Tables 18-8 and 25-3]</p>
Food Production & Livelihoods	<ul style="list-style-type: none"> Advanced timing of wine-grape maturation in recent decades, beyond advance due to improved management (<i>medium confidence</i>, major contribution from climate change) Shift in winter vs. summer human mortality in Australia, beyond changes due to exposure and health care (<i>low confidence</i>, major contribution from climate change) Relocation or diversification of agricultural activities in Australia, beyond changes due to policy, markets, and short-term climate variability (<i>low confidence</i>, minor contribution from climate change) <p>[11.4, 18.4, 25.7-8, Tables 18-9 and 25-3, Box 25-5]</p>
North America	
Snow & Ice, Rivers & Lakes, Floods & Drought	<ul style="list-style-type: none"> Shrinkage of glaciers across western and northern North America (<i>high confidence</i>, major contribution from climate change) Decreasing amount of water in spring snowpack in western North America (1960–2002) (<i>high confidence</i>, major contribution from climate change) Shift to earlier peak flow in snow dominated rivers in western North America (<i>high confidence</i>, major contribution from climate change) Increased runoff in the midwestern and northeastern US (<i>medium confidence</i>, minor contribution from climate change) <p>[Tables 18-5 and 18-6; WGI AR5 2.6, 4.3]</p>
Terrestrial Ecosystems	<ul style="list-style-type: none"> Phenology changes and species distribution shifts upward in elevation and northward across multiple taxa (<i>medium confidence</i>, major contribution from climate change) Increased wildfire frequency in subarctic conifer forests and tundra (<i>medium confidence</i>, major contribution from climate change) Regional increases in tree mortality and insect infestations in forests (<i>low confidence</i>, minor contribution from climate change) Increase in wildfire activity, fire frequency and duration, and burnt area in forests of the western US and boreal forests in Canada, beyond changes due to land use and fire management (<i>medium confidence</i>, minor contribution from climate change) <p>[26.4, 28.2, Table 18-7, Box 26-2]</p>
Coastal Erosion & Marine Ecosystems	<ul style="list-style-type: none"> Northward distributional shifts of northwest Atlantic fish species (<i>high confidence</i>, major contribution from climate change) Changes in musselbeds along the west coast of US (<i>high confidence</i>, major contribution from climate change) Changed migration and survival of salmon in northeast Pacific (<i>high confidence</i>, major contribution from climate change) Increased coastal erosion in Alaska and Canada (<i>medium confidence</i>, major contribution from climate change) <p>[18.3, 30.5, Tables 6-2 and 18-8]</p>
Food Production & Livelihoods	<ul style="list-style-type: none"> Impacts on livelihoods of indigenous groups in the Canadian Arctic, beyond effects of economic and sociopolitical changes (<i>medium confidence</i>, major contribution from climate change) <p>[18.4, 28.2, Tables 18-4 and 18-9]</p>

Appendix A: Additional Empirical Facts (cont.):

Table SPM.A1 (continued)

Central and South America	
Snow & Ice, Rivers & Lakes, Floods & Drought	<ul style="list-style-type: none"> Shrinkage of Andean glaciers (<i>high confidence</i>, major contribution from climate change) Changes in extreme flows in Amazon River (<i>medium confidence</i>, major contribution from climate change) Changing discharge patterns in rivers in the western Andes (<i>medium confidence</i>, major contribution from climate change) Increased streamflow in sub-basins of the La Plata River, beyond increase due to land-use change (<i>high confidence</i>, major contribution from climate change) [27.3, Tables 18-5, 18-6, and 27-3; WGI AR5 4.3]
Terrestrial Ecosystems	<ul style="list-style-type: none"> Increased tree mortality and forest fire in the Amazon (<i>low confidence</i>, minor contribution from climate change) Rainforest degradation and recession in the Amazon, beyond reference trends in deforestation and land degradation (<i>low confidence</i>, minor contribution from climate change) [4.3, 18.3, 27.2-3, Table 18-7]
Coastal Erosion & Marine Ecosystems	<ul style="list-style-type: none"> Increased coral bleaching in western Caribbean, beyond effects from pollution and physical disturbance (<i>high confidence</i>, major contribution from climate change) Mangrove degradation on north coast of South America, beyond degradation due to pollution and land use (<i>low confidence</i>, minor contribution from climate change) [27.3, Table 18-8]
Food Production & Livelihoods	<ul style="list-style-type: none"> More vulnerable livelihood trajectories for indigenous Aymara farmers in Bolivia due to water shortage, beyond effects of increasing social and economic stress (<i>medium confidence</i>, major contribution from climate change) Increase in agricultural yields and expansion of agricultural areas in southeastern South America, beyond increase due to improved technology (<i>medium confidence</i>, major contribution from climate change) [13.1, 27.3, Table 18-9]
Polar Regions	
Snow & Ice, Rivers & Lakes, Floods & Drought	<ul style="list-style-type: none"> Decreasing Arctic sea ice cover in summer (<i>high confidence</i>, major contribution from climate change) Reduction in ice volume in Arctic glaciers (<i>high confidence</i>, major contribution from climate change) Decreasing snow cover extent across the Arctic (<i>medium confidence</i>, major contribution from climate change) Widespread permafrost degradation, especially in the southern Arctic (<i>high confidence</i>, major contribution from climate change) Ice mass loss along coastal Antarctica (<i>medium confidence</i>, major contribution from climate change) Increased river discharge for large circumpolar rivers (1997–2007) (<i>low confidence</i>, major contribution from climate change) Increased winter minimum river flow in most of the Arctic (<i>medium confidence</i>, major contribution from climate change) Increased lake water temperatures 1985–2009 and prolonged ice-free seasons (<i>medium confidence</i>, major contribution from climate change) Disappearance of thermokarst lakes due to permafrost degradation in the low Arctic. New lakes created in areas of formerly frozen peat (<i>high confidence</i>, major contribution from climate change) [28.2, Tables 18-5 and 18-6; WGI AR5 4.2-4, 4.6, 10.5]
Terrestrial Ecosystems	<ul style="list-style-type: none"> Increased shrub cover in tundra in North America and Eurasia (<i>high confidence</i>, major contribution from climate change) Advance of Arctic tree-line in latitude and altitude (<i>medium confidence</i>, major contribution from climate change) Changed breeding area and population size of subarctic birds, due to snowbed reduction and/or tundra shrub encroachment (<i>medium confidence</i>, major contribution from climate change) Loss of snow-bed ecosystems and tussock tundra (<i>high confidence</i>, major contribution from climate change) Impacts on tundra animals from increased ice layers in snow pack, following rain-on-snow events (<i>medium confidence</i>, major contribution from climate change) Increased plant species ranges in the West Antarctic Peninsula and nearby islands over the past 50 years (<i>high confidence</i>, major contribution from climate change) Increased phytoplankton productivity in Signy Island lake waters (<i>high confidence</i>, major contribution from climate change) [28.2, Table 18-7]
Coastal Erosion & Marine Ecosystems	<ul style="list-style-type: none"> Increased coastal erosion across Arctic (<i>medium confidence</i>, major contribution from climate change) Negative effects on non-migratory Arctic species (<i>high confidence</i>, major contribution from climate change) Decreased reproductive success in Arctic seabirds (<i>medium confidence</i>, major contribution from climate change) Decline in Southern Ocean seals and seabirds (<i>medium confidence</i>, major contribution from climate change) Reduced thickness of foraminiferal shells in southern oceans, due to ocean acidification (<i>medium confidence</i>, major contribution from climate change) Reduced krill density in Scotia Sea (<i>medium confidence</i>, major contribution from climate change) [6.3, 18.3, 28.2-3, Table 18-8]
Food Production & Livelihoods	<ul style="list-style-type: none"> Impact on livelihoods of Arctic indigenous peoples, beyond effects of economic and sociopolitical changes (<i>medium confidence</i>, major contribution from climate change) Increased shipping traffic across the Bering Strait (<i>medium confidence</i>, major contribution from climate change) [18.4, 28.2, Tables 18-4 and 18-9, Figure 28-4]
Small Islands	
Snow & Ice, Rivers & Lakes, Floods & Drought	<ul style="list-style-type: none"> Increased water scarcity in Jamaica, beyond increase due to water use (<i>very low confidence</i>, minor contribution from climate change) [Table 18-6]
Terrestrial Ecosystems	<ul style="list-style-type: none"> Tropical bird population changes in Mauritius (<i>medium confidence</i>, major contribution from climate change) Decline of an endemic plant in Hawai'i (<i>medium confidence</i>, major contribution from climate change) Upward trend in tree-lines and associated fauna on high-elevation islands (<i>low confidence</i>, minor contribution from climate change) [29.3, Table 18-7]
Coastal Erosion & Marine Ecosystems	<ul style="list-style-type: none"> Increased coral bleaching near many tropical small islands, beyond effects of degradation due to fishing and pollution (<i>high confidence</i>, major contribution from climate change) Degradation of mangroves, wetlands, and seagrass around small islands, beyond degradation due to other disturbances (<i>very low confidence</i>, minor contribution from climate change) Increased flooding and erosion, beyond erosion due to human activities, natural erosion, and accretion (<i>low confidence</i>, minor contribution from climate change) Degradation of groundwater and freshwater ecosystems due to saline intrusion, beyond degradation due to pollution and groundwater pumping (<i>low confidence</i>, minor contribution from climate change) [29.3, Table 18-8]
Food Production & Livelihoods	<ul style="list-style-type: none"> Increased degradation of coastal fisheries due to direct effects and effects of increased coral reef bleaching, beyond degradation due to overfishing and pollution (<i>low confidence</i>, minor contribution from climate change) [18.3-4, 29.3, 30.6, Table 18-9, Box CC-CR]

Appendix A: Additional Empirical Facts (cont.):

Figure SPM.10 (referenced on page 53 above):

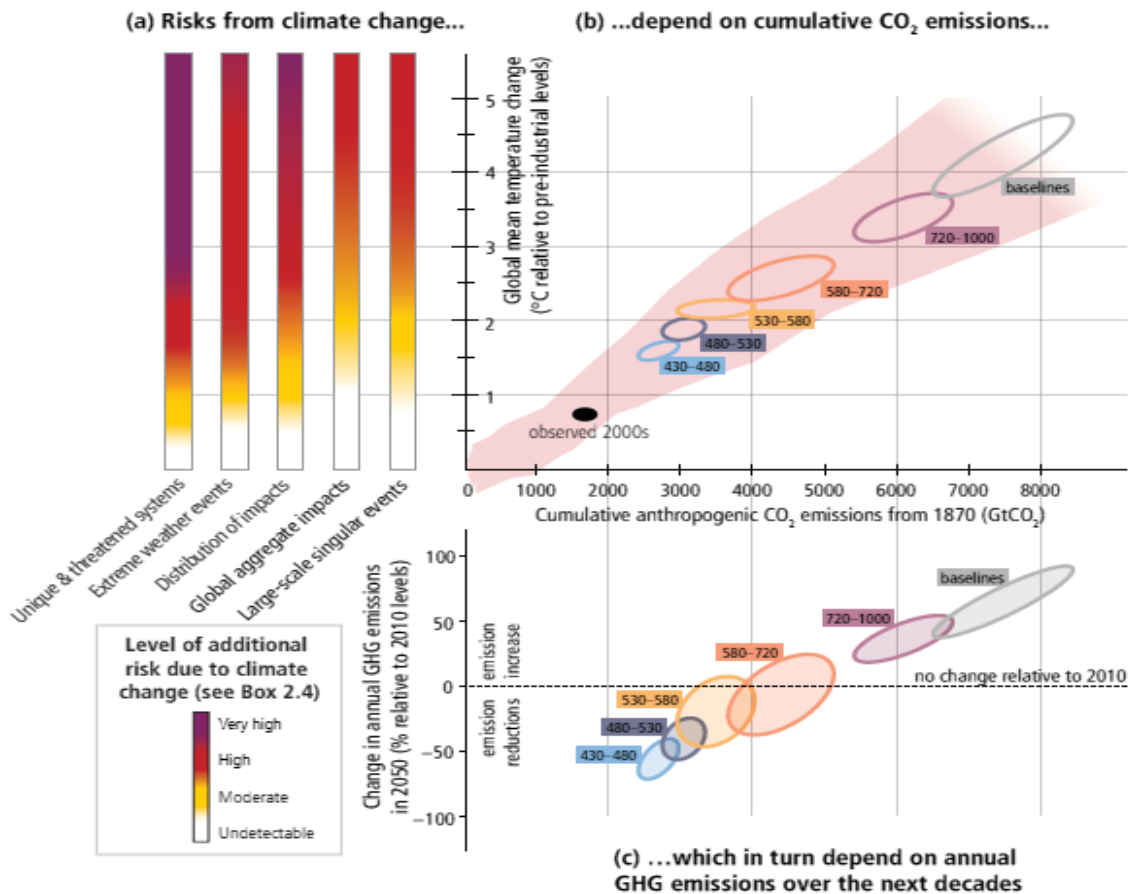


Figure SPM.10 “The relationship between risks from climate change, temperature change, cumulative carbon dioxide (CO₂) emissions and changes in annual greenhouse gas (GHG) emissions by 2050. Limiting risks across Reasons For Concern^[215] (a) would imply a limit for cumulative emissions of CO₂ (b) which would constrain annual GHG emissions over the next few decades (c). **Panel a** reproduces the five Reasons For Concern [Box 2.4]. **Panel b** links temperature changes to cumulative CO₂ emissions (in GtCO₂) from 1870. They are based on Coupled Model Intercomparison Project Phase 5 (CMIP5) simulations (pink plume) and on a simple climate model (median climate response in 2100), for the baselines and five mitigation scenario categories ^[216] (six ellipses [used in WGIII; p.430, Table 6.2]). Details are provided in Figure SPM.5. **Panel c** shows the relationship between the cumulative CO₂ emissions (in GtCO₂) of the scenario categories and their associated change in annual GHG emissions by 2050, expressed in percentage change (in percent GtCO₂-eq per year) relative to 2010. The ellipses correspond to the same scenario categories as in Panel b, and are built with a similar method (see details in Figure SPM.5).”

(All emphasis in original; SYR, p.18)

²¹⁵ For “Reasons For Concern,” see SYR Box 2.4 below in this Appendix A.

²¹⁶ For the mitigation categories, see WDIII Table 6.2 (WGIII, p.430) below in this Appendix A. WGIII Table 6.3 (WGIII, p.431) referenced in Table 6-3, is also included below in this Appendix A.

Appendix A: Additional Empirical Facts (cont.):

SYR Box 2.4, p.72:

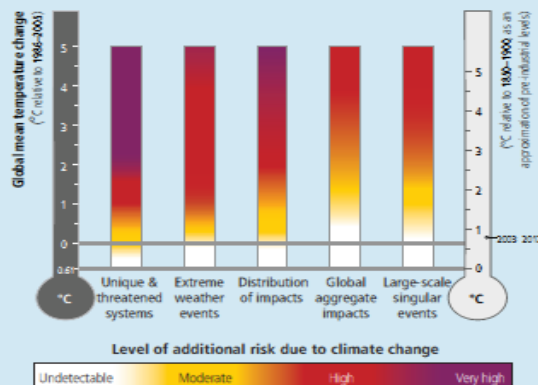
Box 2.4 | Reasons For Concern Regarding Climate Change

Five Reasons For Concern (RFCs) have provided a framework for summarizing key risks since the IPCC Third Assessment Report. They illustrate the implications of warming and of adaptation limits for people, economies and ecosystems across sectors and regions. They provide one starting point for evaluating dangerous anthropogenic interference with the climate system. All warming levels in the text of Box 2.4 are relative to the 1986–2005 period. Adding -0.6°C to these warming levels roughly gives warming relative to the 1850–1900 period, used here as a proxy for pre-industrial times (right-hand scale in Box 2.4, Figure 1). [WGII Assessment Box SPM.1]

The five RFCs are associated with:

1. **Unique and threatened systems:** Some ecosystems and cultures are already at risk from climate change (*high confidence*). With additional warming of around 1°C , the number of unique and threatened systems at risk of severe consequences increases. Many systems with limited adaptive capacity, particularly those associated with Arctic sea ice and coral reefs, are subject to very high risks with additional warming of 2°C . In addition to risks resulting from the *magnitude* of warming, terrestrial species are also sensitive to the *rate* of warming, marine species to the rate and degree of ocean acidification and coastal systems to sea level rise (Figure 2.5).
2. **Extreme weather events:** Climate change related risks from extreme events, such as heat waves, heavy precipitation and coastal flooding, are already moderate (*high confidence*). With 1°C additional warming, risks are high (*medium confidence*). Risks associated with some types of extreme events (e.g., extreme heat) increase progressively with further warming (*high confidence*).
3. **Distribution of impacts:** Risks are unevenly distributed between groups of people and between regions; risks are generally greater for disadvantaged people and communities everywhere. Risks are already moderate because of regional differences in observed climate change impacts, particularly for crop production (*medium to high confidence*). Based on projected decreases in regional crop yields and water availability, risks of unevenly distributed impacts are high under additional warming of above 2°C (*medium confidence*).
4. **Global aggregate impacts:** Risks of global aggregate impacts are moderate under additional warming of between 1°C and 2°C , reflecting impacts on both the Earth's biodiversity and the overall global economy (*medium confidence*). Extensive biodiversity loss, with associated loss of ecosystem goods and services, leads to high risks at around 3°C additional warming (*high confidence*). Aggregate economic damages accelerate with increasing temperature (*limited evidence, high agreement*), but few quantitative estimates are available for additional warming of above 3°C .
5. **Large-scale singular events:** With increasing warming, some physical and ecological systems are at risk of abrupt and/or irreversible changes (see Section 2.4). Risks associated with such tipping points are moderate between 0 and 1°C additional warming, since there are signs that both warm-water coral reefs and Arctic ecosystems are already experiencing irreversible regime shifts (*medium confidence*). Risks increase at a steepening rate under an additional warming of 1 to 2°C and become high above 3°C , due to the potential for large and irreversible sea level rise from ice sheet loss. For sustained warming above some threshold greater than -0.5°C additional warming (*low confidence*) but less than -3.5°C (*medium confidence*), near-complete loss of the Greenland ice sheet would occur over a millennium or more, eventually contributing up to 7 m to global mean sea level rise.

Box 2.4 (continued)



Box 2.4, Figure 1 | Risks associated with Reasons For Concern at a global scale are shown for increasing levels of climate change. The colour shading indicates the additional risk due to climate change when a temperature level is reached and then sustained or exceeded. White indicates no associated impacts are detectable and attributable to climate change. Yellow indicates that associated impacts are both detectable and attributable to climate change with at least *medium confidence*. Red indicates severe and widespread impacts. Purple, introduced in this assessment, shows that very high risk is indicated by all key risk criteria. [WGII Assessment Box SPM.1, Figure 19-4]

(All emphasis in original; SYR, p.72-73)

Appendix A: Additional Empirical Facts (cont.):

WGIII Table 6.2 (WGIII, p.430):

Table 6.2 | Definition of CO_{2eq} concentration categories used in this assessment, the mapping used to allocate scenarios based on different metrics to those categories, and the number of scenarios that extend through 2100 in each category. [Note: This table shows the mapping of scenarios to the categories; Table 6.3. shows the resulting characteristics of the categories using this mapping. The table only covers the scenarios with information for the full 21st century. The mapping of scenarios based on 2011 – 2050 cumulative total CO_{2eq} emissions is described in the Methods and Metrics Annex.

CO ₂ -equivalent concentration in 2100 (ppm CO _{2eq}) (based on full radiative forcing) ¹		Secondary categorization criteria ²		Corresponding RCP ³	No of scenarios extending through 2100	
CO _{2eq} concentration (ppm)	Radiative forcing (W/m ²)	Kyoto gas only CO _{2eq} concentration in 2100 (ppm)	Cumulative total CO ₂ emissions 2011–2100 (GtCO ₂)		Total ⁴	With Overshoot Greater than 0.4 W/m ²
430–480	2.3–2.9	450–500	< 950	RCP 2.6	114 (114)	72 (72)
480–530	2.9–3.45	500–550	950–1500		251 (257)	77 (77)
530–580	3.45–3.9	550–600	1500–1950		198 (222)	22 (22)
580–650	3.9–4.5	600–670	1950–2600	RCP 4.5	102 (109)	8 (8)
650–720	4.5–5.1	670–750	2600–3250		27 (27)	0 (0)
720–1000	5.1–6.8	750–1030	3250–5250	RCP 6	111 (120)	0 (0)
> 1000	> 6.8	> 1030	> 5250	RCP 8.5	160 (166)	0 (0)

¹ Scenarios with information for the full 21st century were categorized in different categories based on their 2100 full radiative forcing/CO_{2eq} concentration level (including GHGs and other radiatively active substances).

² If insufficient information was available to calculate full forcing, scenarios were categorized, in order of preference, by 2100 Kyoto gas forcing or cumulative CO₂ emissions in the 2011–2100 period. Scenarios extending only through 2050 were categorized based on cumulative CO₂ emissions in the 2011–2050 period. Those scenarios are not included in this table. (See the Methods and Metrics Annex for more information.)

³ The column indicates the corresponding RCP falling within the scenario category based on 2100 CO₂ equivalent concentration.

⁴ Number of scenarios in the respective category, which report at least total CO₂ emissions (and potentially other GHGs and other radiatively active substances) to 2100. Numbers in parentheses denote all scenarios in the respective category, including those scenarios that report only CO₂ emissions from fossil fuels and industry (but not land-use CO₂).

Appendix A: Additional Empirical Facts (cont.):

WGIII Table 6.3 (WGIII, p.431):

Table 6.3 | Key characteristics of the scenarios categories introduced in Table 6.2. For all parameters, the 10th to 90th percentile of the scenarios are shown. Source: WG III AR5 Scenario Database (Annex II.10).

CO ₂ -equivalent concentration in 2100 (ppm CO ₂ -eq) ²	Subcategories	Cumulative CO ₂ emissions ³ (GtCO ₂)		CO ₂ -eq. emissions in 2050 relative to 2010 (%) ⁴	CO ₂ -eq. emissions in 2100 relative to 2010 (%)	CO ₂ -eq. emissions in 2100 relative to 2010 (%)	Concentration (ppm) ⁵		Temperature (relative to 1850–1900) ^{6,7}			
		2011–2050	2011–2100				CO ₂ in 2100	Peak CO ₂ -eq.	2100 Temperature (°C)	Probability of Exceeding 1.5°C (%)	Probability of Exceeding 2°C (%)	Probability of Exceeding 3°C (%)
430–480	Total range	550–1300	630–1180	-72 to -41	-118 to -78	390–435	465–530	1.5–1.7 (1.0–2.8)	49–86	12–37	1–3	0–1
	Overshoot < 0.4 W/m ²	550–1030	630–1180	-72 to -49	-94 to -78	390–435	465–500	1.5–1.7 (1.0–2.6)	49–72	12–22	1–2	0–0
	Overshoot > 0.4 W/m ²	920–1300	670–1180	-66 to -41	-118 to -103	400–435	505–530	1.6–1.7 (1.1–2.8)	76–86	22–37	1–3	0–1
480–530	Total range	860–1600	960–1550	-57 to 4 ⁸	-179 to -127	425–460	505–575	1.7–2.1 (1.2–3.3)	80–96	32–61	3–10	0–2
	Overshoot < 0.4 W/m ²	870–1240	960–1490	-57 to -42	-103 to -76	425–460	505–560	1.8–2.0 (1.2–3.2)	81–94	32–56	3–10	0–2
	Overshoot > 0.4 W/m ²	1060–1600	1020–1500	-54 to 4 ⁸	-179 to -98	425–460	530–575	1.8–2.1 (1.2–3.3)	86–96	38–67	3–10	1–2
530–580	No exceedance of 530 ppm CO ₂ -eq	860–1180	960–1430	-57 to -42	-107 to -73	425–455	505–530	1.7–1.9 (1.2–2.9)	80–87	32–40	3–4	0–1
	Exceedance of 530 ppm CO ₂ -eq	1130–1530	990–1550	-55 to -25	-114 to -90	425–460	535–575	1.8–2.0 (1.2–3.3)	88–96	39–67	4–10	1–2
	Total range	1070–1780	1170–2240	-47 to 7	-184 to -59	425–520	540–640	2.0–2.3 (1.4–3.6)	93–99	54–84	8–19	1–3
580–650	Overshoot < 0.4 W/m ²	1090–1490	1400–2190	-47 to -12	-86 to -60	465–520	545–585	2.0–2.2 (1.4–3.6)	93–96	55–71	8–14	1–2
	Overshoot > 0.4 W/m ²	1540–1780	1170–2080	-7 to 7	-184 to -98	425–505	590–640	2.1–2.2 (1.4–3.6)	95–99	63–84	8–19	1–3
	No exceedance of 580 ppm CO ₂ -eq	1070–1460	1240–2240	-47 to -19	-81 to -59	450–520	540–575	2.0–2.2 (1.4–3.6)	93–95	54–70	8–13	1–2
650–720	Exceedance of 580 ppm CO ₂ -eq	1420–1750	1170–2100	-16 to 7	-183 to -86	425–510	585–640	2.1–2.3 (1.4–3.6)	95–99	66–84	8–19	1–3
	Total range	1260–1640	1870–2440	-38 to 24	-134 to -50	500–545	585–690	2.3–2.6 (1.5–4.2)	96–100	74–93	14–35	2–8
	Total range	1310–1750	2570–3340	-11 to 17	-54 to -21	565–615	645–710	2.6–2.9 (1.8–4.5)	99–100	88–95	26–43	4–10
720–1000	Total range	1570–1940	3620–4990	18 to 54	-7 to 72	645–780	765–995	3.1–3.7 (2.1–5.8)	100–100	97–100	55–83	14–39
> 1000	Total range	1840–2310	5350–7010	52 to 95	74 to 178	810–975	1075–1285	4.1–4.8 (2.8–7.8)	100–100	100–100	92–98	53–78

¹ Italicized text in blue shows results of the subset of the scenarios from column one. One subcategory distinguishes scenarios that have a large overshoot (i.e., a maximum forcing during the 21st century that is > 0.4 W/m² higher than its 2100 forcing) from those that do not have a large overshoot. The second set of subcategories shows whether a scenario exceeds the maximum equivalent concentration level of its category somewhere before 2100. For categories above 580 ppm CO₂-eq, the information in the row 'total range' refers to the 10th to 90th percentiles for the total set of scenarios in the category. For the categories below 580 ppm CO₂-eq, the total range is based on the 10th to 90th percentiles of the subcategories (the lowest and highest values from the subcategories).

² The CO₂-eq concentration includes the forcing of all GHGs including halogenated gases and tropospheric ozone, as well as aerosols and albedo change (calculated on the basis of the total forcing from a simple carbon cycle/climate model MAGICC).

³ For comparison of the cumulative CO₂ emissions estimates assessed here with those presented in WGIII AR5, an amount of 515 (445 to 585) GtC (1890 (1630 to 2150) GtCO₂), was already emitted by 2011 since 1870 (WGIII Section 12.5). Note that cumulative CO₂ emissions are presented here for different periods of time (2011–2050 and 2011–2100) while cumulative CO₂ emissions in WGIII AR5 are presented as total compatible emissions for the RCPs (2012–2100) or for total compatible emissions for remaining below a given temperature target with a given likelihood (WGIII Table SPM.3, WGIII SPM.E.8).

⁴ The global 2010 emissions are 31% above the 1990 emissions (consistent with the historic GHG emission estimates presented in this report). CO₂-eq emissions include the basket of Kyoto gases (CO₂, CH₄, N₂O as well as F-gases). The assessment in WGIII AR5 involves a large number of scenarios published in the scientific literature and is thus not limited to the RCPs. To evaluate the CO₂-eq concentration and climate implications of these scenarios, the MAGICC model was used in a probabilistic mode (see Annex II). For a comparison between MAGICC model results and the outcomes of the models used in WGIII AR5, see WGIII Sections 12.4.1.2, 12.4.8 and Section 6.3.2.6 of this report.

⁵ Reasons for differences with WGIII AR5 SPM Table 2 include the difference in reference year (1986–2005 vs. 1850–1900 here), difference in reporting year (2081–2100 vs 2100 here), set-up of simulation (CMIP5 concentration-driven versus MAGICC emission-driven here), and the wider set of scenarios (RCPs versus the full set of scenarios in the WGIII AR5 scenario database here).

⁶ Temperature change in 2100 is provided for a median estimate of the MAGICC calculations, which illustrates differences between the emissions pathways of the scenarios in each category. The range of temperature change in the parentheses includes in addition also the carbon cycle and climate system uncertainties as represented by the MAGICC model (see 6.3.2.6 for further details). The temperature data compared to the 1850–1900 reference year was calculated by taking all projected warming relative to 1866–2005, and adding 0.61 °C for 1866–2005 compared to 1850–1900, based on HadCRUT4, as also applied in WGIII Table SPM.2.

⁷ Temperature change is reported for the year 2100, which is not directly comparable to the equilibrium warming reported in WGIII AR4 (see Table 3.5; see also Section 6.3.2). For the 2100 temperature estimates, the transient climate response (TCR) is the most relevant system property. The assumed 90% range of the TCR for MAGICC is 1.2–2.6 °C (median 1.8 °C). This compares to the 90% range of TCR between 1.2–2.4 °C for CMIP5 (WGIII Section 9.7) and an assessed likely range of 1–2.5 °C from multiple lines of evidence reported in the WGIII AR5 (Box 12.2 in Section 12.5).

⁸ The high estimate is influenced by multiple scenarios from the same model in this category with very large net negative CO₂-eq emissions of about 40 GtCO₂-eq/yr in the long term. The higher bound CO₂-eq emissions estimate, excluding extreme net negative emissions scenarios and thus comparable to the estimates from the other rows in the table, is about -19% in 2050 relative to 2010.

Appendix B

Chart of Aquinas's Human Actions and Names of the Actions:

<p>For each Act, the citation to the Aquinas reference follows his name immediately below the name of the act. If the name is in quotes, it is used by the Philosopher whose name(s) follow. Page numbers are from the T. Williams translations in <i>The Hackett Aquinas: Basic Works</i> 2014.</p>	<p>For each Act, the citation to an Aristotle reference follows his name immediately below the name of the act. If either Ross or Barnes use a name different than the Williams name, that name appears in parentheses after the Williams name. Page numbers are from Aristotle, Ross, 2009; if from Aristotle Barnes, the Barnes name appears.</p>
Apprehensive Acts {Acts of the Intellect}	Appetitive Acts {Acts of the Will}
Perception (apprehension of the good) - Aristotle Aquinas - p.395,Q8a1;p.400,Q9a1r2 Aristotle - p.183(1172a34-b7)	"Wish" - Aristotle Aquinas - p.407,Q1Qa1; Aristotle - p.42{1111b26-29},p.45{1113a15-24}.
Presentation {presenting) – Aquinas Aquinas - p.400-401,Q9a1&2 Aristotle - no references found	"Intention" - Aquinas (voluntary- Aristotle) Aquinas - p.418-23,Q12 Aristotle - p.38-49{1109b30-1114b34}; pp.212,218
"Deliberation" - Aquinas, Aristotle Aquinas - p.431-38,Q14 Aristotle - p.131{1150b19-28}; p.135 {1152a26-36};p.45(1113a7-14); p.41-43 {1111b3-1113a14}	"Consent"- Aquinas Aquinas - p.438-42,Q15 Aristotle - no references found
"Judgment" - Aquinas, Aristotle Aquinas - p.427,Q13a3 Aristotle - p.45(1113a7-12)	"Choice" - Aquinas, Aristotle Aquinas - p.424-31,Q13 Aristotle - p.41-45(1111b4-1113a13); p.103-04 (1139a17-b15)
"Command"- Aquinas, Aristotle Aquinas - p.447-59,Q17 Aristotle - p.112(1143a7-10)	"Use" - Aquinas Aquinas - p.443-47,Q16 Aristotle?
"Execution" - Aquinas Aquinas - p.447,Q16a4r1 Aristotle?	"Enjoyment" - Aquinas, Aristotle Aquinas - p.413-18,Q11 Aristotle - p.135(1152b4-8))

David Gallagher, "Aquinas on Moral Action: Interior and Exterior Acts," in *Proceedings of the Amer. Cath. Philosophical Association*, Vol. 64, 1990, pp. 118-129.

Gallagher's "Order of Intention" - acts of will in the shaded area above.

Gallagher's "Order of Execution" -acts of will in the unshaded area above.