IMAGO DEI IN MACHINA?: A THEOLOGICAL REFLECTION ON THE ETHICS OF MAN AND MACHINE IN COMMUNION

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DECLARATION

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DEDICATION

This doctoral research project is dedicated to my wife Susan and our four children (Jordan, Ryan, Erin and Morgan), to my parents Rodney and Madge, and my deceased grandparents Eric and Elisabeth Rowlands, all great men and women of faith. All of these people have graciously shared their lives with me and have drawn me into a closer communion with the Lord and with others. It is in the intimate and loving relationship of family that earthly glimpses of our future life in the presence of the triune God break through into the present.

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God, in His grace and loving providence through countless significant and seemingly trivial events, drew a boy from South Africa into the life of a girl from the U.S.A. Our marriage has enhanced my life beyond the ability of any technology, refined my character as no other human community has to date and affirmed to me the power and meaning of agape. Susan has been both a companion and a helpmeet in this wonderful walk of life. It is together that we have experienced the joy and struggles in life, and nurtured four wonderful children in the admonition of the Lord. For the past ten years she has patiently labored alongside me carrying an extra load in the home while I studied for this degree and the one prior. She has graciously proofed hundreds of pages of my writings. I trust the giving of my time and devotion upon the completion of this dissertation will begin to reclaim any losses incurred during the past. Thank you, Susan! I have come to know agape up close and personal in knowing you.

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INTRODUCTION

1. RESEARCH FOCUS

The burgeoning technologies of the last half century have given rise to many new methods and means of engaging people with one another and with machines. It is becoming apparent that significant ethical issues are arising in matters pertaining to human interrelationship with machines. In fact, *that which distinguishes man from machine is emerging as a significant philosophical and theological quandary facing humanity* with dramatic and enduring moral consequences contingent upon the perspective adopted. If, for example, man[1] is essentially a machine, then he can be modified, copied, harvested for parts, completely transformed, or even disposed of with little, if any, moral consideration. However, if humans are not merely machines but are somehow unique among all living creatures, possibly even made in God's image, then what moral considerations are imposed upon one's future vision for humanity? For example, what moral concerns should be addressed by those future visions that seek to include humanoid robots into the community of human persons, or to so transform humans as to render them something other than what they are now?

2. RESEARCH PROBLEM STATEMENT

Congruent to the establishment of a Christian Ethic is the proper formulation of the moral issue to which it is applied. An understanding of the nature of technology, the nature of humanity, and the nature of the relationship between them is required. Technology has permeated practically every area of modern day living. In many ways technological advancements have provided aids that have improved the human condition, but conversely some have proven detrimental to humanity. Many who have developed the technologies used today have given little critical thought to the establishment of criteria by which to regulate either the design or deployment of their creations. The culture at large, including the church, has often uncritically embraced these technological advancements. Arguably, the culture has become so immersed in its technologies that little consideration is given to the impact it may be having on their humanity. In fact, the

[1] Note: Any use of inclusive language in this section and in subsequent sections or chapters is not intended to exclude any persons or groups of persons but merely to reference a broader group e.g. all humans, using common expressions.

increasing dependence of humans upon machines is gradually leading to an amalgamation of humans and machines. Noteworthy computer scientists such as Kurzweil and Moravec eagerly anticipate the creation of a machine (or the transformation by technology of humans into a form) that will be superior to humans in every way, some proclaiming this as the next step in the evolution of humanity. In response to this challenge the Church needs to reaffirm what it means to be human and provide a living example of how to be responsible in the development and adoption of technology. However, the researcher contends that the present response of theologians, while serving to present some of these concerns regarding technology as matters for serious discussion in the Church, inadequately prepares the Church for future challenges.

Since the near future holds the possibility of increasing interrelationships between humans and machines[2], the goal of this research to answer the crucial question: *is it ethically permissible to admit as persons, solely artificially derived non-human entities into the community of human persons?* This question will be answered in a bidirectional yet converging manner, bidirectional because artifacts (in this case robots) are moving toward a proximate resemblance of human beings, and human beings are moving toward an artificial (non-biological) existence, and therefore, also converging because both machines and humans would eventually exist in an artificial substrate. The twofold objectives of this research will be to determine *if humanoid robots are persons and therefore ought to be admitted into the human community*, and *if transformed humans might at some stage of their transformation be considered non-human and therefore ought to be excluded from membership in the human community*. An examination of these technologies and the nature of humanity will be conducted from a theological perspective in order to prescribe a theologically informed ethical response to the challenges they present to us.

3. RESEARCH HYPOTHESIS

The researcher's hypothesis is that *communion with the Godhead in Christ is the potential which is uniquely proper to humanity; therefore, since human beings are uniquely related to by God, one must be human in order to properly commune with God and other human beings*. Humans share many things in common with other creatures, and in light of emerging technologies,

[2] While the researcher in his argumentation considers the futuristic amalgamation of humans and machines and the integration of human-like machines as persons into human society, let the reader take note that this research is not purely hypothetical. As subsequent sections will reveal, present technological developments clearly evidence a trajectory whose end corresponds to the researcher's hypothesis (and the intent of many noted futurists in the field), and whose current deployments require an ethical response consistent to those prescribed herein by the researcher.

machines could be developed that will replicate some of the higher order functions presently unique to humans. However, it is the researcher's contention that humans in both constitution and purpose are unique among all created beings, namely, in both the nature of their embodiment and in their immaterial dimension. Not only is a human's composition God oriented, it is also human oriented and necessary to proper communion with one's fellow human. Humans so indissolubly composed cannot be replicated in a machine (or transformed in such a way as to separate body and soul); therefore, machines, in accordance with their nature, are properly excluded from communion with humans (as are non-human beings).

4. RESEARCH DELIMITATION

This research endeavors to present an accurate theologically and philosophically informed depiction of the *nature of human beings* and that which serves as the *basis of their communion* with one another and others. The researcher also examines the progress of technology and perceives in its history and vision for the future the possibility for either a *humanoid robot* or the *transformation of human beings*, and then considers the *ethical issues* they pose for the *human community*. This dissertation does not delve into the depths of humanoid robotics from an engineering standpoint or the physical and ethical subtleties involved in the gradual alteration of human nature by technology, *rather the final product of each project* (a humanoid robot and a posthuman being respectively) *is the focus of this examination*. The researcher also frames and employs a specifically Christian ethic in response to the issues brought into consideration by this examination. And, since this is primarily a theological examination, the biblical concept of the image of God as it pertains to humanity guides the discussion concerning the nature of human beings and finds its locus in the person of Jesus Christ.

5. RESEARCH METHODOLOGY

The research project is primarily based on *literature study*: i.e. it is concerned with the study of the available literature regarding the subject at hand. The following steps are therefore followed in this research methodology: (a) *reading* – to conduct an in-depth study by gathering information from various authors of books and articles, conference lecturers, and Internet based publications; (b) *analysing* – to provide a clear and critical evaluation of the studied and gathered texts on the present state of technology, in particular AI and robotics, offered by scientists, philosophers, and theologians with an intentional view to establishing moral perspectives

pertaining to their design and deployment; (c) *studying* – to carefully assess current writings in the fields of technology and theology that deal with the emerging trends of machines that resemble human beings and those technologies and ideologies that endeavour to transform humanity; and (d) *reporting and correcting* – to make regular consultations with the researcher's overseer in order to ascertain progress and to receive direction for research efforts; the purpose being to alter and correct the work-in-process in preparation for final submission.

The subject matter of this research project evidences the importance of an interdisciplinary approach to one's treatment of it. The disciplines of science, history, philosophy, anthropology, and theology, to name the most prominent, all play an important role in a comprehensive understanding of the nature of humanity and humanity's world. The researcher is persuaded that given the origin of all things in a unified source i.e. the triune God, all of reality is ultimately unified and interrelated in Christ. Therefore, the various disciplines ultimately *complement rather than conflict* with one another, and properly understood the contributions of each would *cohere in a complex and complete framework of truth* regarding all of reality. It is with confidence that the researcher can turn to a variety of disciplines to corroborate the findings in each and establish a more comprehensive approach to the subject at hand.

6. RESEARCH CONTRIBUTION

Technological developments have introduced many new and significant developments in all areas of life. Boundaries that previously existed in fields such as medicine, communications, space etc., have been demolished, and with their removal, rapidly shifting frontiers in such fields have produced a cornucopia of thorny ethical issues. Philosophical and theological reflection has been unable to sustain a comparable pace. A revolution in ethics is evident, however, the moorings for many significant directional alterations are absent, and one significant consequence is the reduction of humanity. While in the past decade or two there has been an upsurge in philosophical and ethical dialogue concerning technology, there is a noticeable lack of theological reflection on such matters. This is especially true concerning the contemplation of noteworthy technological horizons which include the potential for such developments as humanoid robots and posthumans. *This research endeavors to preemptively address these future directions*, and in so doing, *contribute to the much needed and crucial theological reflection concerning the relationship between humans and machines*. This should be done by comparing and contrasting man and machine, and then proposing a theologically informed ethical approach

to such technologies that neither forfeits the integrity of humanity nor sacrifices communion with the Triune God on the altar of promised technological advancement and is grounded uniquely in Divine-human communion as the *telos* of humanity.

7. RESEARCH CHAPTERS OVERVIEW

In tracing the growth of technology, beginning with the years of emerging scientific discovery and advancement in the sixteen hundreds to the present day, one is able to identify both the magnitude of and patterns in the advancements that have been produced by it. The first chapter unfolds this progression one century at a time revealing the steady increase in the power and prevalence of machinery. These developments afforded an increased production of goods with a reciprocal decrease in the labor required by either humans or beasts. This also led to the growth and empowerment of larger civilizations and their increasing control over nature which continued to afford their ever increasing well-being. Technological developments did not remain confined to large scale industrial and military constructions; they became essential to the everyday lives of those gathered in these growing civilizations. Soon the reach of technology extended beyond controlling and mining natural resources for humanity's gain; the focus became humans themselves. The use of machines to improve human well-being has become not only beneficial but essential. *And, in the drive to engineer a better human, technology has already begun to merge machines and humans*. Some are eager for such a merge and/or migration to occur. Bostrom (2003:6), an avid transhumanist, writes, "some posthumans may find it advantageous to jettison their bodies altogether and live as information patterns on vast superfast computer networks." Although those in the field of robotics are not merging humans and machines, some are endeavoring to construct a better, albeit mechanical, human. The merging of humans and machines or the creation of a mechanical human either directly or indirectly displaces humans in part or in whole and glimpses of this are evident in this chapter's review.

It should come as no surprise, given the ubiquitous nature of technology in the world today, that numerous areas of life (human and non-human) are being affected by it. Since human beings are moral creatures, their lives and those that are a part of it are accompanied by moral issues and this includes the products of technology. The second chapter begins by examining the prominent ethical issues of today and *uncovers significant areas where human life is being subjected to dehumanizing practices involving technology*. The purpose of this exposure is not to depict technology as evil but to cast a spotlight on the human perpetrators of these acts and the power

afforded them by technology; however, this does not mean technology is inherently morally neutral either. *The intent of the designers and developers plays a significant part in the formation of the artifact and its uses*. Consider the intent revealed in the projections of noted futurist Kurzweil (2005:310), who eagerly anticipates the incorporation of computers in our bodies to such a degree that by the 2030s we will become more nonbiological than biological. To that end, the worldviews of those notable proponents of humanoid robots and AI are examined in order to ascertain the direction they are seeking to drive future advancements. Religion usually plays a large part in an adherent's worldview, so Western and Japanese traditions are reviewed in order to depict the role they play in the adoption or rejection of advanced technologies. Given the focus of this research, the moral issues raised by the creation of a humanoid robot or an amalgamation of humans and machines are treated in order to identify the questions they raise for a more in-depth treatment in subsequent chapters.

The response to the ethical issues raised by present and future technologies is framed by the researcher's system of ethics, specifically, a Christian ethic. The rationale for the system of ethics being advocated is best justified and clarified by an examination of the present state of Christian Ethics. This chapter accomplishes that goal by *outlining the nature of a Christian ethic and the perspectives of other noteworthy Christian ethicists*. The research also includes a review of the nature of the moral act by contrasting systems of ethical thought that purport to offer guidance for how one ought to act. Christian ethics, as with all other disciplines, is located in a cultural context that plays a significant role in its formation, so the influences of the prominent cultural epochs of Modernity and Post-Modernity are treated as well. Scripture plays a major role in any Christian ethic and how the Christian ethicist handles it dramatically affects its use in his system of ethics, therefore, matters pertaining to hermeneutics fall within the purview of this study. The chapter is concluded with a *modest proposal by the researcher for a system of ethics* that will be adopted in the treatment of the moral issues raised in this dissertation.

The advances in technology that are the focus of this research most closely and significantly affect human beings and the future state of their very nature. In order to respond to the present and future moral challenges it is imperative that a sound grasp of the nature of human beings is established. In the fourth chapter the question of what is unique about human beings comes into focus. Past efforts to answer that question have come from primarily theologically and philosophically derived sources. However, both of these sources have lost their former predominance to the current (arguably the past four centuries at least) dominance of science. As the answers to the question of what is means to be human are examined in the light of all three

sources, it is readily apparent that the question demands an answer from an *amalgamation of sources*. The theological source, however, contains an immaterial component that lacks substantiation in the other two sources but finds its greatest substantiation in the incarnation, life, and resurrection of the God-man, Jesus Christ. It is His embodiment as the image of God that provides the context most able to answer the question of what is unique about humans and to give hope for all human beings in both their present and future resurrected embodied existence.

The fifth and final chapter focuses more specifically on the ethics of humans and machines in communion, doing so from an intentionally theological perspective. Communion itself is the initial subject examined. The triune God as the source of all things and the ultimate eternal model of communion offers the theologian the most reliable means by which to depict the meaning of communion. The revelation of the triune God given to us by God reveals the personal and relational dynamic in the Godhead. *This triune community of persons in God extends relationally in a personal way to human beings uniquely*, and in the promise of sonship by adoption in Christ, affirms the *inclusion of humans as persons into their community of persons*. Some seek to extend this inclusion using a different definition of person. Foerst (2004:160), seeking to include robots, contends that the attribution of personhood is not biological but cultural, and it is based on the application of dignity and worth to the other. In our present, albeit fallen, existence, communion with one another takes place within the limitations that accompany it. The experience of these limitations is most pronounced when they include suffering. However, despite the suffering, and often because of it, the most significant times of human communion are experienced by those suffering together as either mutual sufferers or as a combination of suffer and compassionate caregivers. It is in the midst of these limitations that *agape* is revealed for what it is i.e. selfless love that actively wills and works for the good of the other. Drawing from the prior discussions in this chapter, a moral framework intended to guide a response to both present and future technologies that impact human beings and their God-given nature the most, is offered for the consideration of all but specifically to those who belong to the community of the triune God in Christ, the body of Christ, the Church. Drawing from this framework, a suitable set of guidelines for robot construction and deployment is proposed for adoption in the field of robotics. Additionally, some recommendations for the ethical treatment of human enhancements are also provided.

SECTION A. TECHNOLOGY

CHAPTER 1: NEW WORLD OF TECHNOLOGY

"Ryan thinks that technology is the answer. Well guess what? I just drove my car into a lake. . . . Why, you might ask, did I do this? Well, because of a machine. A machine told me to drive into a lake and I did it. I did it because I trusted Ryan's precious technology, and look where it got me" – Michael (The Office. TV series:2008).

This chapter is intended to provide a brief overview of the present state of technology with an emphasis upon those technologies that deal with AI (artificial intelligence), robotics, human alteration or enhancement (biotechnology), and the overlapping areas of each. The present state of technology includes a review of the emergence and rising prominence of machines, the commonplace use of advanced technology in society today, the incorporation of machine in humans, and the development of machines that mimic humans i.e. robots. Considering the significance of movies in Euro-Western culture, a brief review of several popular movies is included to provide a glimpse of the perspectives they hold about technology and their projections of future developments in it. This overview of technology's present state is set in the context of a brief history of technological advancements since the 17th century, and concluded with a glance into the near future through the eyes of prominent experts in the fields of AI and robotics.

1.1 BRIEF HISTORY OF THE DEVELOPMENT OF TECHNOLOGY

As an introduction to this section, which is intended to provide a brief review of technological developments in the past four centuries, it is expedient to discuss and define what is meant by the term technology. In today's world mention of the word usually conjures up visions of computers, mobile phones, high-definition televisions, jet aircraft, spaceships and a sundry of other items often referred to a few short decades ago as high-technology. Someone from an earlier generation might recall the invention of the automobile or the typewriter. What do all these things have in common that by definition places them in the category of technology? The word has its origin in the Greek word, *technologia* which means the "systematic treatment of an art,

from *technē* art, skill" (Online 27)[3]. This definition appears very ambiguous and applicable to many things people do rather than the products of their doings. A more thorough examination of this term is needed, and one such study is to be found in the book, *Responsible Technology*. In the book three broad approaches are used to define the term: (1) anthropological – considers technology a making activity that flows from the nature of humankind; (2) epistemological – considers technology as a methodology and a special form of knowledge; and (3) sociological – considers technology as a defining characteristic of modern society (Responsible Technology 1986:13). A definition of the term is then proposed that draws from the strengths of each, and it is as follows: "a distinct human cultural activity in which human beings exercise freedom and responsibility in response to God by forming and transforming the natural creation, with the aid of tools and procedures, for practical ends or purposes" (Responsible Technology 1986:19).

While obviously a definition intended to conform to a Christian worldview with the "in response to God" statement, it is adequate in its overall content and encompasses both pre-modern and modern technology. Since the focus of this research will be upon modern technology it will be beneficial to identify its unique characteristics. Two distinguishing elements are listed in *Responsible Technology*. First, the skills and knowledge required have become more *scientific and methodological*, and second, the activity of *design* now plays a crucial role (Responsible Technology 1986:22). The importance of these distinctive elements will be made more apparent in the next section (1.2). What follows in the next section is a brief summary of the history of technological developments derived from a resource, *The Timetables of History* (1991). This resource was used almost exclusively due to the concise yet comprehensive treatment it provided that no other resource located by the researcher afforded. The review is divided into centuries beginning with the seventeenth century. It is worth noting that the number of developments in the area of science and technology prior to this century pale in comparison to those that follow it and it is evident that a near exponential increase is occurring as the latter half of the 20th century unfolds.

1.1.1 Developments in the 1600's

At the turn of the century is seems several scientists were investigating nature around them and the heavens above them in far greater detail than any of their predecessors. They were writing treatise about their discoveries and using instruments to uncover things in nature. Some of their

[3] Note: In order to maintain a concise and consistent referencing methodology for online sources, the full URL (link to the web page itself) is listed in alphabetical order with a numeric reference in the Bibliography section.

discoveries led to the invention of more, and often better, instruments which aided in even greater discoveries. For example, in 1608, a Dutch scientist Johann Lippershey invented the telescope, and in the same year Galileo constructed an astronomical telescope (Grun 1991:273). A few short years after that some astronomers reported their discoveries of new nebula, and Johann Kepler compiled a list of 1,005 fixed stars and their locations (Grun 1991:283). In 1626, Santorio, an Italian physician, measured human temperature with a thermometer for the first time (Grun 1991:283). A few other inventions during this century include the barometer, manometer, micrometer, a balance spring for a watch, a *design* for the first pendulum for clocks, a frictional electric machine, an air pump, and a pump with a piston raised by steam. In the medical field discoveries were made about the circulation of blood in humans, the anatomy of glands, and the nervous system. In 1969, Nicolaus Steno began the modern study of geology (Grun 1991:305). During this century travel to other lands increased and it appears some of it was related to the furthering of *scientific inquiries into the workings of nature*. A few observations regarding this period are as follows: (1) the drive behind these investigations appears to be the desire to increase present understanding about what is in nature; (2) human curiosity about nature had been aided and propelled by the instruments they created to examine it; (3) a number of these instruments are used to measure i.e. quantify the things in nature; and (4) the instruments themselves became an object of examination, the goal being to make improvements to them in order to further the study of nature to even greater heights and depths.

1.1.2 Developments in the 1700's

The activity of discovery in order to achieve a greater understanding of nature does not cease in this century, but rather, there is an apparent *shift in focus from discovery to the design* and development of implements that provide greater *power* to humans both in and *over nature* (the practical ends and purposes mentioned in the earlier definition of technology found in the book, *Responsible Technology*). A concise chronologically ordered list may serve to illustrate this point:

1707	the invention of the high pressure boiler.
1718	a patent for a machine that makes thrown silk.
1745	the invention of the capacitor.
1752	the invention of the lightning conductor.
1758	the invention of a ribbing machine for the manufacture of hose.
1764	the invention of the condenser (first step toward a steam engine).
1775	the invention of the water turbine and improvements to the invention of the steam engine.
1777	the invention of the torpedo.
1782	an air balloon is constructed and a double-acting rotary steam engine is invented.
1784	the invention of a threshing machine.
1786	the construction of a nail-making machine and the design of the first mechanically driven boat.
1789	the first steam-driven cotton factory is in Manchester.
1790	the first steam-powered rolling mill built in England.
1793	the invention of the cotton gin.
1795	the invention of the hydraulic press.

While further investigation and discovery into nature was continuing, if not fueling, these achievements in the design and development of the items listed above, it seems to be the case that a good deal of effort was being invested in the development of things that could enable humans to improve their ability to move about and live in the world more efficiently and comfortably, subduing nature in order to accomplish that end as needed. Most of the items in the list above also reveal the emergence of a more deliberate design process, a process now frequently separate from the fabrication of the item itself (something noted in *Responsible Technology* as being characteristic of modern technology). Several of these items also have in common a primary function that displaces a natural agent e.g. steam powered machines replaced the need for several laborers be they beast or human (granted the result is usually a production cycle that not only has greater output, but also is more efficient in the process itself). Sale (1995:27) calls the steam engine “the iron heart of the Industrial Revolution,” and he describes in detail the dislocation of labor, and even of society itself, which resulted in England as manufacturers employed these machines instead of cottage based production.

1.1.3 Developments in the 1800's

This period's ethos, modernity, flourished in the fertile soil of the Scientific Revolution's growing confidence in man's role in the universe. The Scientific Revolution bore witness to the use of human intelligence to penetrate "the universe's essential order and . . . use that knowledge for his own benefit and empowerment" (Tarnas 1991:271). This period, known as The Age of Enlightenment, gave rise to an ethos that had at its helm the authority of an empirical science with philosophy now in a more supportive role (Tarnas 1991:280). Newton's discoveries established a view of the universe that construed it "as mechanistic, mathematically ordered, concretely material, devoid of human or spiritual properties" (Tarnas 1991:280). The modern view of human beings has a significant relationship to the developments cited later in this section. Tarnas (1991:281) states that this period established an understanding of the modern man as one "whose rational intelligence had comprehended the world's natural order, and who was thus a noble being not by virtue of being the central focus of a divine plan as revealed in Scripture, but because by his own reason he had grasped nature's underlying logic and thereby achieved dominion over its forces." This optimism in human reason to secure and maintain control over nature (later to include human nature itself) propelled the developments into the future with increasing fervor.

To more clearly grasp all the driving forces of the times a better developed history of civilization would be needed, something this study cannot afford. However, the prior description of the modern ethos reveals the heart of the developments in the civilization of the Western world which was witnessing *the rise of industrialization*. This was accompanied by the *congregation of humanity* in centers, cities of industry. Both the benefits and the burdens of humanity's growing ability to exercise power over nature necessitated the convergence of humans in centers of production and pleasure. And, an indirect consequence became the necessity to develop things that would accommodate this new way of living e.g. the creation of a new means of transportation and food preservation. This also created a greater demand for natural resources which sometimes had to be obtained from other nations. Both the increase in frequency and the growing ease of travel beyond one's local boundaries brought people into contact with others. This contact was sometimes hostile and gave rise to armed conflicts. Consider the following concise list of developments as evidence for the prior observations.

The beginning of the century witnessed the development of the first battery made of zinc and copper plates, the first submarine, and muskets made with interchangeable parts (Grun

1991:375). A few years later the shrapnel shell was invented and rockets as weapons were introduced into the British army. Gas street lights were introduced in London in 1807, and in 1810 a *technique* for canning food was developed (Grun 1991:381). A year later in Northern England, the Luddites destroyed industrial machines in protest against their displacement by them (more detail is provided later). A year later in France, Philippe Girard invented a machine for spinning flax. The first practical steam locomotive was constructed in England by George Stephenson in 1814 (Grun 1991:383). In 1829, the first U.S.A. patent was issued for a 'Typographer,' an early typewriter (Grun 1991:393). During the course of the next twenty-five years the electromagnetic telegraph, electronic clock, hydraulic crane, power loom, sewing machine, and the light bulb were either invented and/or created.

For the purpose of this study, it is interesting to note that in 1855, Edinburgh University created a Professorship of Technology (Grun 1991:421), and in 1865 the Massachusetts Institute of Technology was founded (Grun 1991:429). Rather than 'isolated' inventors, an institute (M.I.T) would now train people to work in this field. The remainder of the century witnessed the development of a cold storage machine, an ice machine, the telephone, the microphone, the wireless telegraph, a box camera, motion pictures, a single cylinder car, the first magnetic recording of sound, the transmission of human speech by radio waves, the Gatlin and machine guns, dynamite, and the first modern Olympics Games (the latter while obviously not a technology bears witness to the growing connectivity among nations of the world).

While industrialization continued unabated, inventions emerged that facilitated a more comfortable lifestyle and improved methods of communication between individuals and population groups. Also, during this century noteworthy cultural reforms took place e.g. labor laws limiting the number of hours a person would be allowed to work, the abolition of flogging in the British Army and Navy, and the abolition of slavery. It appears that as the broader community was becoming better connected, so greater awareness of social injustices brought more moral scrutiny to bear upon those perpetrators who previously might have been able to conceal their deeds or constrain the dissention of the oppressed.

1.1.4 Developments in the 1900's

This century witnessed *phenomenal growth in the development of technology* and in every area of science. Volumes could be written on all the discoveries and creative works accomplished by

humanity in this century. If one were to use an analogy to portray many of the achievements of this century as if they were a response to the developments in the previous century they could be compared to an excited child's response to a stimulus they find enjoyable; as when in response to a father's rapid acceleration in their car the child yells, faster daddy, faster! So, in almost all of its achievements this century excitedly yells faster, higher, stronger, longer, wider, further! Records were set by the speeds of planes, trains and automobiles. Space exploration not only got started but reached Mars, then Venus, and finally even left for regions beyond our Solar System.

During this century the atomic, hydrogen, and neutron bombs were developed and tested. In the *Timetables of History*, the transition from the prior century to this one is described as the 'century of steam' followed by the 'century of electricity' (Grun 1991:455). While both steam and electricity involve the generation and direction of power, the latter has far greater potential for the distribution of the power that is generated. The *exercise of power* also seems to symbolize the collective and individual quest in this century for more; more wealth, more health, and more power over nature. Interestingly, as one glances down the pages of the *Timetables of History*, in the 'Daily Life' column, one notices a significant increase in memorable recreational events. It is possible that as humanity had been relieved of the more tedious occupations, they now had spare time and used it to participate in recreation. As noted earlier, but now magnified in this century, cities continued to swell in size. In 1914, only sixteen cities had populations numbering in excess of one million, however, by 1957 there were seventy-one such cities (Grun 1991:541). The sheer number of people living in close geographic proximity to one another brought about the need for additional technological developments. A review of specific developments in technology will be listed below under the categories of transportation, personal devices, weaponry, medicine, and communication.

Transportation - The first half of the century saw the development of the first powered aircraft, the first liquid fueled rocket, the first helicopter, the first jet engine, and the first supersonic flight. In the second-half of the century supersonic flight became standard fare for military aircraft, and in 1969, the first supersonic commercial aircraft, the Concorde, was introduced (Grun 1991:565). The space race was launched in the second-half of the century. Russia and the U.S.A. competed in a battle of firsts. N.A.S.A. was established by the U.S.A's government to take the lead in space exploration in that country. The Russians placed the first spacecraft on the moon, and a decade later the U.S.A. landed the first manned spacecraft on the moon and had the first person to walk on the moon. In the early 80s the Space Shuttle program began and has since launched many manned orbital missions which typically release satellites, space probes, and

conduct other forms of space research. Unmanned spacecraft have been sent out to explore nearby and very distant planets and galaxies.

In 1911, the first electric self-starter was developed (Grun 1991:465), and from that time forward the automobile has become a symbol of freedom and an essential possession for the mobile modern man and woman. Improvements in safety, fuel efficiency, and power, along with great variety exemplify today's automobile. Steam engines gave way to diesel and then by the middle of the century electric trains become the standard. The fastest conventional train in the world is France's TGV (Grun 1991:599) that has reached speeds in excess of 350 mph.

The start of the second-half of the century also saw the conversion from a regular to nuclear power driven submarine, the Nautilus (Grun 1991:537). There are a number of submarines today that are nuclear powered, but those that are diesel-electric powered still outnumber them today.

Personal devices - The development of television began with the first transmission of recognizable human features in 1925 (Grun 1991:489). The first color TV was demonstrated in 1928 (Grun 1991:495). By mid-century the number of TV sets owned in the U.S.A. numbered 1.5 million. One year later, when color TV was made available, that number had increased to 15 million (Grun 1991:530). By 1968, that number reached 78 million, and in 2008, there were 320 million (Online 26). While the first computers arrived in the 30s, it was not until the 70s when 'Personal Computers' where marketed to the general public that they rapidly grew in popularity. Their popularity increased in the 80s, but primary in businesses and academic institutions. In 1983 there were approximately 2 million PCs, but by 1990 there were close to 54 million (Online 22). It was around this time that the World Wide Web was born and computer users with a connection to the 'Web' could communicate with other users from around the globe.

Weaponry - There were numerous developments in this area. Guns became more automatic and capable of firing hundreds of rounds a minute. Fortified vehicles were made to resist stronger attacks and to attack with greater firepower. Aircraft carried guns and bombs to destroy both air and land targets. Ships could transport people and vehicles to other lands and could launch attacks at sea and from sea to land. Chemical weapons were used that could destroy people or vegetation with often heinous effects on the victims. The power, and therefore the scale, of potential destruction increased as the century progressed. Missiles were made that could carry unmanned explosive power to distant targets thereby inflicting the greatest damage with the least amount of risk to life on the part of the one who launched it. The introduction of nuclear

weaponry completely changed the approach to war and granted spoken and unspoken supremacy to those who possessed them.

As the number of these weapons and those who possessed them increased (less than a dozen nations claim to possess them), so fear arose and still remains in the heart of humanity that such weapons of mass destruction may be used again (the catastrophic destruction of Hiroshima and Nagasaki by American atomic bombs being the first and only offensive use to date). The delivery of nuclear weapons today is primarily by means of ballistic missiles many of which have a range that extends to nations separated by oceans. Aircraft are still used to deliver explosives, some e.g. the B52 Stealth Bomber, are capable of evading detection devices so as to avoid attack upon themselves and to deliver their payloads successfully. Today, drones (unmanned aircraft piloted by people far removed from the target) are used to drop bombs and launch missiles on unsuspecting targets, often infuriating those attacked for such a 'cowardly' approach to war (some might refer to it as an impersonal, clinical method of warfare).

Medicine - In contrast to the prior paragraph on warfare and weaponry, many advances were made in the healing of humanity's illnesses and injuries. In 1914, the first successful heart surgery on a dog was performed (Grun 1991:467), and in 1936, the same physician, Dr. Alexis Carrel developed an artificial heart (Grun 1991:511). In 1920, new *techniques* were developed for brain surgery (Grun 1991:477). Around mid-century a heart-lung machine was developed which takes over the function of those bodily organs during heart surgery. Around this time period four new antibiotics were developed and a contraceptive medication was created too. In 1967, a year after putting a man on the moon, Dr. Christiaan Barnard performed the first successful human heart transplant (Grun 1991:559). A few years later pacemakers (devices that aid in regulating heart rhythms) were implanted in a few people (today they number in the millions). In 1978, the first 'Test-tube baby' was born in England to Lesley Brown (Grun 1991:589). Three years later, Chinese scientists become the first to clone a fish (a golden carp) successfully (Grun 1991:599). During the next decade the first commercial product of genetic engineering, human insulin produced by bacteria, was marketed, the first artificial chromosome was created, the first triple transplant took place (heart, lung, liver), a grandmother (surrogate for her granddaughter) gave birth to triplets, DNA was allowed as evidence in legal proceedings involving rape, and in 1990, a four year old girl became the first human to receive gene therapy.

Communication - A little over a decade into the century the first transcontinental telephone call was made. By 1956, the first Transatlantic cable telephone service had been inaugurated (Grun

1991:541). The number of telephones grew from in the thousands to the millions very rapidly during the first half of the century. Satellites for use in communications were launched providing global services. Mobile phones emerged in the 70s, and today they number in excess of 4 billion in use worldwide (Online 7). The Internet was publicly accessible in the early 90s and today close to two billion people are online (Online 23). Exchanges on the Internet may consist of emails, text and/or interactive video chat sessions, telephone conversations over the Internet, streaming audio e.g. radio stations, streaming video e.g. TV stations, video clips or movies, and social networks like Facebook and Twitter.

The categories listed above and their contents are merely representative of the developments made during this century and they are by no means comprehensive. The numerous developments that made possible the design, the creation, and the implementation of many of these technologies alone could fill many volumes. However, even the usefulness of dividing the developments of this century into categories evidences the proliferation of technology during this time. *In a relatively short period of time dramatic changes have taken place*. There has been a rapid advance in what is known about the world and its inhabitants, and the heavens too. In the process of coming to know, and as a result of what is known, many theoretical and practical applications have emerged. The ability to use and control many aspects of nature has brought an increase in physical comfort by a reduction of suffering and physically tedious labors for many of the people who reside in those nations that have made extensive use of such developments. Undoubtedly, many who benefit from these developments would bemoan some of the disadvantages of contemporary life, but few would seek to return to lifestyles of prior centuries.

1.2 TECHNIQUE AND THE EMERGING MACHINES

The above review of the history of technology serves as a background to the examination of our present state of embroilment with technology. This was done in order to better understand why we are where we are today. Mumford (1970:33,55) points to the development of astronomy and mechanics during the time of Johannes Kepler and Galileo Galilei as the origin of a *mechanical world picture* that sought to quantify everything and ejected subjective experience in the process. Mumford (1970:58) claims that in order to fit man into this mechanistic picture he must "be redeemed from the *organic*, the *autonomous*, and the *subjective*, man must be *turned into a machine*, or, better still, become an integral part of a larger machine that the new method would help to create" (emphasis mine). The end result, according to Mumford (1970:70), is that the

machine must be raised to a higher standing than any organism or to reluctantly admit that higher organisms are supermachines.

In partial agreement, Jacques Ellul (1964:4) concurs with Mumford's assessment of the machine and its role in society, but he claims a more fundamental principle, *technique*, has been at work all along and is that which *transforms everything it touches into a machine*. Technique preceded science but had to wait for science to progress (Ellul 1964:7). Ellul (1964:xxv) defines technique as "the *totality of methods rationally arrived at and having absolute efficiency* (for a given stage of development) in *every* field of human activity." This emphasis upon rationality and efficiency of methods in attaining certain results raises the problem of means. Ellul (1964:19) asserts that our civilization is first and foremost a civilization of means and that it seems in modern life the means are more important than the ends. This observation seems very apropos given the typical manner of moral decision making in difficult ethical situations, namely, a rather truncated perspective typically confined to the rights of an individual rather than the consideration of the impact upon a broader community or the future consequences to one's actions. Additionally, with the broad rejection of the transcendent, ultimate ends are eliminated and humanity's ultimate ends are at best confined to themselves. In a time when so many advancements have been made by humanity, and so many have acquired a standing in life that would rival that of nobility in times past, many more today suffer from depression and some despair even of life itself. Quite possibly a significant contributing factor is *the loss of a more ultimate end for humanity than simply the enhancement of their lot in life*.

The observations of both these thinkers remain profound and applicable for people today. It would be wise to listen to their observations and learn from them. The prevalence of a worldview that excludes God and reduces human beings to a supermachine is not to be ignored. The result is the diminishment of inhibition and the loss of prohibition in crucial moral matters pertaining to humanity. Mumford (1970:225) asserts that Aldous Huxley "was imaginative enough to realize that the ultimate dream of power is not merely control over the external environment, but *control over man himself,* not only by the genetic reshaping of his body, but by the biochemical conditioning of his whole organism, not least his mind, from birth onward" (emphasis mine). He also claims that "the summit of his [human] progress, would be to create an ineffable electronic God" (Mumford 1970:228). In light of the aspirations of those in AI and robotics this claim does not seem too exaggerated, in fact, it accurately describes the ultimate objective of some in those fields. While some may not intend to create an 'electronic God,' they ultimately aim at creating the perfect electronic human, a mechanical Christ?

Humans are now the focus of *technique*, and if Ellul is correct, it will turn humanity into a machine. To a certain extent the process has already begun, and a thoughtful review of the past four centuries might reveal a certain progression that betrays this gradual transformation. Arguably, religion held a position of authority when it came to matters of one's understanding of the world in the centuries prior to the seventeenth, however, as people began to explore nature with a more critical eye aided by increasingly improved instruments, a different perspective arose (or perhaps in some cases a prior commitment to the perspective was reinforced by greater discovery). The workings of nature once shrouded in mystery were now being exposed, and appeared to exhibit a mechanistic operation that did not require an external source for operation or direction. The regularity of operation in nature enabled people to construct and calibrate instruments useful to quantify their observations (more scientific as observed in *Responsible Technology*).

Certainly exploration in order to know (discovery) is an activity that flows naturally from humans as creatures in possession of human sensibilities. However, people are also active agents in this world and are 'response-able' for what they know. Therefore, they do not merely come to know but also often act upon what they know (the practical use of knowledge). Given humanity's position in and over nature this newfound knowledge increased their power to manipulate it to their advantage (Hollinger 2002:89). Their knowledge and their instruments were enabling them to accomplish this goal, the latter becoming an object of refinement too. This growing presence of power over nature continued to expand, and inevitably, or so it seems, humans employed machines (what some envisioned the essence of nature to be i.e. a machine) to exercise and establish their rule over it. In the centuries that followed humans had been able to gain an upper hand over many areas of nature and were able to exceed the limitations it had previously imposed upon them.

Increasingly, humans examined their own biological functions and saw in them a mechanical system the discoveries of which led them to find ways to strengthen their rule over themselves, gradually weakening the hold that sickness and disease exercised over them. In their pursuit of continued refinement people sought not only to repair themselves but to *transcend themselves* into an existence that would surpass the present in every way including the elusion of death. So, some seek a means to export a human being from their body and into a better (assume embodied but not necessarily biological) existence. After the creation of extraordinary technologies humans look in the mirror and see the next and greatest potential for an upgrade looking back at them. To rescue humanity from a future in which they will no longer be human, *a clear vision of what it*

means to be human and the uniqueness it entails, accompanied by consistent practice, is a necessity in these modern technological times.

1.3 THE PRESENCE OF TECHNOLOGY IN TODAY'S WORLD

As the researcher types this dissertation for the eventual submittal to a university in South Africa (to this point all coursework has been submitted electronically via the Internet), he is using his laptop computer which is connected wirelessly to the Internet and currently disconnected from the power circuits in his home and running on battery power. On the table beside the researcher lies his BlackBerry phone (since the first writing of this paragraph that phone has recently been replaced with an iPhone) which is also capable of transmitting and receiving emails, text messages, and voice calls. As a computer systems administrator, the researcher receives email notifications on it when systems under his care complete tasks, require attention etc. Everyone in his family has a mobile phone and can call, text, or transmit digital pictures to one another in an instant. In the Charlotte metropolitan area where he currently resides the majority of the populace possesses these same kinds of electronic devices, even young children often own them too. These kinds of devices have been both a benefit and a bane to those whose lives are impacted by them. For parents the safety of one's children is of prime concern and their possession of a mobile phone brings a sense of security knowing they could call or be called in an emergency. Conversely, the use of these devices can bring peril. Legislation has recently been passed in North Carolina banning the use of these devices for messaging (text or email) while driving due to the rise in accidents attributed to this practice.

The small glimpse just given into the popular uses of consumer technology is eclipsed by the breadth and depth of technological development and deployment in the world today. Even in the general consumer market electronic devices for the body, home, automobile, boat, and a sundry of other recreational electronic devices abound. In the business world the use of technology is even more profound. The recently unemployed are discovering that employment in many occupations necessitates some proficiency in the use of computer technology, driving some to seek education in these areas. Today, many companies transact purely by electronic means e.g. websites, email, and credit card processing. For example, in the researcher's own dealings with suppliers of services and vendors of products he rarely mails or pays them by written check anymore; all his payments and orders are placed digitally via an online connection from his computer to their computer systems. While a significant portion of the electronic processing of

data takes place in or between machines the *interfacing of people and machine* is by no means negligible. As technology becomes ubiquitous in our everyday lives the necessity to establish interfaces that better accommodate the human side of the human/machine exchanges becomes readily apparent. This 'accommodation' is clearly evident in the incorporation of machines in the human organism and in the development of machines that mimic humans i.e. humanoid robots.

1.4 THE PRESENCE OF MACHINES IN HUMANS

Generally speaking *the incorporation of machines in humans* can be classified in two ways; by function and by location. The former can be categorized as follows: (1) aids that restore malfunctioning human parts to normalcy, or as near to normalcy as possible; (2) similar replacements for human parts that were removed through injury or surgery; and (3) enhancements that either aid or replace human parts providing greater potential than normal. Location can be categorized as follows: (1) the device is external and temporarily attached; (2) the device is external and permanently attached; (3) the device is permanently attached with an internal and external component; and (4) the device is embedded (Lustig *et al.* 2008:206).

The first two functional categories find general acceptance in many cultures and with many religions. Today we find machines maintaining or replacing the functions of the heart, lungs, arms, kidneys, and legs, to name but a few. However, while the acceptance of such human/machine incorporation is broad, some aspects of this kind of incorporation are not without controversy. One area of ethical controversy is the point at which the human organism should no longer be sustained by machinery e.g. the continuation of life support systems after the onset of brain death.

Another area of controversy is the third category, *enhancement*. The transhumanist movement[4], for example, seeks the radical enhancement of humans and dubs as 'posthuman' a hoped for eminent era in which humankind will evolve beyond their present biological limitations. The 'Trans-humanist Declaration' revised and adopted by the Humanity+ Board in March 2009, contains the following statements:

[4] This movement is most notably represented in the U.S.A. by Humanity+ (formerly The World Transhumanist Association). They seek to expand human capacities using emerging technologies to accomplish that end.

> 1. Humanity stands to be profoundly affected by science and technology in the future. We envision the possibility of broadening human potential by overcoming aging, cognitive shortcomings, involuntary suffering, and our confinement to planet Earth.
> 2. We believe that humanity's potential is still mostly unrealized. There are possible scenarios that lead to wonderful and exceedingly worthwhile *enhanced* human conditions.
> 8. We favor allowing individuals wide personal choice over how they enable their lives. This includes use of *techniques* that may be developed to assist memory, concentration, and mental energy; life extension therapies; reproductive choice technologies; cryonics procedures; and many other possible human modification and enhancement technologies (emphasis mine) (Online 21).

Nick Bostrom (2003:6), cofounder of Humanity+ and a professor of philosophy at Oxford University, in an article addressing questions about transhumanism writes, “some posthumans may find it advantageous to jettison their bodies altogether and live as information patterns on vast superfast computer networks.” The question could be asked, is it ethical to enhance normal human biological functions? Of course, clarification as to what constitutes ‘normal’ would be necessary and not without its own set of difficulties. Though adequately addressing these bioethical issues is beyond the scope of this work, the mention of the incorporation of machines in humans is intended to illustrate the prevalence of this practice and the acceptability, arguably the necessity in some cases involving significant physical deficiencies, of doing so. At what point would the transformation of the biological human result in a being that is no longer properly defined as human e.g. a cyborg? Does this mean a human can become a machine, and vice versa, or is there a melding of the two that produces a hybrid or possibly new species of creature altogether? This matter will be taken up later in the philosophical and theological discussions of what it means to be human.

For illustrative purposes the following account of a contemporary incorporation of machine in man is provided. The device is called the Cochlear Implant - “it is an electronic device designed to provide sound information and improved communication ability to adults and children who have a profound sensorineural hearing loss (‘nerve deafness’) in both ears and obtain limited benefit from appropriate binaural hearing aids” (Online 10). The device has external components (a microphone, speech processor and a radio frequency transducer) and a secondary coil that is implanted beneath the skull's skin and is inductively coupled to the primary headpiece coil. The implant relays the incoming signal to the implanted electrodes in the cochlea (Online 32).

Chorost, a writer and recipient of a Cochlear Implant, writes of his experiences in an autobiography titled, *Rebuilt: How Becoming Part Computer Made Me More Human*. In this work Chorost describes his adaptation to this implanted device and provides some insightful observations, key among them being the role of machine in restoring his humanity, as is evidenced in the title of this work.

Mazis (2008:61) in commenting on Chorost's experiences enters into a discussion of the concept of the cyborg and offers a definition of the term too. He claims that "to be a cyborg is to experience a transformation of one's sense of existence in such a way that one cannot be fully human or fully oneself outside of the *link* to certain machines; however, notice that this link does not require literal physical fusion." Does the inability to exercise a capacity possessed by all known humans, such as hearing, render someone less human? Arguably, a person who is deaf is simply a human lacking the ability to hear and so is still essentially human. So, a machine does not make one 'more' human, it merely restores (or enhances in cases where the device improves an ability) an ability to exercise a human capacity.

It would also appear that a human function that receives aid from a machine does not turn the human subject into a machine, rather the recipient is simply a human with a machine as an aid. Conversely, the machine by virtue of incorporation into a human does not itself become human, it is merely a machine serving as an aid to a human.

1.5 THE PRESENCE OF MACHINES THAT MIMIC HUMANS

Machines that mimic humans have been the subject of science fiction for decades. In fact, in 1950 Alan Turing, a mathematician and computer scientist, devised a test (later named after him, the Turing Test[5]) intended to assess the ability of a machine to imitate a human. Evidencing the complexity of human beings, no machine to date has passed this test. Granted there is some dispute as to the manner in which the test itself is framed. Most computer scientists do admit that a machine capable of imitating a human (primarily in conversation) is still in the making. Inventor and futurist, Ray Kuzweil (2005:295), predicts that the Turing Test will be passed by 2029 and has entered a wager with Mitch Kapor to that effect. That being said, it is evident that technology has made micro-advances in the development of a machine that mimics a human, but

[5] This test places a computer and a human in an interview scenario across a teletype link. If the human is unable to determine that she is conversing with a computer , then the computer passes the test and is deemed capable of thought (Hall 2007:63-4).

as Kurzweil reminds us, the growth in technological advancement is exponential and is likely to take a sudden vertical leap in achievement in the near future.

What has been achieved to date in the world of AI and robotics? A plethora of examples could be supplied, so a representative sampling will follow:

1. Pictured in an article from December of 2008 (Online 41), a female robot named Aiko, invented by Le Trung of Ontario, Canada, has the appearance of a life-size porcelain doll. The robot is described as being able to clean the house for 'husband' Le, get him a drink, read the paper, and provides directions while Trung drives the car. Trung initially intended to make an android to care for the elderly, but Trung states that "Aiko is what happens when science meets beauty" (Online 41). Aiko can also react to being touched or tickled, recognizes faces, and speaks 13000 sentences. Trung is seeking a sponsor to assist in making Aiko's walking ability like a human's. Once perfected, Trung hopes to sell copies of Aiko for use as home-helps.
2. In an article dated June of 2009 (Online 3), a robot named Saya, created by Professor Hiroshi Kobayashi, of Tokyo's University of Science, is cited as having been 15 years in the making and serving in 2007 as a receptionist at Ben-Gurion University in Beersheba, Israel. Saya is now teaching at Kudan Primary School in Tokyo. Using 18 motors in her face, Saya can express six human emotions, speak, move her head, and answer questions. Saya can say 300 phrases and has a vocabulary of approximately 700 words. Saya as a teacher cannot do much more than call out the children's names and give orders. Kobayashi claims that Saya is simply meant to help people and downplays the possibility of greater capabilities. According to the article, the aim of the creators of Saya was to have a robot in every home by 2015.
3. Claimed to be the world's first 'sex robot,' Roxxxy, invented by Douglas Hines (whose company is named 'TrueCompanion'), was unveiled January 10, 2010, at the AVN Adult Entertainment Expo in Las Vegas. The robot is life size (5'7" and 120 pounds), has flesh-like synthetic skin, has five personalities, and can chat about football and other topics in a simple conversational manner. Its race, hair color and breast size can be customized. The robot comes with a laptop and carries a price tag of between seven and nine thousand U.S.A. dollars. Mr. Hines said, "She's a companion. She has a personality. She hears you. She listens to you. She speaks. She feels your touch. She goes to sleep. We are trying to replicate a personality of a person" (Online 39). The robot is wirelessly linked to the Internet to receive software updates, technical support, send email to its owner, and can

share its personality with other online owners via the company's website. Regarding his intentions for its use, Mr. Hines states, "it was not only a recreational innovation but also something that shy people with sexual dysfunction, and those who want to experiment without risk, could use" (Online 39). Inspiration for the robot initially came as a result of the personal loss of a friend in the September 11, 2001, World Trade Center devastation. Mr. Hines thought it would be nice to be able to still talk to the person, "so, this made Douglas think seriously about how to implement a robotic representation of a person and have it reflect that person's personality" (Online 42). However, after test marketing the concept was changed to capitalize from the large adult entertainment industry.

4. While not a human style robot as in the prior examples, a drone attack aircraft, the Predator, used in a military application, also serves to show the use of robotic technologies. In an article titled, *Inside a Predator Strike* (with video footage included) (Online 12), two people are seen piloting, by remote control, an armed drone aircraft that they use to launch a missile strike on a vehicle hundreds, possibly thousands, of miles away. The mission is carried out with calm, clinical precision while the human operators sit inside an air condition trailer housing the electronic equipment. Noteworthy is the concluding statement of the article's author, "This is clearly the way aerial warfare is going -- I get it. But it's going to raise many ethical dilemmas along the way" (Online 12).
5. Lastly, as an example from the world of medicine, is the *da Vinci® Surgical System* (Online 11) which is used by surgeons to perform minimally invasive major surgery. The system contains "a sophisticated robotic platform that expands the surgeon's capabilities" (Online 11). Small incisions are made for the instruments and camera to enter the patient's body and the surgeon operates the equipment from a console - "At the same time, state-of-the-art robotic and computer technologies scale, filter and seamlessly translate your surgeon's hand movements into precise micro-movements of the *da Vinci* instruments" (Online 11). The system is not autonomous, rather it relies on direct input from the surgeon.

The examples provided above were selected to illustrate the broad present day deployments in the area of AI and robotics. *Robots are already present* in the home, the school, the hospital, the battlefield, and many other places of business and recreation. After a modest review of current applications it appears that life endangering applications e.g. military strikes and medical surgery, currently use robots that are not autonomous, rather they extend the capabilities of the human operator. Those applications that are repetitive and involve lifeless objects e.g.

automobile assembly and food packaging, utilize robots that are programmed for specific tasks. They are not autonomous and often are not extensions of a human operator but rather fall under the governance of a monitoring system that itself might have human oversight in the event of alerts and failures that require human intervention. Unlike the robots used in military, medical, and manufacturing applications, *those intended for human interaction*, and thus not so starkly intended for utility alone, *are often designed to resemble people or animals* that humans would find interesting, endearing, or engaging. It is on this frontier that the demands of human imitation are most profound and the Turing Test's benchmarks rise as a prized summit taunting all challengers.

It appears a machine that mimics humans in such a way that it is beyond their own ability to distinguish it from their own kind is a distant, seemingly impossible, achievement. And it seems the thought of a human being transformed into a machine, such that almost every part is non-biological, also lies in the pages of science fiction. However, the reality is that the technologies required by both have been the persistent object of development for several decades. The projects that have them as their focus garner significant financial and academic support, and the products they create that are brought to the industrial marketplace are often met with acceptance and acclaim. These kinds of products often bring greater efficiency and safety, and the kinds of products made available to the general consumer provide many of those same benefits plus entertainment, health benefits, and companionship. It seems that advancements in these areas are simply part of a 'natural' evolution of humans and technology, but each advance in technology, each device created, brings changes into the environment in which it is placed. *Frequently, these changes present new moral challenges which all too often are ignored in deference to the utility of the technology*.

1.5.1 Movies about machines that mimic humans

Movies often reflect the perspectives of popular culture and/or influence them, or reflect the ideas of influential people in the culture. While most movies about robots are purely science fiction, given the significant role movies play in most modern cultures, it may be instructive to conduct a cursory examination of them. A review of the most prominent Euro-American movies (top grossing movies between 1999 and 2009) about cyborgs, androids, and robots follows and will consider the prevailing depictions of them and the predictions they make about them and their place in society (Online 4).

The *Transformers* series (two to date) are at the top of the list. These movies feature big screen action with lots of visually appealing special effects. Patterned after the comic books, the robot characters in the movie are clearly mechanical in construction and appearance. They can transform from one type of machine into another e.g. from a car into an aircraft. The story depicts good (Autobots) and evil (Decepticons) robots in battle with one another usually over something or someone on Earth. In the first movie of the series the evil robots seek to defeat the good robots and rule the universe. The humans learn of the conflict and the good nature of the Autobots, and so join forces with them to defeat the evil robots. The Autobots are granted a safe haven on Earth as a result. The sequel features the Autobots and humans scouring the Earth to locate and eradicate any remaining Decepticons. They unveil a plan by the evil robots to resurrect a machine, a Sun Harvester, which will be used to drain the Earth of its energy, ultimately destroying it. The Decepticons are once again defeated.

While these movies do not delve into some of the deeper issues between humans and machines, they do reveal an idea that robots could pose a threat of larger-than-human proportions to the world and the universe. This series depicts humanity as present and living in a manner comparable to today. The sequel does feature a female humanoid that seduces the main character, and only later when he discovers her identity as a Decepticon is he repulsed by her advances, however the movie does not delve into the significance of a relationship such as that between a robot and a human.

The *Terminator* series (four to date) collectively has a gross revenue that is second to that of the *Transformer* series. This series features time travel by a cyborg and a human. The cyborg is affiliated with other artificially intelligent machines bent on exterminating what is left of the human race. The cyborg (Terminator) is programmed to kill a woman (Sarah) who is to give birth to a son who will fight against the machines in the future and possibly defeat them, so they are trying to prevent his birth. The first in the series ends with the cyborg being defeated. Along the way there are several scenes of destruction and murder. Action and special effects abound and are appealing to many viewers. In the second of the series a better cyborg, one that can take the form of anyone or anything it touches except complex machines, is sent to kill the son, John. John in his existence in the future sends a cyborg like the one in the first series, to protect his younger self. It is revealed that a computer engineer is responsible for Skynet (the source and control center for the malevolent cyborgs). The engineer developed a new microprocessor later used to form Skynet. After evading the attack of the more advanced cyborg, John, his mother, and the older cyborg destroy the new one. The older cyborg seeing that his technology could be

used to create something like Skynet, asks to be lowered into a vat of molten steel thus destroying it. John's mother hopes that if a cyborg can learn to value human life, then perhaps humanity is not doomed to destroy itself.

The third in the series, titled '*The Rise of the Machines*,' has a different kind of cyborg, one that contains internal weapons and the ability to control other machines. It is sent to eliminate the future lieutenants in the human resistance army. An older model cyborg is sent by the resistance to protect John and his future wife Kate. This movie ends with John and Kate in a fall-out shelter as Skynet (software running on computers scattered around the globe) launches a series of nuclear strikes on cities around the world; the beginning of Judgment Day. The latest in the series, *Salvation*, is set in a post-nuclear attack world where the machines are seeking out and destroying any remaining human life. The Resistance seeks to destroy Skynet and save the world from the machines. One of those helping the Resistance is in fact a cyborg who believes he is human, and near the end of the movie gives his human heart to John who is near death. They defeat the Skynet base but John declares that though the battle is won the war is far from over.

Much of the appeal to these movies is the action and special effects. The series clearly portrays a future where machines are a threat to the existence of humanity. However, at the heart of the battle is a human designer and machines are used to both destroy and defend humanity.

WALL-E is an animated movie featuring a robot that is the only remaining one of its kind which had been left by humanity (who has temporarily left Earth while the cleanup operation ensues) to clean up waste-covered Earth (due to mega consumerism). The robot somehow developed sentience and emotion. The robot found a seedling plant one day (something the humans were looking for as a sign to return to Earth). A spaceship returns to Earth and releases another robot, EVE, to probe Earth for a plant. The robots meet and fall in love with each other. Later they both return to earth with the plant and together with humanity (who returned to earth with them) work on restoring the earth.

Unlike the other movies reviewed so far, this one clearly shows humanity as the cause of Earth's ruin and the robots as aids and guides to its restoration. Robots are portrayed as being like humans and sharing in the care of the Earth. Being an animated movie whose intended audience are young children, this movie's focus is not on action or violence, and it fits well with the desire to educate children about the present concern for the welfare of the planet.

I, Robot depicts robots primary role as that of people's servants. The main character is a man, Spooner, who was saved from an automobile accident by a robot who had calculated that he had a better chance of surviving over a girl who ended up dying in the accident. As a result (survivor's guilt) he develops a dislike for pace at which technology is progressing and for robots. Spooner has a mechanical arm attached to replace the one lost in the accident. The robots in the movie are controlled by a supercomputer (VIKI). A more human-like model killed a robotics scientist, and so broke the three laws of robotics (see later section for details). These newer robots (independent of central control) are destroying older models that are centrally controlled. The new robots imprison humans and are seeking to stage a global robotic takeover. They are controlled by VIKI who has determined that a takeover is necessary and better in the long run because humanity is destined to destroy itself if it remains on its present course (wars and poisoning the Earth). The initial rogue robot assists Spooner in the quest to stop VIKI, which they do. All the newer robots are returned to normal and retired from service but the movie ends showing the rogue robot as yet to become a leader of robots.

This movie brings out several things about humans and machines. A human is the creator but losses control of their creation. Humanity can be helped by robots but when they stray from human guidelines i.e. are autonomous, their errors can be fatal. However, a contrast is also evident in the murder that resulted from a robot that strayed from the three laws, yet adherence by VIKI to other human logic and calculation (the determination that humanity will self-destruct based on deduction) could end in global catastrophe. Ultimately, it appears that humanity needs to remain in control of creation, including their creations.

AI Artificial Intelligence depicts a time when global warming has reduced the natural resources of Earth and caused ecological disasters all over the world. Humanity's best effort to maintain civilization has led to the creation of robots, mechas, which are advanced humanoid robots capable of emulating thoughts and emotions. A couple whose only son is near death acquires an advanced model, David, who is designed to ‘virtually’ feel love for his human owners. His human mother warms up to him after activating his imprinting protocol, which irreversibly causes him to feel love for his parents. However, their real son is cured and returns home and a rivalry ensues. David’s mother ends up dropping him off in the woods to live as an unregistered mecha in order to avoid being destroyed (what would happen if he was returned to the factory). He is captured by anti-mecha humans and taken to a Flesh Fair. He escapes being destroyed at the Fair because he pleads for his life (something other mechas don't do). He tries to find the Blue Fairy who could turn him into a real boy. He fails in this quest. Millenia later humanity is

extinct and humanoid future robots are excavating and studying the earth. They find David. He wakes up to discover the Fairy was a fake (he cannot become human). The humanoid mechas restore (from David's memory) the home he stayed in, and from a hair of his human mother, they restore her but only for one day. It is the happiest day in David's life. She tells him she always loved him as they spend the day together. This was the ‘everlasting moment’ David had been looking for. When the day with his ‘mother’ draws to an end, he closes his eyes and goes ‘to that place where dreams are born.’

This movie portrays the difficulty, on the part of humans, of accepting robots as humans unless they are just like us. Also, the robot’s desire to be a human is shown as being very strong, and any positive aspects to being a robot are depicted as negligible at best. The larger story though shows humanity as the destroyer of itself and the world, and robots as the ones who endure and reclaim the world.

In *Bicentennial Man* a robot, Andrew, provides domestic help in its owner’s home. It is received with mixed emotions by the family. A member of the family makes the discovery that the robot has emotions. At one point in the movie the robot carves a figurine out of wood to replace a glass one that it broke and the owners see this as a sign of original (implied human) creativity. When the manufacturers of the robot learn of these abilities they declare it to be a ‘flawed’ robot. The owner decides to keep him and encourages him to study the humanities. The owner helps him learn the concepts as he studies. Later, an injured Andrew (his finger was severed) requests not only the repair of his finger but also the altering of his face so as to convey emotions. Over time Andrew earns enough money of his own to get legal advice which he uses to ask for his freedom. Once free, he starts referring to himself as ‘I’ instead of ‘one.’ His owner decided to eject him from his home since he is now free. He lives alone and joins forces with another man to develop more human looking robots.

Decades pass and his previous owners and their daughter, Amanda (whom he liked), pass away. He falls in love (now human enough to fall in love) with Amanda’s granddaughter. With artificial skin and hair, he petitions the World Congress to recognize him as human, which would allow him to marry Portia. He is rejected because he is still immortal, thus not human. He turns himself into a prosthetic human who can age. He petitions the council again, and when they ask why he wants to be deemed human, he says: “To be acknowledged for who and what I am; no more, no less. Not for acclaim, not for approval, but the simple truth of that recognition has been the elemental drive of my existence and it must be achieved if I am to live or die with dignity.”

On their death-bed (Portia and Andrew) the Congress declares him to be human. Andrew dies while listening to the broadcast verdict. Portia had her life support unplugged, and hand-in-hand with Andrew she says 'see you soon.'

This movie portrays robots as non-human and occupying a role of rendering service to humanity. Once again, the robot yearns to be human and strives to reach that goal. As with the movie *AI Artificial Intelligence*, the robot wants to be human and loved in a human way i.e. by a human. Creativity, freedom, love and mortality are valued human qualities, however in Andrew's answer to the Congress dignity is prized over all as it is perceived to be acknowledgement of one's essence and existence. Portia's remarks at the end also evidence an implied immortality to human existence, something Andrew now being a human is expected to experience. Perhaps intended irony that immortality was what deemed a robot non-human and now as a human is deemed to possess it – raising questions as to the validity of immortality as the test for the uniqueness of humanity.

A recent release, *Surrogates* is a story about people who are living in near-total isolation rarely leaving their homes, thanks to remote-controlled robotic bodies that serve as their 'surrogates.' The surrogates are designed as better looking versions of their human operators. The operators are safe and concealed in their homes and virtually experience the world via these robotic surrogates which incur any 'bodily' damage or experience any pleasures too. There is a group, the Dreads, who are opposed to the use of surrogates. One of the Dreads has a weapon he is using to terminate surrogates. The weapon infects the surrogate with a virus but it also leaves the human operators vulnerable and it kills both of them at once. The originator of the surrogates became disgruntled with how they were being used (he intended them for use by disabled people so they could experience normal life) and is behind a plot to destroy them all. The plot is exposed and both the surrogates and the operators can be saved. The main character insulates the operators from a mass attack but allows the surrogates to be destroyed. After the demise of all the surrogates 'real' people start emerging from their homes and meeting others for the first time. The main character meets his wife in her real body after years apart while living in the same house. In this movie the surrogates are very human-like robots, and since they are being controlled (virtually indwelt) by humans they practically indistinguishable from humans. Unlike virtual personalities that are confined to strictly digital media, the surrogates facilitate an embodiment in human form. While a small minority of humans opposed the use of surrogates, the majority is in favor of them and uses them. However, in the end, the decision to permit the destruction of them all and the resultant restoration of human interaction, particularly the main

character's renewed relationship with his wife, appears to cast living 'normal' human lives in a positive light.

Since technology has not developed robots with the degree of sophistication as depicted in any of these movies, these movies reflect the movie maker's expectations concerning possible future events. This is revealing in a number of ways. First, it evidences their understanding of the past and present, which serves as a guide for their predictions. As the brief history of technology demonstrated, the past has shown a marked and rapid progression in the development of machinery and other technologies with no indication of cessation or regression. Therefore, the future, in all probability, will bring about even greater advances in all areas of technology. All of the movies listed above, and many other movies in this genre, project an increase in *intelligence* in our machinery, especially in those that *resemble humans* in appearance and behavior i.e. humanoid robots. Clearly, movie makers anticipate the development of machines that will become increasingly like humans. In some of these movies the robots have a desire to become human, sometimes simply to gain admission into the human community, but rarely, if ever, are humans portrayed as seeking to become robots.

Second, it evidences an understanding of human nature based on the past and present. In most of these movies there is a tension between robots and humans. The 'evil' or flaw in the robot is typically *due to human error or evil* intention. This reveals the understanding that at root, man is the creator, and therefore originator of these machines and the one who is ultimately responsible for any maleficence committed by them. It also reveals the inescapable, inherent evil that is present in humanity which is the cause of malevolence in a machine or for the malevolent use of a machine. This raises a common and legitimate concern which warrants serious consideration as more sophisticated and powerful technologies are developed.

The *acceptance of robots by humans* is another area of tension evident in these movies. A cursory review of textbooks that deal with the implementation of computer systems in the workplace will show a careful consideration for the reticence on the part of people to embrace different technologies or methodologies. On a broader scale the history of humanity evidences resistance, violent on numerous occasions, to those who are perceived as 'different' to one's self or ethnic group. Regarding robots, this raises the question, should people at some point accept a more human-like robot into the community of human persons with all the attendant rights and responsibilities, and if not, how should they be treated?

Lastly, this genre of movie reveals an uncertainty on the part of the moviemakers about the future of humanity. On the one hand some show (as in Wall-E) robots playing the role of humanity's savior, however, the majority depict robots as either bringing a cataclysmic end to humanity or ruling the world (granted this could be due in part to the dramatic effects this outcome affords for the big screen). Commenting on this tension felt within humanity by the looming possible domination of robots (in movies), Geraci (2007:968) remarks that, "human beings must content themselves with a tentative grip on their self-determination and self-identity, a grip that must be renewed regularly and retained only through constant vigilance."

1.6 THE BRAVE NEW WORLD TO COME?

In addition to the depictions of the future by movie makers, scientists and theologians have offered their speculations on the future of technology and its interplay with humanity. As one might expect, scientists are generally eager to pursue and develop new and more advanced technologies. However, they are not alone, many who are suffering hope that someday in the near future the remedies to their maladies may arrive in the form of some scientific invention.

There certainly is good reason for this hope. Consider the following excerpts taken from a recent article titled, *Merging Man and Machine*, in a recent edition of *National Geographic* (January 2010). One of the stories in the article was about a woman, Amanda Kitts, who had lost her left arm in an accident. She was fitted with a 'bionic arm.' She can bend the arm at the elbow and wrist, and move its fingers. She can fold a shirt and even make a peanut butter sandwich. However, when grasping a paper coffee cup the current arm closes until it gets a solid grip, something it does not detect with this kind of cup, thus crushing it in the process. Kitts eagerly awaits the day when she will have sensation in the arm, and Kuiken (a physician and biomedical engineer) asserts, "there's a good chance she'll get that sensation" (Fischman 2010:47). Another story in the same publication was about a woman, Jo Ann Lewis, 79, who lost her eyesight but now thanks to hardware implanted in and around her eyeball, which relays imagery to her brain, she can see shimmering lines, vague shapes, and washes of color. While Lewis admits, "I don't see like you see," those working on this technology are hopeful stating, "we're on the ground floor of this technology," implying a future of great possibilities (Fischman 2010:44).

Visions of the future were also to be found in the February, 2010, edition of another magazine, *Popular Mechanics*, which featured on its cover a picture of a robot with the caption, "Can we

trust robots? New models will talk, act and look like humans . . . why experts are worried" (Popular Mechanics 2010). The story itself leads out with a brief explanation as to why the experts are worried. The experts are not worried because of a possible machine uprising, but rather that "we might like living with them too much" (Sofge 2010:54). The writer of the article, Erik Sofge (2010:56), describes his experiences interacting with Nexi, a robot at M.I.T. He was won over by this encounter and declares that he, "wants to tell the haters and the doubters [referring to those who have only seen the YouTube video clips of Nexi and formed negative opinions of it based on them] that the future of HRI [human-robot interaction] is bright."

Peter Thiel, cofounder of PayPal, in an interview with *Wired* magazine, asserts that "the U.S. economy will collapse unless we make giant technological strides" (Wolf 2010:29). What sort of strides does he have in mind? Consider where he invests his money, he is investing in futuristic projects such as ocean colonies for human habitation, indefinite life extension and private space flight (Wolf 2010:29). Thiel does not believe the continuation of the accelerated pace of technological progress is automatic, and fears that if it halts people will go bankrupt and a shift away from capitalism might occur. However, in response to a question regarding his optimism about AI and space, he says that "we should be looking at technologies that might lead to really big breakthroughs" (Wolf 2010:29). What sort of breakthroughs do those in the field of AI have in mind? In answer to this question, a review of the thoughts of Kurzweil, Brooks, and Bostrom follow.

Kurzweil is not a demented daydreamer; he is an accomplished inventor, engineer, and entrepreneur. He believes that humans should not be content with their biological limitations, rather we should use our abilities to reach beyond them (Kurzweil 2005:311). He lists six epochs in the progressive evolution of humanity, placing the current period in the fourth epoch, that of technology. He points out that the time frames required for noticeable progress have shrunk from hundreds of thousands of years to merely decades in the past century, and foresees a few decades into the future the beginning of epoch five, a decade marked by the *merger* of human technology with human intelligence, the beginning of the Singularity (Kurzweil 2005:20). He declares that "the fifth epoch will enable our human-machine civilization to *transcend* the *human* brain's *limitations* of a mere hundred trillion extremely slow connection" (emphasis mine) (Kurzweil 2005:20).

In fact, given the exponential pace of technological progress, he believes it necessary that nonbiological brains, capable of significantly faster processing, will have to be developed (to

include the enhancement of human brains) in order to facilitate further technological progress (Kurzweil 2005:24). This is an extreme case of improving the 'instrument,' but in this case it is for more than merely improved discovery, it is for the ability to possess and exercise greater powers in and over the world. He most certainly is correct about the increase in the rapidity of advancements in the past, and looking at the headlines of current publications, cited earlier in this study, they seem to confirm his speculations about the next (fifth) epoch. Some of the benefits he envisions are the abilities of machines to rapidly process information, share knowledge at high speed, and eventually to design and engineer technology (Kurzweil 2005:26).

The ultimate end of all this progress (the sixth epoch), according to Kurzweil (2005:29), will be the saturation of the entire universe with our human-machine intelligence, such that "we will *determine* our own fate rather than have it determined by the current 'dumb,' simple, machinelike forces that rule celestial mechanics" (emphasis mine). He claims that the first half of the twenty-first century will be marked by revolutions in genetics, nanotechnology, and robotics (GNR) (Kurzweil 2005:205). He lists in some detail the advances he anticipates in these three areas, and then proceeds to describe the impact of these developments. Samplings of these include the augmentation and ultimate replacement of our organs using nanoengineering e.g. redesigning the digestive system to intelligently extract the precise nutrients we need, and programming the blood to perform the oxygenating function more efficiently (Kurzweil 2005:303, 305). Kurzweil (2005:310) envisions the incorporation of computers in our bodies to the point that by the 2030s we will become more nonbiological than biological, soon followed by the ability to alter our physical manifestation (bodies) at will. Another significant development in the movement toward a nonbiological existence will be the ability to make a 'backup' of ourselves, a backup that can be transferred to other substrates affording the extension of our existence and thus achieving immortality (Kurzweil 2005:323).

Brooks is a professor of Robotics at M.I.T. He also founded and serves as CTO (Chief Technology Officer) of iRobot Corporation which has successfully developed and marketed numerous home and military robots. He believes there are two revolutions coming in the near future, the robotics revolution which is in its nascent stages, and the biotechnology revolution which will transform our bodies and our machines in such a way that each will become more like the other (Brooks 2002:11). In this regard he differs from Kurzweil in his vision of the future. He maintains that rather than downloading ourselves into machines, we will morph ourselves into machines (Brooks 2002:212). He goes on to list, by way of example, some of the previously mentioned technologies that have been incorporated into people. He believes that technological

body enhancements will *become socially acceptable*, and that not only people with impairments will have them but people who seek to enhance themselves e.g. improved night vision for driving, will also acquire them (Brooks 2002:226). He proceeds to describe in some detail the benefits of having internal access (via our thoughts) to devices such as computers and PDAs (Personal Digital Assistant – a handheld device), and anticipates a shift from this being perceived as bizarre to it becoming the norm (Brooks 2002:230). Like Kurweil, Brooks believes the first half of the twenty-first century will usher in significant developments. Brooks (2002:236) does not provide the kind of detail that Kurzweil did, but he does suggest that robotics and biotechnology will merge, and that we will be able to manipulate our bodies and capabilities to match that of any robot, similar in concept to Kurzweil's projections.

Bostrom is a professor of philosophy at Oxford University and cofounder of the World Transhumanist Association (now named Humanity+). In an FAQ document on Transhumanism written by Bostrom (2003:48), the final section, which deals with the practicalities of the movement, opens with a paragraph claiming that even conservative projections assume dramatic developments will transpire in the state of technology during the next 50 years. He specifically states, as did Theil, that "this expectation is reinforced when one considers that many crucial areas seem poised for crucial breakthroughs" (Bostrom 2003:48). He lists as areas of future development some of the very same areas that Kurzweil and Brooks mentioned e.g. molecular manufacturing (nanotechnology), superintelligence, cryonics (preparation for reanimation i.e. life extension), and uploading (transferring the biological brain to a computer).

Bostrom (2003:48,49) claims that some of the transhumanist goals can be pursued with current technologies, and barring a cataclysmic event, technological progress will afford more radical options in the future, like the option to become posthuman[6], which he believes many will choose to explore. Bostrom does not see the transhumanist endeavor as an all-or-nothing matter, he views any advancement in the health and welfare of humanity, including human augmentation, as positive outcomes. Regarding the more powerful transhumanist technologies (nanotechnology and superintelligence), he believes their development can be reached via several independent paths, thus increasing the probability that the journey toward those ends will not be prematurely halted (Bostrom 2003:50). In his concluding remarks, he asserts that "transhumanism is about

[6] Transhuman refers to the extension of human capacities using technology, whereas, posthuman refers to a (presently) hypothetical 'post' human state completely different from the present biological state (usually conceived as being nonbiological) achieved by means of technology.

genuine changes to the human condition, including increased intelligence and minds better suited to the achievement of happiness," not wealth and more gadgets (Bostrom 2003:53).

It is very clear that many in the field of AI and robotics recognize the increasing rapidity of technological advancement, and expect it to continue, if not accelerate, in the next fifty years. Also, most anticipate significant developments in the areas of biotechnology and robotics (humans and machines). Typically, those who raise questions of concern or opposition to the unfettered advancement of technology have been branded as Luddites (a term taken from a movement in the early 1800's conducted under the name of a fictional character, Ned Ludd, that opposed the use of automated looms in the mills in Britain), or Neo-Luddites, or fundamentalists, but it seems voices of concern include those in the ranks of notable computer scientists too.

Bill Joy, an American computer scientist and cofounder of Sun Microsystems, discusses his vision of the future and expresses his concerns in an article published in *Wired* magazine. Near the beginning of the article he identifies the date he met Ray Kurzweil as "the onset of my unease" (Joy 2000). He mentions that he was in a bar speaking with John Searle (a philosopher from Berkley University who studies consciousness and is well known for his 'Chinese Room' argument against the possibility of true AI) when Kurzweil walked up and joined their conversation. Kurzweil talked of the imminent possibility of people becoming or fusing with robots (Searle disagrees, believing robots could not be conscious). Joy's (2000) unease came from the realization that the creation of intelligent robots was realistic and imminent, and this unease was intensified after reading Kurzweil's book, *The Age of Spiritual Machines*, in which a future is depicted where humans gain near immortality by becoming one with robotic technology. Joy (2000) states that he "felt sure he [Kurzweil] had to be understating the dangers, understating the probability of a bad outcome along this path." After reading Moravec's projection, that robots will succeed humans (who clearly face extinction), he decided to discuss these matters with a good friend of his, Danny Hillis (cofounder of Thinking Machines Corporation and respected futurist). Hillis' swift reply to Kurzweil's scenario of humans merging with robots was "that the changes would come *gradually*, and that we would *get used to them*" (emphasis mine) (Joy 2000). Joy identified the same three areas (GNR – genetics, nanotechnology, robotics) as those which will usher in the greatest advances in the near future. His greatest concern is the self-replicating nature of these technologies, which if uncontrolled, or out-of-control, could risk substantial damage to the physical world (Joy 2000). Additionally, since these technologies do not require large facilities or rare raw materials, individuals or small groups with the knowledge alone to produce them could imperil the world.

Another voice of caution comes from a top British robotics expert, Professor Noel Sharkey, who recently (December of 2008) “urged his fellow scientists and engineers working in robotics to be mindful of the unanticipated risks and the ethical problems linked to their work. He believes that *robots for care* represent just one of many ethically problematic areas that will soon arise from the increase in their use and that policy guidelines for ethical and safe application need to be set before the guidelines set themselves” (emphasis mine) (Online 35).

1.7 SUMMARY AND REVIEW OF THE NEW WORLD OF TECHNOLOGY

The acceleration in technological innovation is an undeniable fact of both our recent history and our present existence. The products of these innovations are seemingly ubiquitous and our dependence upon them is deepening in comparable proportion to their appearance. Many technologies drive further innovation, creating the perception similar to that of an emerging organism in which later stages have evolved out of earlier stages as it grows and extends in complexity and breadth of reach into the world. Undoubtedly, the growth of technology has resulted in many benefits too numerous to cite even in summation, however, it has also produced unprecedented disadvantages, some glaringly obvious, and some, while undetected by most, render significant harm.

In an increasingly globally connected world, yet one that remains fractured into various nationalities, technological innovation and its attendant reliance upon material resources for its development and consumerism for the acquisition of its products, fosters a competitive economic world market. This is evident in such national ‘races’ e.g. the arms and space races to name two, and is also evident in the rush to be first or prominent in such fields as genetic and robotic advancements. These ‘races’ are driven by significant monetary might resulting frequently in technological developments that grant moral concerns involved in their development and use a secondary position at best, or render morality entirely subservient to their ends at worst. This upward spiral to sustain power and supremacy has created a burgeoning and broadening threat to global security, and as devices capable of expressing might become smaller or other means of causing harm to others finds extension into the hands of individuals e.g. Internet based intrusion and exploitation of sensitive technologies, so the peril to humanity increases in potential and proportion.

The tremendous *economic influence* on the development of technologies is clearly apparent on a global scale, however, it is not without its correlate in the private and public industrial spheres. The influence of economics is evident in the earlier examples (see section 1.5, examples 1 and 3) in which the respective robot developers started with an altruistic goal in mind but redirected their efforts toward a more lucrative market-driven end. One can expect that a significant portion of future technological advancements will be so driven, marginalizing those who are less financially able to participate in the market, or worse, utilizing those less able as 'resources' for the creation or advancement of their technologies, literally by blood or sweat.

Since many of the products of technology have become very prevalent, so individuals, organizations, and nations have become better connected. This has produced in the individual a greater sense of awareness regarding the state of others, who being distant from one another were formerly impaired in their ability to be made so aware. This has fostered a broader sense of understanding and responsibility as the other now lives in a more 'public' manner. The mechanisms that facilitate such connectedness are also public e.g. digital communication lines. And, as people place more of their activities into such mediums of communication, so they begin to live and move through 'public' machines, and matters of privacy, control, and trust emerge. The integration of humans and machines in this way and in a more physical way e.g. implantation, does not subtract from the 'humanness' of those who participate, rather it *dislocates the human person* by either creating or sustaining distance between others including the distance created by self-alteration whether it be by impairment or enhancement.

Finally, a prevailing concern expressed in many of the popular movies and in the sentiments of those calling for circumspection in the development of future technologies e.g. AI and robotics, is the notion of responsibility. Implied in this notion is the deprivation of autonomy on the part of the created artifact. To date, all technologies (at least those developed and used in subservience to public policy) are referred to a human agent (individual, corporation, of government) for liability. No product technology has been granted autonomy, and arguably this could be the first delimiter in the fabrication of an AI machine or robot. Greater human responsibility and controls i.e. moral guidelines, are crucial as the products of our technologies increase in complexity and scope of influence.

If it appears to the reader that the researcher holds an attitude of pessimism with regard to technological advancements, then the researcher appeals to the reader to consider the approach, goading the reader to greater *circumspection and responsibility* in the design, development and

deployment of any and all technologies. This approach finds similitude in the approach of Hans Jonas (1984:34) who countered the charge of ‘pessimism’ concerning his outlook on technology and the future with the remark that “the greater pessimism is on the side of those who consider the given to be so bad or worthless that every gamble for its possible improvement is defensible.” These words ring today with a clarity; perhaps even a ‘prophet’ such as Jonas could not have anticipated, as the perception of the ‘given’ is that its state is so bad that any gamble for its improvement or transcendence is defensible. Such an attitude is problematic and generates significant ethical issues, so to the matter of ethically problematic areas we now turn to the chapter that follows.

CHAPTER 2: ETHICAL CHALLENGES OF THE BRAVE NEW WORLD

"It will be my contention that with certain developments of our powers [referring to modern technology] the *nature of human action* has changed, and, since ethics is concerned with action, it should follow that the changed nature of human action calls for a change in ethics as well . . ." (Jonas 1984:1)

The contents of this chapter provide an overview of the significant ethical issues that have emerged as advances in technology have been made. Due to the vast and varied ethical issues that surround almost every noteworthy technology and the seemingly daily development of new technologies and their attendant ethical issues, the focus of this examination will be upon the common fundamental moral issues that underlie many of them, specifically, AI and robotics. In order to provide a broader cultural context and to show the commonality of the moral challenges faced by other areas heavily influenced by science and technology, the first section of this chapter offers a brief review of ethical issues in neighboring fields of study and practice. Biomedical issues are considered because the biological aspect of a human being's constitution is the focus of technological transformation, and the aspect that is increasingly being treated as a commodity with some notable adverse effects. The next section exposes and explains the worldview of those thinkers noted for their contributions to the developments, both past and present, in AI and robotics. The assumptions one holds regarding reality i.e. the existence of God, or the origin and purpose of the universe, weigh heavily on present practices i.e. what is deemed moral, or permissible, or expedient, and future projections for the good of humanity. Religious thought often shapes one's worldview, or at a minimum influences one's conduct, so a section is devoted to a review of a religious tradition that embraces AI and robotics, and it is also compared and contrasted to a religious tradition that is resistant to such technologies. Surprisingly, the latter religious tradition holds futuristic hopes that resemble to some degree those of such futurists named before e.g. Kurweil, Hall, and Bostrom. The fourth section examines more specific ethical issues pertinent to the fields of AI and robotics, and in so doing reveals and discusses the major issues that must be addressed in order to establish a framework of reference for wise decision making in these fields.

2.1 DEHUMANIZATION AND CONTEMPORARY ETHICAL ISSUES

In the final section (1.6) of the last chapter other areas of technological development (genetics and nanotechnology), apart from those of primary concern in this study (robotics and AI), were identified by notable futurists as overlapping and of great significance in our near future. Also noteworthy and evident in other sections of the prior chapter is the perceived threat to humanity, be it extinction by eradication or by evolution, posed by the advancement of these technologies. While there is obvious diversity in these areas of development, at the center of their unique endeavors lays a *common subject*, humanity, and so this section while taking an apparent detour is embarking on a brief, but necessary, tour into those areas that also challenge humanity and the notion of what it means to be human. Also, it is generally agreed that a better understanding of a given subject is secured when it is examined in a broader context. For example, to gain insight into a particular verse or chapter in a book of the Bible the reader must examine the book as a whole in order to gain a better understanding of the section of text under examination. Following the methodology evident in this practice, and in order to obtain a better understanding of the ethical challenges that are present in the field of AI and robotics, the present-day landscape in other surrounding areas will be examined (a sampling only of significant developments is included for the sake of brevity).

In a number of recent (past four decades or more) ethical issues that have garnered the attention of both policymakers and citizens, it is apparent that practice has often preceded permission in several scientific and/or technological endeavors. This observation is noted for two reasons: (1) to draw attention to the considerable number of contemporary issues that arise from these two fields of study; and (2) to note that the examples to follow represent issues that have made it to market, meaning they deal with practices and not with purely theoretical matters.

Several ethical issues have arisen in the area of genetic engineering (biotechnology); arguably, the most notable being stem cell research. Stem cell research has been conducted for almost a century (Furcht & Hoffman 2008:xxxi – xli) with little public or policy scrutiny. The past two decades have witnessed an increase in the ability of scientists to create and manipulate human stem cells which has caused it to gain greater publicity due to its promise and peril for human life (promise due to the potential remedies for human ailments, peril due to the destruction of nascent human life inflicted by embryonic stem cell procedures). During the recent fervor concerning the promise to benefit existing human life, advocates for such research were found among scientists, politicians, celebrities, and the citizenry. A glimpse of the hope in the promise

of such research can be found in the words of Furcht (2008:34) at the close of a chapter titled, *Agents of Hope*:

> We have reason to hope that stem cell therapies will relieve suffering and restore health for persons with debilitating and catastrophic diseases. That hope is drawing ever closer to becoming a reality as geneticists, cellular and molecular biologists, and reproductive scientists around the globe help solve the mystery of stem cells. What once seemed the stuff of science fiction has become the fantastic voyage into the very real world of stem cell research. A world where the promise of stem cell therapies will be fulfilled, if scientists, politicians, ethicists, religious leaders, and ordinary citizens can agree on policies governing such research.

In light of such promise it seems worth any peril to accomplish. However, the necessity of Furcht's appeal for agreement is revealing, because it clearly demonstrates the controversial nature of the practice. The controversy surrounds a particular kind of human stem cell research, embryonic. The reason for the controversy is stated succinctly by Wesley Smith (2004:8-9):

> The embryo is destroyed in the process of extracting its stem cells. Some opponents believe that this constitutes the taking of human life, and others, myself included, worry that destroying embryos for the purpose of harvesting their parts *reduces nascent human life to the moral status of penicillin mold* (emphasis mine).

On August 9, 2001, the presiding U.S.A. President, George W. Bush, weighed in on the debate over federal funding for stem cell research and permitted funding for existing embryonic stem cell lines but denied funding for the creation of new lines. On March 9, 2009, current president, Barak Obama, signed an executive order lifting the ban imposed by former president Bush.

A few observations that apply not only to this issue but arguably to most of those in this study are worth considering at this point; they are: (1) the *alleviation of human suffering* carries considerable weight in the *justification* of technological advancements; (2) most, if not all, technological advancements offer accompanying *financial reward* to those who develop and market them. And, the more significant the 'application' e.g. a cure for Alzheimer's, the more valuable the remedy to the recipient, and therefore the greater the potential for compensation to the provider; (3) the convergence of 1 and 2, often results in *ethical omissions or violations* in the rush to bring the product to market, or the *marginalization* of those who are unable to purchase the products. As the prior example (embryonic stem cells) and the next example demonstrate, the marginalized sometimes become the source of the remedy for the 'privileged' consumer.

The United Nations and the Council of Europe on October 13, 2009, jointly called for international measures to prevent trafficking in human organs, tissues, and cells. The call was spurred by a study that came to their attention which notes that the "Trafficking in human beings is a real and growing problem all over the world. Human beings are bought and sold *as commodities*" (emphasis mine) (Online 16). The lack of written regulations for such trafficking across international boundaries was also mentioned in the study. In related articles, Smith addresses the international scope of this problem referring to it as 'biological colonialism,' and cites several occurrences. One such occurrence was an industry in the Ukraine that imports body parts to the West. Supposedly consensual only, between May and September of 2004, ten cases were discovered where the family members had not consented (Online 18). He cited another instance in which a kidney broker in Brooklyn, who has been in operation for the past decade, was bringing donors over from Israel, paying them $10K for their kidney and selling it to patients in the U.S.A. for as much as $160K. Smith expresses the concern that "when organs become a commodity, the rich buy, the poor sell, and the brokers get rich" (Online 19).

In the midst of the present healthcare discussions and governmental proposals for public options, concern and attention has been given to end-of-life issues. Considering the typically high medical costs associated with treating those near the end of their lives, rationing care for such patients has become a part of the dialogue. Recent findings supplied by a federally funded study and published in the *New England Journal of Medicine*, illustrate the 'futility' of end-of-life care (Online 9). Medical experts say that this research shows that palliative care should be offered as an option in many more cases to make the patient's last days as comfortable as possible. The concern in the U.S.A. is that such care will not be an option but a requirement for those deemed in such a state. Other nations offering nationalized healthcare seem to have crossed this bridge e.g. Ontario recently decided to cut off funding for life-extending medication for patients with colorectal cancer in order to save $9 million (Online 28).

While governments, insurance companies, and others in the healthcare industry consider the monetary costs associated with end-of-life care, it seems some individuals feeling the burden of life or failing health are seeking ways to end their life via physician assisted suicide or other means of suicide, assisted or unassisted. This is not a new ethical issue, but it is an internationally burgeoning one involving suicide tourism and its related concerns. In an article dealing with a recent ruling in England which "made it easier for a family acting out of compassion to help a terminally ill relative to commit suicide," other countries such as the

Netherlands, Luxembourg and Belgium, are mentioned as having passed laws in recent years that permit some forms of physician assisted suicide (Online 33). In the U.S.A. state of Oregon, the law permits doctors to prescribe life-ending drugs for terminally ill people who are mentally competent.

Commenting on the recent early release from prison of Jack Kevorkian due to failing health, Smith comments, “That’s one reason [Kevorkian seeing his own life as precious] why assisted suicide is so insidious – it confirms people’s worst fears about themselves and confirms their deepest fears that they are burdens, that they are not as worthy of being loved as they once were, indeed, that their lives are better off extinguished” (Online 20).

It is worth mentioning that most, if not all, of the ethical issues mentioned above are not isolated to a single nation but include many other nations in the West and some in the East. And with the ease of international travel and the lack of uniform international law in most of these areas, those who find themselves constrained by the rule of law in one country can travel to another less constrained territory. The global nature of these issues is also evident in the race to develop technologies, specifically those in the three areas identified in prior sections (GNR). The U.S.A. for example is concerned that stringent regulation may drive (or has driven) some researchers abroad in their quest for scientific liberties, thereby affording other nations a greater competitive advantage, which implies a greater potential for economic advantage too (Online 5). Lastly, the global scope of these developments means that for good or ill, the consequences hold the potential to be global too, encompassing large portions of humanity.

2.2 PERSPECTIVES OF PROMINENT SECULAR THINKERS IN THE FIELDS OF AI AND ROBOTICS

The purpose of the preceding section was to briefly describe some of the prominent cultural (arguably global) moral issues, specifically those dealing with the biological aspects of humans. Prior to examining the ethical issues dealing specifically with AI and robotics, it would be useful to the present study to identify some of the perspectives, worldviews if you will, of contemporary secular thinkers with the purpose being to *correlate their ideas* with some of the *ethical practices* cited in this paper. It should come as no surprise given the scientific nature of the AI and robotic enterprise, and given the wholesale adoption of Darwin’s theory of evolution by the scientific enterprise in general, that the foundational perspectives of many in this field contain assumptions and assertions significantly influenced by that theory. This will be clearly

evident in the writings of prominent thinkers and laborers in this field. Since views such as those of Darwin arose and found fertile soil in Modernity (modes of social life or organization that emerged in Europe in the seventeenth century and became global in its influence) a cursory examination of that cultural epoch will be conducted prior to an examination of the views of contemporary thinkers in order to provide some context for what follows.

As a review, the seventeenth century was marked by a new scientific and philosophical understanding of the world and a newfound human ability to harness the power in it. Hollinger (2002:90) in his work, *Choosing the Good*, which deals with the subject of Christian ethics, frames this epoch in an instructive and insightful manner, and divides its influences into three components: intellectual, industrial/technological, and sociological. The intellectual component was characterized by *a turn away from external authorities* as a source of truth, most notably divine revelation, to self-evident sources e.g. reason, experience, and the senses (rationalism and empiricism). A predominantly Christian worldview had been undermined by *a scientific view* of reality. There was optimism that the liberty from traditional forms of authority would lead to certainty in understanding, *liberation* from the *restraints of nature* itself, and the realization of a new world of progress and freedom (Hollinger 2002:92). Hollinger (2002:92) points out that the Christian *eschatological hope* for humanity's imperfect state was supplanted by "the notion of *human progress* grounded in human reason, science, and the *new technological innovations*" (emphasis mine). This same notion is readily apparent in the visions of the future by many in the fields of AI and robotics.

Hollinger (2002:94, 95) pinpoints the emanation of a technological rationality from the Industrial Revolution as the defining characteristic of the industrial component, which he sees as seeking to impose *rational controls over everything* with efficiency as the end. He mentions that the technological revolution has presented many of the difficult ethical situations we face today, and that a common (debatable) assumption is that since we as humans beings created it, we can control it, but he notes that our capabilities to create and manufacture *outpace our moral sensibilities* (Hollinger 2002:95). Another aspect to the second component is the false impression of control that our mastery over the material world brings. This notion of control shifts the approach in moral decisions involving the application of technologies from what ought to be done to *what can be done* (Hollinger 2002:96).

The sociological component contains a few points that are noteworthy for this study. First is the matter of pluralization which was significantly enhanced with the increase in mobility and

communication across the globe. Hollinger (2002:100) cites two implications, namely, a resultant psychological *disposition toward moral relativism* due to the coexistence of divergent worldviews, and the challenge of bringing a particularistic ethic to bear in such a diverse cultural milieu. Second, he cites secularization as tending to relocate religion and religiously grounded ethics from the public sphere to the private sphere, which poses a major problem for Christian ethics (Hollinger 2002:102,103). In light of the changes brought about during modernity we will now examine the views of thinkers in the fields of AI and robotics.

Inventor and futurist, Ray Kurzweil, in his book, *The Singularity is Near*, defines evolution as "a process of creating patterns of increasing order." He also states that "evolution works through indirection: each stage or epoch uses the information-processing methods of the previous epoch to create the next" (Kurzweil 2005:14) He describes the history of evolution, both biological and technological, as occurring in six epochs (see section 1.6).

Kurzweil's worldview is further evidenced in his account of what is entailed in one being considered a 'Singulatarian.' A summary follows: (1) Death is a tragedy. We should seek to aggressively apply radical life-extending therapies to *reprogram* our biochemistry; (2) the purpose of our lives and of the universe is to move toward greater intelligence and knowledge. The extension of our lives will enable us to have a truly meaningful life enjoying the explosion of art, science etc., that the Singularity will bring; (3) to regard a person as a profound pattern (a form of knowledge) is not demeaning. Since only the pattern of our body and brain has continuity, ways to *enhance* the durability of the body by fabrication, or the *extension* of our minds through *merging with technology* should be sought (Kurzweil 2005:371-372).

Immediately prior to this list, Kurweil (2005:371) states that "these reflections articulate my personal philosophy, not a proposal for a new doctrine." While that was true of the list that followed, a few pages later he enters a dialogue with Bill Gates and responds to an assertion that his optimism about the future is almost a religious faith by proclaiming that we need a new religion, and then he proceeds to define it. The new religion would consist of a principle of respect for the consciousness of others (borrowed from traditional religion) and a principle that knowledge is of utmost importance (borrowed from the arts and sciences). The god of this new religion would be the universe filled with intelligence – it will be conscious (Kurzweil 2005:375).

Clearly, Kurzweil looks exclusively to technology for the solution to humanity's, and ultimately the universe's present deficiencies. He is eager for technology to bring these things to pass, and seems to hold that what can be done, ought to be done. The notion of control over nature is evident, humanity has evolved with the ability to develop the tools and technology they have today and they should use them to determine (control) the next phase of their evolution. Humanity is the master of their destiny and there is no higher authority to guide their actions.

Computer scientist, J. Storrs Hall (2007:38), claims that "the general trend of scientific opinion is that we evolved intelligence in order to cope with environmental changes that were too fast and varied for normal genetic adaptation." Later, Hall (2007:239), in the context of speaking about the transferal of skills and language between humans through close and continued contact, states that "evolution almost always works by taking an existing mechanism, copying it, and extending it."

In his elaboration of ethics, Hall outlines a system of evolutionary ethics. He begins with the mind, claiming that it is designed by genetic evolution and *programmed* by memetic evolution. The latter (learning ethics from those with whom we interact) is due to the nature of the former (structures in the brain that predispose us to learn an ethic from others). Although there is no notion of absolute right and wrong in evolutionary ethics, some ethics are more 'fit' than others. He claims that this ethic is deontological in the sense that the rules in the mind govern the actions of the person without regard to the consequences, but it is also consequentialist in the sense that it is formed by the consequences of the actions of all the people in the society (Hall 2007:301). He explains that there are substantial similarities in ethics between cultures because of a common genetic heritage and in part due to the fact that what works well in one culture tends to work well in another. In a chapter dealing with the development of ethics for an intelligent machine, Hall (2007:351) asserts that "our bodies have genes essentially unchanged from our savage ancestors, but our ideas have evolved to the point where we can live in virtual peace with one another in societies spanning a continent. We have gotten better mostly because we have gotten smarter."

The removal of a transcendent authoritative moral standard inevitably results in a standard derived purely from human reason and experience. Hall's statements confirm that observation. He is not alone in his optimism concerning the role of increased intelligence in the solution to humanity's woes. However, he does admit a few pages later that "the idea of a generalized progress was dealt a severe blow in the 20th century [by totalitarian governments]" (Hall

2007:354). The history of humanity, particularly during the modern era, does not evidence a reduction in inhumane actions proportionate to the increase in technological sophistication, the observation of which seems to erode the hope that a more educated person is a more moral person.

Rodney Brooks (2002:40) in *Flesh and Machines*, speaks generally of all creatures as having "started out with simple capabilities and, over time, developed more sophisticated capabilities." Later, in his comments on the universality of certain forms of body language, he declares that "we have been *programmed through evolution* to interact with each other in ways that are independent of our particular local culture" (emphasis mine) (Brooks 2002:68). In a chapter titled, *We Are Special*, Brooks mentions the various levels of emotional response are given to different sorts of animals e.g. humans on down to insects, and as a result different levels of ethical care are provided (something he decries should not be so). He continues by remarking that large changes in worldview have occurred during the past four thousand years and anticipates that the question of robots possessing emotions will bring further change. Also, in the past people postulated a god in order to make sense of those things they did not understand, for example the earth-centric and man-centric notions which have now been dispelled by science, resulting in a *loss of the uniqueness of humans*. Brooks (2002:163-168) claims it is the fear of losing this uniqueness that drives some to deny the possibility of an intelligent machine. Perhaps the clearest assertion came in his remark that "*If we accept evolution* as the mechanism that gave rise to us, we understand that we are *nothing more than* a highly ordered *collection of biomolecules*" (emphasis mine) (Brooks 2002:172). He asserts that many arguments against intelligent machines in some way deny that a *human is a machine*, something he believes humans are, and therefore another machine like a human can be made.

Another prominent AI scientist, Hans Moravec, in *Robot: Mere Machine to Transcendent Mind*, begins by explaining that evolution produced larger brains in primates located in larger troupes, as was the case with humans. However, our biological evolutionary progress is not keeping up with the technological progress. In a similar vein to Kurzweil, he speculates the future existence of robot intelligences that will colonize space and spread their intelligence throughout the universe in a 'Mind Fire' (Moravec 1999:14). In a later chapter he says that "many see it [physical science] as the only legitimate claimant to the title of true knowledge" (Moravec 1999:191). He claims to be partial to this 'physical fundamentalism,' and that other belief systems are simply made-up stories. He admits that his view suggests the Cartesian possibility

that the world as we perceive it through our senses could be an elaborate hoax (Moravec 1999:191).

Marvin Minsky is one of the pioneers in the field of AI. When asked for his response to the possibility that thinking robots might be created and be entitled to rights, he answered with a hypothetical dialogue between two interstellar aliens. While a somewhat lighthearted approach, the ideas held by Minksy are clearly evident in this dialogue. A summary of the key ideas expressed in the dialogue follows (Ford *et al.* 1995:307). Humans are not designed; rather they evolved by competing tooth and claw. The short lifespan of humans causes them to be dangerous because in light of an early death they feel they have little to lose and are inclined to fight. They do not seek immortality because they believe death is in the nature of things. The promise of everlasting life based on faith and the threat for those who disbelieve has also retarded the quest for immortality. The human brain is a slow processor that seems unlikely to be capable of consciousness – consciousness is defined as knowing what our minds do, not being simply aware that we are thinking. The *brain evolved* a means to perform parallel processing in order to compensate for the slow neurons. The brain is unable to figure out how decisions are made, so free will is ascribed to the making of decisions. Since humans have no good way to represent what they know they cannot copy themselves, therefore death is feared and life revered. In the midst of this portion of the dialog one of the aliens declares that "the only important thing about an individual is its network of conceptual relationships" (Ford *et al.* 1995:310). If people possessed greater knowledge of themselves they could copy these conceptual relationships to another brain and achieve immortality. The vision of humans is declared to be flawed and in need of reengineering. The lack of nanotechnology in the fabric of human biology is deemed another result of an early wrong turn in evolution and very inefficient (Ford *et al.* 1995:307-312).

A review of the thoughts of these secular thinkers evidences some commonalities. First, humanity has been and continues to be *in a process of improvement via evolution*. The human capacity that features most prominently in the writings of these thinkers is *intelligence*. It is this capacity that is responsible for the achievements and betterments of humanity, and that now holds promise to leverage humanity into *a higher existence* of far greater intelligence and *fewer limitations* e.g. length of life. Second, the products of evolution *stand in need of improvement*, but *evolution is incapable of producing them with the requisite specificity and speed*. The Neo-Darwinian view of evolution holds evolution to be a random (purposeless) process. The trans/post humanists are dissatisfied with this progress and *intend to bring purpose by way of intelligence to the enhancement and acceleration of future progress*. As with any guided process some measure of

control over the process is necessary to bring about the purposed ends. The power behind the means is technology. The underlying desire appears to be liberty from the limitations of finitude (necessity). The paradox is that for technology to fulfill the promise and liberate humans and creation from those shackles it must pervade all in order to control/guide future evolution aright - it must become the master and all else its servile pawns.

So, the onus is on humanity to develop and implement the improvements necessary to *transcend the limits* of the current reality, in essence creating and fashioning a new one. All the thinkers seem optimistic that the future holds the promise of practically unbounded intelligence and life, and in light of the origin of humanity they have no qualms about taking the reins and *controlling* the direction of the future. The destiny of human beings seems to be confronted with two alternatives: one requires placing faith and trust in a technologically driven human evolutionary effort whose heart finds its source and maker in corrupt human beings; the other requires faith and trust in the triune God who is good and will lovingly transform all of creation. The former promises liberty but in the end must subject all of creation, the latter presently subjects all but promises true liberty to all in the end. Religious traditions are also significantly influenced by their own worldviews, and two that find themselves embroiled in technological issues are the subject of the following section.

2.3 THE JAPANESE VS. WESTERN RELIGIOUS TRADITIONS AND ROBOTS

In a number of texts that deal with robotics, in particular where they deal with the acceptance and prevalence of the technology, the Japanese are epitomized as a culture that readily embraces and adopts the technology. Since this is a theological examination and many see one's worldview as impacting research in this area, it seems fitting to conduct a review of religious perspectives that includes one that embraces robotics in order to discover what sort of framework lends support, and to compare and contrast it to the perspectives held in the Western World, which has been shaped by religious traditions of a different sort.

In an article titled, *Spiritual Robots*, Robert Geraci (2006:230) reports that Buddhism and Shinto "sanctify the natural world and the place of human beings in it," therefore, since robots are part of that world, they too, are sacred and their sanctity makes them natural partners to human beings. This sanctity is evident in the ritual of consecration practiced by Shinto priests over newly deployed industrial machines in the 1970s and 80s (this practice has abated as the number

of machines has escalated but this history evidences the acceptance of the Japanese of robots) (Geraci 2006:236). While the consecration of machines in the workplace has disappeared, robots are now found performing consecrations. Geraci (2006:237) noted that in the Central Cemetery in Yokohama, Japan, a machine in the form of a human is lowered into the prayer hall every morning to chant Buddhist prayers on behalf of human beings. Buddhist monks also lead consecrations for objects that have met their demise such as dolls and printing blocks believing that both possess life and the potential for attaining buddhahood - "These objects share their 'life' with humanity and their memorialization promotes their peaceful integration into the cosmic Buddha" (Geraci 2006:237).

The preference for humanoid robots in Japan is attributed to the value they place on being human. In Shinto, for example, it is human beings alone who can become *kami* (sacred entities) (Geraci 2006:238). Geraci (2006:239) makes the observation that whereas roboticists in the U.S.A. tend to follow the Christian trend to seek to transcend earthly life (the human body in particular), their Japanese counterparts revel in it. Associated with this is the Japanese belief that the mind and body are inseparable. Lastly, Geraci notes that in a future human and robot partnership the Japanese hold human needs as primary, whereas, many prominent U.S.A. robotics scientists hold the converse, which might explain the apprehension of those in the West to embrace such technologies.

The predominant religious tradition of the Western World is Christianity. It is interesting to note the influence that Christian tradition has had in the field of AI and robotics in the West. While it is apparent in the writings of many experts in this field in the West that Christianity is not their religion of choice, there are some similarities in their perspectives of humanity, the future, and humanity's destiny. Christian thought on humanity has evidenced an elevation of the soul over the body. The latter is temporal and destined to perish, whereas the former holds an eternal destiny. An orthodox position entails the reunification of the soul and body, albeit the nature of that body will be different. In a similar fashion, AI scientists, most notably Moravec and Kurzweil, are quick to point out the shortcomings of the human biological frame and eagerly anticipate the construction of a far better embodiment (be it virtual/digital, or silicon, or biological) possessing greater intellectual and physical powers.

Concerning the future, Christianity anticipates a time of reunion with God which includes a far better habitation both for the soul (a better body) and the body (a better environment), and a greater awareness of self and God. Moravec and Kurzweil foresee a future in which some form

of superintelligent mind(s) permeates the universe transforming it into a better place in the process. Humanity in their vision for the future is capable of immortality as mind will be transferable to other embodiments infinitely, yet humanity will hold a lesser standing in relation to evolved superintelligences. It is evident that a form of salvation from this life and a better eschatological period on the horizon is common to both with an apparent diminishment of life now in contrast to the views of the Japanese religions which place a premium on earthly life in the present.

In summary, it seems the Japanese hold the most promising position for admitting humanoid robots into society. The primary reason for this acceptance appears to be the sacredness they ascribe to all of nature, including human artifacts. Secondarily, they esteem human life and see humanoid robots as participating in it, not surpassing or transcending it, whereas Christian thought has been known to hold (incorrectly) a disparaging view of the body, apparent in their eagerness to discard it by transcendence. It is this notion of discarding the body and surpassing the present human existence (artificially or supernaturally) that agitates human sentiments against humanoid robots which are perceived as attaining a *superior existence*. Although the greatest threat potential logically seems to follow from a superior being, further research is required to determine the wisdom of including humanoid robots (even if not superior) into human society. The Japanese appear willing to include them in human society.

2.4 ETHICAL ISSUES SURROUNDING AI AND ROBOTICS

2.4.1 The morality of the project itself – the creation of a machine that is like a human

Unlike prior bioethical issues mentioned in this dissertation, the creation of machines that mimic humans in a manner sufficient to render them indistinguishable from humans have yet to be created (or if already created, they have yet to be revealed to the world). Therefore, there truly is no better time than the present to discuss the motives, merits, and morality of such an endeavor. The participants in this conversation should not be limited to scientists and engineers alone, or carried on strictly in the privacy of a laboratory, rather, since such a creation will potentially touch all areas of human life a broad and varied representation should be present and the dialog made available for all of humanity to hear (at minimum) and some channels for feedback provided.

2.4.1.1 Motive exposes the focus of the humanoid robot project

A fitting point to begin a discussion concerning this project is to address the question of why? In our rapid paced technological world it seems what can be done is thought to imply what ought to be done. In an age filled with many marvelous inventions it seems humanity has become mesmerized with what can be achieved and appears to gloss over the fundamental questions of *purpose and consequence*. Life today is already experienced in a highly mechanized world which has brought forth both profit and peril previously unknown to humanity. Robots are a part of the world already (they are not a recent invention), and AI, in some form, has also been implemented in numerous applications. However, in the midst of all that progress and mechanization no one has produced a mechanized human. In most, if not all, of the present applications for mechanization, non-human machines have been deployed. The majority of those who advocate a human-like machine have in view *a migration of mind from human to machine or some other substrate*.

Consider in substantiation of this point the views of a few previously mentioned and noteworthy computer experts and futurists. Kurzweil describes in some detail the anticipated path of human development using, much like software developers, versioning to refer to the incremental enhancements e.g. the human body 2.0 and 3.0. He portrays version 3.0 of the human body consisting of "our mostly nonbiological brains" and being capable via MNT-based fabrication (molecular nanotechnology) to "rapidly alter our physical manifestation at will" (Kurzweil 2005:310). A few pages later in a section titled, *The Transformation to Nonbiological Experience*, he laments the present inability of our 'software' to survive the crashing of our human 'hardware,' but predicts that the means will be available to "live out on the Web, projecting bodies whenever they need or want them, including virtual bodies . . ." (Kurzweil 2005:325). He predicts that by the middle of the twenty-first century a "form of immortality can be attained" by software-based humans who will accomplish it by diligently "maintaining *our mind file*, making frequent backups, and porting to current formats and mediums" (emphasis mine) (Kurzweil 2005:325).

Moravec (1999:167) does not elaborate on the progression into a future nonbiological state a la Kurzweil, but he sees the 'boring old Earth' being 'suddenly swallowed by the cyberspace' and this transformed substance facilitating the 'resurrection in cyberspace' of "entire world histories, with all their living, feeling inhabitants." In this new state of cyber-existence "the *Minds* will be so vast and enduring that rare infinitesimal flickers of interest by them in the human past will

ensure that our entire history is replayed in full living detail, astronomically many times, in many places, and many, many variations" (emphasis mine) (Moravec 1999:168).

In his explanation of transhumanism, Bostrom asserts that some people will yearn to reach higher intellectual heights, to be resistant to disease and aging, to have *greater control* over their emotions, and to experience *greater capacities* for pleasure, love, and artistic appreciation. These new heights could be reached by posthumans who are "completely synthetic artificial intelligences, or they could be enhanced uploads, or they could be the result of making many smaller but cumulatively profound augmentations to a biological human" (Bostrom 2003:5).

Clearly, many of these thinkers concede the necessity to transform biological humans arguably to a point of complete erasure. Additionally, many of these same people criticize the flaws of biological humans. The mind is construed as the greatest impairment of future progress in human evolution, yet it is believed to hold the greatest prospect (once improved by removal from its biological limitations) for aiding in the process. One wonders why a distinctive and 'better' design, one not even resembling or derived from present biological constructions, is not being pursued with greater interest and vigor. *The necessity for a machine to appear human seems to be primarily about achieving an acceptance among biological humans*. At root this appears to be essentially about concealment and disguise. While useful for espionage (with its own attendant ethical problems) human relationships are best served in a climate that fosters trust.

2.4.1.2 Limiting human-like appearance: Honestly facing the differences

In order to adequately respond to the earlier question of why, one must *appraise the merits and demerits* of the project itself. Some consider the accentuation of the demerits to be due to humanity's concern for loss of uniqueness. Thinkers such as Kurweil (2005:374), Foerst (2004:149), and Brooks (2002:163), either assert or imply that the resistance to this project arises from fearing the loss of human uniqueness. Even if this was the case for all who oppose it, the burden rests on them to prove that such fears are unfounded.

While portrayals of a future that includes immortality, abundance of goods, plenty of time for leisure, and heightened capacities to enjoy everything, sounds very promising, history tells a different tale of the consequences that follow when even a portion of humanity is deprived of its uniqueness, or a select few are granted greater power. Oppressive dictators and/or regimes have

all too often cast those whom they seek to subjugate or eliminate as lesser beings than themselves. *The elevation of 'superior' artificial creations could result in the devaluation of humans and produce a climate conducive to the oppression of all of humanity*. Lest one thinks the remedy is to cast us all as gods, the same propensity toward evil is evident in the rule of those who considered themselves to be a god and wielded their power in a tyrannical manner.

Arguing from a religious perspective, Foerst (2004:36) construes the humanoid robot project as sacred, claiming that "we celebrate God's 'highest' creative act, the creation of humans, thus praising God the most. . ." when creating such a machine. Foerst's remark appears to *affirm this creative act as a God kind of act and reasons that it is complimentary to God*. This creation is not a biological clone of God's creation, so it appears to be only an imitation and therefore the highest form of flattery.

However, given people's apparent inherent propensity to attach to certain living things emotionally e.g. animals and people, as even Foerst (2004:146) and David Levy ((1)[7] 2007:48) attest, and to do the same with man-made likenesses of them, concerns of human displacement and misdirected devotion are raised. Scripture too, addresses the subject of making something in the likeness of a human being or living creature (Deut 4:16-23; 5:8-9). Possibly God in His wisdom commanded people not to make such objects knowing the 'idol' could easily replace the proper object of a person's relation and devotion, and ultimately supplant God as the one worshipped i.e. the creator of the object.

Another consideration is *the potential for the displacement of humanity as its own primary relational object/companion*. Turkle (2005:293) observes "a shift from projection onto an object to engagement with a subject" in the differing responses to a person's interaction with a computer program in the 1980s to a person's interaction with Cog, a humanoid robot at MIT. In light of this new level of connection, Turkle (2005:294) asserts that the "new questions are not about whether relational artifacts really have intelligence or emotions but about what they evoke in their users" (emphasis mine). Consider the tragic outcome in a South Korean family where the parents' relationship with artifacts led to the neglect and eventual death of their newborn baby. From the story: "Police have arrested a South Korean couple whose toddler starved to death while they were raising a virtual child online, authorities said. . . . The couple fed their 3-month-old daughter once a day between marathon stretches in a local Internet cafe, where they were

[7] The bibliography contains entries for two persons named Levy, D., therefore the researcher is distinguishing them with a parenthetical numeric reference.

raising a virtual child in the fantasy role-playing game Prius Online, police told local reporters Friday" (Online 8).

2.4.1.3 Exceeding human limitations: When acceptance turns to awe

In addition to the attraction due to likeness, *the attachment, and sometimes obeisance*, granted to that which offers us a semblance of mastery over nature e.g. an idol or God, the issue of idolatry looms even larger. In an article in *Christianity Today*, Crouch (2001:72) comments that the allure of idols in 'primitive' societies was that they promised, and 'appeared' to afford, some control over the world, some edge in the world to those who served them. He compares this to the promise of some technologies and the propensity we have to sacrifice more and more to them (in terms of time, energy, and devotion) with the hope of realizing those promises, which could culminate in the ultimate sacrifice, our very humanity.

Nikel, a professor of urology at Queen's University in Ontario, Canada, expresses concern for those in his field of work in an article titled, *Are we being seduced by a robot?* He writes of some urologists who are using an "impersonal machine of cold steel, gears and circuits" and asks if "these *dehumanizing* techno-idols [are] the future of our profession?" (emphasis mine) (Nikel 2009:359). He later comments that "our idolatry of robotic technology could lead to a significant distortion of health care" (Nikel 2009:360). Nikel's remarks were not theologically driven, yet his comments and concerns are revealing in that they bear witness to *a strong tendency to embrace promising technologies, even at the expense of our own humanity*.

The apostle Paul provides ancient commentary in the first chapter of the Book of Romans that supplies fitting contemporary insight into the nature and consequences of idolatry. Viewing the regression into idolatry depicted by Paul as a construction project (for the sake of illustration), an initial observation is that it is a joint endeavor involving God and the human person. In Romans 1:18-21, God is seen as the one laying the foundation of unequivocal knowledge of Him. The first and most foundational aspect of the project is performed by God. The expected and required response from humans is to honor Him as God or give thanks (1:21). The first step in a person's regression is simply the suppression of these clearly evident truths (1:18) which is essentially the rejection of God as God. In the categories of existence two are most fundamental, infinite and finite. Paul's use of incorruptible and corruptible (1:23) could be seen as attributes of these two categories. When one of these categories is denied, in this case the infinite which is incorruptible,

all that remains is the finite, the corruptible, and therefore an implicit exchange has taken place, which is the second step in the regression. *The remaining object for thought and veneration is now only in the category of the corruptible*, and in verses 23 and 25, Paul writes of the consequences of the 'exchange' and the resultant veneration of the creature and not the Creator. The third and final step is carried out by God. Three times (verses 24, 26, and 28) Paul writes, 'God gave them over,' depicting God's active response to a person's suppression of the truth, and the subsequent aberrant thought and behavior that followed as a consequence (1:26-32).

While images of idolatry typically conjure up thoughts of primitive ignorant peoples ascribing powers to objects clearly incapable of performing such acts, the heart of idolatry lies in the suppression of the truth and knowledge of God which is inevitably accompanied by the substitution of that which is not God as our objects for worship and service, and an immersion in the corruptible alone for the satisfaction of all our desires. *Clearly most contemporary experts in the fields of AI and robotics have dismissed God from their considerations, and look to technology to remedy human ills and satisfy human desires in both the present and future*. Postman's (1993:71) remarks appear to affirm this assessment, he says:

> Technopoly consists in the *deification of tech* i.e. the culture seeks its authorization in technology, it *finds its satisfactions in technology*, and *takes its order from technology*. This requires the development of a new kind of social order, and of necessity leads to the dissolution of much that is associated with traditional beliefs (emphasis mine).

Consider the thoughts of Weizenbaum, a well-known and respected computer scientist, written in the early 80s, that describe *the relinquishment and implied attribution of power to the objects of human fabrication i.e. technology*. Reminiscent of Paul's depiction of the 'exchange' of God for that which is 'corruptible,' Weizenbaum (1976:257) states, "on the other hand, it may be that religion was not addictive at all. Had it been, perhaps God would not have died and the new rationality would not have won out over grace. But instrumental reason, triumphant technique, and unbridled science are addictive." He continues by asking, "now that we and no longer God is playing dice with the universe, how do we keep from coming up craps?" (Weizenbaum 1976:257).

Regarding the matter of power granted to 'idols' and one's servitude to them in order to procure favors, Weizenbaum, in a manner of speaking, affirms this point. He tells of how the common people feel caged, like a mule, or like a robot, powerless to change the mechanical rut they are in, and how the physician has become a mere conduit between the patient and pharmaceutical,

and to support the claim that our leaders do not have the power either he says that, “the American Chief of the Joint Chiefs of Staff confesses to having become a slave to computers” (Weizenbaum 1976:259). Finally, he declares that while “science promised man power . . . the price actually paid, is *servitude* and *impotence*” (emphasis mine) (Weizenbaum 1976:259).

Although the words servitude and impotence were not used to describe the dramatic drop in the Dow Jones Industrial Average on Wall Street on Thursday, May 6, 2010, other phrases such as ‘the machines took over’ and ‘it felt like we lost control’ convey a very similar meaning (Shell & Krantz 2010). Commenting on the presence of AI in our world today, and referring to this Wall Street incident as an example, Salmon and Stokes explain the automated nature of Wall Street today and the reason for this mishap. A service, called Lexicon, provides real-time ‘digital’ financial data. Machines running sophisticated algorithms process the data and render decisions accordingly. This has reached such an extent that it reported that “over the past decade, algorithmic trading has overtaken the industry” (Salmon & Stokes 2011:91). In describing this system Salmon and Stokes (2011:91) state that it “is more efficient, faster, and smarter than any human,” but that “it is also harder to understand, predict, and regulate.”

Contrasting the advantages and disadvantages they assert that “at its best, this system represents an efficient and intelligent capital allocation machine, a market ruled by precision and mathematics rather than emotion and fallible judgment,” but “at its worst, it is an inscrutable and uncontrollable feedback loop” (Salmon & Stokes 2011:91). Since the inception of this system these sudden drops are routine and it is often impossible to predict and to determine the cause, creating “a market that is incomprehensible to the human mind and impossible to predict,” but be it “*for better or worse, computers are now in control*” (emphasis mine) (Salmon & Stokes 2011:92).

This surrender to, and conveyance of ‘power’ to technology is also humorously portrayed in the quotation from *The Office*, cited at the beginning of chapter one, and in the everyday lives of those who depend on it. The researcher’s wife recently recounted a tale of a friend who was using a GPS system in her automobile to locate a hotel, and as she drew near enough to see the hotel, the GPS system instructed her to turn in a direction that led away from the hotel. She followed its instruction, deferring to its ‘knowledge’ of the area, and ended up a few miles away going in the wrong direction.

In his remarks about the suitability of computers for Technopoly[8], Postman (1993:111) astutely observes that "it [Technopoly] *subordinates* the claims of our nature, biology, emotions, and spirituality. It claims *sovereignty* over the whole range of human experience, and supports its claim by showing that it *'thinks' better than we can*" (emphasis mine).

In summary, the AI and robotics answer to the question of why *has its underlying motivation in a powerful drive to exceed the limits a biological existence is perceived to impose upon humans*. The mind being held as the greatest aspect of humans became the focus of technological development, AI being its present pinnacle. The impetus for fashioning a human-like form for the embodiment of such an artificial intelligence seems to have more to do with *appearance* and the ensuing *human acceptance* than with practical function. However, acceptance entails proximity, and proximity is conducive to intimacy, and even if humans and humanoid robots were equals (in terms of capacities) *the moral issues involving attachment to an artifact remain and are accentuated*. Given the aspirations to exceed human capacities by those in these fields (AI and robotics), greater concerns of superiority e.g. the relinquishment of control to or devotion for a human-made artifact, loom large, raising several troubling moral concerns and giving even greater weight to the body of the initial question, why?

2.4.2 Moral issues if such a human-like machine was created

If such a machine is made what should be the guidelines for its appearance, function, and operation? First, what moral issues are involved in the appearance of such a machine? A point already raised in the previous section is the fundamental question of the morality of creating something, particularly a living creature, in the likeness of another non-manmade creature. If the conclusion is that it is moral to create a machine in a human's likeness, then questions of aesthetics come to the fore and considerations as to the role assumed by the robot would play a part in them. From a psychological standpoint it seems people are apt to accept robots (and people) who resemble them and are capable of discourse. It also seems people are likely to accept a robot that appears mechanical yet is capable of discourse as contrasted to one that crudely resembles a human (thus appearing disfigured in some way) and is capable of discourse. In other words, if a robot is to have the physical appearance of a human, it will gain acceptance

[8] Defined as a society that believes "the primary, if not the only, goal of human labor and thought is efficiency, that technical calculation is in all respects superior to human judgment ... and that the affairs of citizens are best guided and conducted by experts" (Postman 1993:51).

in proportion to the proximity of its appearance to a human[9]. It will also find acceptance, but not as great, if its appearance is purely mechanical yet its capability for discourse is acceptable.

The physical form of humans consists of their biological construction which includes their outward appearance. If the exterior of the robot was made in such a way as to be like a human, then it is more likely to be perceived as human. Anne Foerst (2004:115) asserts that "our skin is the organ that defines us." It defines our boundaries and is the organ through which we interact with the world the most. This is one noticeable feature that would demonstrate that the robot is like a biological human.

Regarding function, what role should a robot play in the world? If, for example, a robot is deployed in combat against other humans, is that immoral? The current use of drone aircraft to attack human targets raises questions concerning the humanity of such strikes. The one using the drone is removed from the situation and in a rather clinical fashion extinguishes the life of another at no risk of their own. Using robots in this way would also clearly imply ownership of the robot. Some suggest that a 'thinking' robot should be granted the same rights as humans e.g. freedom, and thus free from ownership. In societal matters should robots be able to run businesses, engage in politics, own property, marry humans etc.? Obviously, these questions depend on the inclusion of robots into human society. Foerst (2004:152) and others suggest we should be open to this inclusion and to deny it could be compared to racism.

This leads to the question of operation. Should robots at some stage of their development be granted autonomy? Autonomy entails responsibility and the necessity for robots to have an understanding of morality. And, as Hall (2007:273) suggests, robots should be punished for committing evil acts so that they would adjust their world model in order to decrease the desirability and likelihood of future transgressions. However, does not the creator have a responsibility over the thing created? Some suggest that relinquishing that role is where things went awry in Mary Shelley's story of *Frankenstein* (Foerst 2004:32 and Hall 2007:30), and use this point of the story as an exhortation for today's development of robots to avoid making a similar error. In an article on regulation and accountability in AI, Perri (2001:206) dismisses professor Kevin Warwick's doomsday scenario of the future of technology (Warwick sees technology as a genie that is out of the bottle and cannot be returned to it), but he claims "it does

[9]The 'uncanny valley' was identified in 1970 by Japanese roboticist Masahito Mori, who noticed that people presented with likenesses of increasing realism respond with increasing empathy, right up to the point where the likenesses are almost real. At that point, people are repulsed. The sudden dip in graphs describing their response gave the phenomenon its name (Online 43).

at least serve to raise more practical and mundane issues of control and accountability of machines in the management of risk, which do deserve some practical attention."

Clearly, creation implies responsibility and specific enforceable guidelines will have to be established in this area of technological development. Isaac Asimov proposes three laws to govern robot behavior: (1) a robot may not injure a human being, or through inaction, allow a human being to be harmed; (2) a robot must obey orders given to it by a human except where such order would violate the first law; and (3) a robot must protect itself unless doing so violates either of the other laws (Geraci 2007:978). Since Asimov, those in the field of robotics have declared the need for a more comprehensive moral code of conduct.

This section provides a glimpse of the broad array of moral considerations that ensue when a humanoid robot is granted participation in human form and community. The appearance of its form bears on matters such as identity and acceptance. Its place in society raises considerations of rights and responsibilities, the latter being intertwined with the subject of autonomy and the thorny ethical issues that it includes. In short, humans are complex beings and creating a being that resembles them and including that being into their community does not simply mean applying human morals to them, rather it *increases the complexity* of moral considerations for all.

2.4.3 The morality of humans incorporating machines in themselves

Does anything change when approaching the subject in terms of humans incorporating machines in their biological makeup? Is it moral to do so, and if so, is there a point at which it becomes immoral e.g. enhancement? As stated earlier, many people are alive today thanks to implanted devices or have been restored in various functional areas that have enabled them to engage in life as other humans can. Few cultures or religious traditions object to this kind of incorporation of machines in humans. Most see it as a compassionate response to human suffering. Questions of justice in regard to decisions of distribution of such medical aids loom larger than the morality of the technology itself. *The more difficult moral questions arise when attempting to distinguish between renovation and enhancement*.

In his treatment of biomedical issues, Geisler (2000:184) differentiates between correcting and creating life, and asserts that "alleviating human suffering due to the fall is a moral duty,"

affirming the former, while the latter, 'fabricating human beings' is not. If it is immoral to enhance man biologically, then moral lines need to be drawn. These guidelines could be drawn by establishing a benchmark of human performance in all biological areas and determining the maximum levels attainable by non-enhanced humans and then limiting enhancement to this high-water mark. Justice would seem to demand an answer to the question of who has the right and/or should be given the means to achieve this maximum level of ability.

Alternatively, the lines could be drawn by attempting to ascertain the potential of a specific individual, perhaps based on prior or present ability. Given the nature of potential in humans for growth in all areas e.g. physical and intellectual, this latter individualistic approach presents an immense task for any attempt at a just assessment. If enhancement is deemed moral certain aspects could be restricted e.g. amplified hearing (for the sake of privacy) or physical powers (to guard against abuse of the unenhanced), and some could be permitted to all e.g. memory capabilities. The ramifications are profound. Consider the social consequences alone in matters of privacy were the enhancement of hearing to become commonplace.

As machines are increasingly incorporated in people it seems humans are being drawn into communion with machines. Instead, machines could simply become instruments by which human beings are restored in their communion with nature. If that is the case, then machines are merely a means to an end. Kant's thought on the matter of means and ends as they pertain to morality casts some light on this subject that is both insightful and practical. In his work, *Groundwork of the Metaphysics of Morals*, he proposes a practical principle of morality stated as follows: "So act as to treat humanity, whether in thine own person or in that of any other, in every case as an end withal, never as means only" (Kant 2008:47). This practical principle is grounded upon a principle he considers foundational, that "rational nature exists as an end in itself" (Kant 2008:47). Kant's (2008:47) distinction between a rational and an irrational being is made clear in the assertion that:

> Beings whose existence depends not on our will but on nature's, have nevertheless, if they are irrational beings, only a relative value as means, and are therefore called *things*; rational beings, on the contrary, are called *persons*, because their very nature points them out as ends in themselves, that is as something which must not be used merely as means, and so far therefore restricts freedom of action (and is an *object of respect*) (emphasis mine).

The implications of this distinction, namely, *the consequent treatment as ends or means, lies near the heart of the moral issues surrounding the contemporary debates regarding the*

relationship of humans and machines. It appears that when humans make and maintain a clear distinction between persons and things, and grants the respect duly accorded the former, the integrity of both is preserved. Even in the case of the cochlear implant mentioned in an earlier example, Chorost writes of his interaction with the device in a somewhat anthropomorphic manner, yet it is evident that the device itself is not the end; it is merely the means by which he relates in a restored manner with the world.

This too, is clear in the first two examples in section 1.6, which provide accounts of technology used to restore lost human functionality e.g. an arm and an eye. In each case the technology was a means to an end i.e. restored human functions, and not an end in itself. Contrast these examples with the subsequent examples in section 1.6 and those in 1.5, and it is clear that *as the technology begins to appear to approximate humanity it lends credence to arguments that it is not a thing but a person, and then deemed to be treated as an end*. Turkle's observations support assertions that humanity is prone to project anthropomorphic attributes onto objects even of their own making, and it seems reasonable to conclude that as more things are regarded as persons yet still treated as means, the greater the likelihood that other persons will be treated as means too. Humanity has witnessed and continues to witness the atrocities that transpire when persons have not been classified as persons, and therefore treated as means, and as other things have been acknowledged by some to be of equal value to persons, so too, pathologies harmful to humanity have emerged. A few examples follow.

During the height of the Luddite opposition to the displacement of labor and society brought on by industrialization in England, both Houses of Parliament passed a bill on March 5, 1812, that made the breaking of machines a capital crime (Sale 1995:98). At least fourteen offenders were hung for this crime and dozens more were transported to Australia, a journey some did not survive. Implicit in this law was the equivalence granted to human life and machinery; the loss of human life being the result. Some who seek to secure rights for animals have also demonstrated a disdain for humanity. After citing several accounts of attacks perpetrated by animal rights activists e.g. planting bombs, committing arson, and destroying property, Smith (2010:14) claims that the source of these acts is a fervently held belief "that what is done to an animal is morally equivalent to the same action done to a human being."

Returning to the opening question in the preceding paragraph, *it appears that restoration, or even enhancement is merely a means and sufficiently dissimilar to humans as to disqualify any of its forms as candidates for human communion*. Perhaps in addition to enhancement being a

moral question for biological humans, the incorporation of a device with which humans interact as an end and not a mere means, were such a device possible, ought to serve as another moral question too, which would serve to guide and/or delimit future technological developments.

Lastly, there is a need to determine boundaries to incorporation that if crossed would end in a machine and the disappearance of the human. Many today benefit from artificial limbs. As one examines the variety of limbs and organs that modern medicine has successfully replaced, repaired, or transplanted it seems only the brain (as a whole organ) remains elusive. An individual who had all their limbs and organs replaced (or at least more than fifty percent) with artificial ones could be declared a machine. Common perception continues to identify as human someone whose physical construction has been so altered. The biological origin of the human organism provides the basis and continuum for the classification of one being a member of the species. Modern science has established the fact that the genetic information that is present at fertilization of the human ovum is human and persists through the life of the person (Geisler 2000:149). Undisputed too, is the fact that the human embryo has as its origin human cells contributed by human parents, so there is human genealogical continuity as well.

In short, the artificial restoration of lost or deficient human parts is generally accepted and serves to alleviate suffering and/or restore communion with others. Incorporating machines in humans in this manner maintains the distinction between them, the latter as an end and the former as a means. Enhancement, however, in similar fashion to a deficiency (though dissimilar in direction (exceeding human limits) and intention (always elective)), dislocates one from the community of humans according to the nature of the enhancement and the extent to which they are enhanced. Also, the potential for the enhancement to become a thing of focus for the enhanced increases the prospects of it acquiring the status of an end rather than a means i.e. a relationship is formed with it rather than with others through it.

2.4.4 Moral issues of humans in relationship with machines

Prior to reviewing the moral issues that should be considered when examining the relationship between humans and machines, a brief excursus on the use of the terms ‘machine’ and ‘relationship’ (an elaborate examination of ‘human’ follows in subsequent chapters) follow. Dembski’s definition, that a machine is “any integrated system of parts whose motions and modifications entirely characterize the system” is helpful to this discussion (Online 13). He also

mentions that “implicit in this definition is that all the parts are physical” (Online 13). He recognizes, and it is worth noting, that the definition includes both artifacts and organisms.

Neither Dembski, nor the researcher, affirm that human beings are merely machines. For the purposes of this discussion relationship, while retaining the dictionary definition of “the state of being connected or related [implied two or more entities],” (Webster’s 1977:975) will be expounded to include the clarification that the ‘connection’ being addressed here is a physical one, one in which each entity is present to the other. For humans it means the machine is present to at least one of their senses, and for the machine that its physical existence is perceived by at least one of the human’s senses.

In view of these definitions, the first and most fundamental question is can humans and machines be in relation to one another? The prior paragraph should affirm that it is possible by definition for anything that has existence to be in some form of relation to another entity, even if the definition is confined by the added clarification of being physically present to the other. Prior sections in this dissertation should also affirm the degree to which the relation between humans and machines have already occurred in history. Questions concerning the nature of the relation need to be addressed (e.g. is it in some way reciprocal), and will be examined in detail later in the context of humans and machines in communion (in distinction of relation). Of course simply because humans and machines can be in relation does not imply they ought to be, but one would be hard pressed to find any ideology that considers it immoral for a relationship as defined above to exist between them.

So, the major ethical issues do not arise from a relationship between humans and machines per se*, but the degree to which they are extended*. These issues will be categorized into the following spheres: (1) those issues pertaining to the incorporation of machines in humans; and (2) those issues pertaining to the relationship between humans and external machines.

1. Earlier in this dissertation it was established that the incorporation of machine(s) in humans which do not *enhance* their ‘normal’ abilities finds little to no resistance from any corner on the morality of doing so. The primary question concerning enhancement rests on the establishment of human nature. In order to define enhancement the foundation of that which is ‘normal’ must be known. While the boundaries to human nature appear to be vague, the simple fact that some modifications are identified as enhancements concedes the point that some notion of

limitation to human nature exists, albeit a varied one. However, even if lines of demarcation were agreed upon and drawn, the justification for the morality of abiding by or transcending these limitations would remain. If enhancement is permitted, other ethical questions remain such as justice (equal access) concerning their procurement. Also, if the enhancements are radical enough e.g. facial replacement, so as to change one's identity, numerous ethical issues arise, from matters of security to personality alterations and their effect on one's dealings with others and in society at large. Another extreme enhancement (were it possible) would be the migration into a nonbiological embodiment, the morality of which hinges on some of the same justifications as other enhancements with similar (and additional) attendant ethical issues as other radical changes to one's existence and identity.

2. The issues surrounding the relationship between humans and external machines encompass more fully the focus of this dissertation, namely, AI and robotics. However, these issues share a common focus with those mentioned above i.e. the establishment of human nature. A second fundamental question unique to this sphere is the morality of creating a robot that is like a human. If such a robot were created a subsequent major ethical issue is the relationship it should have to humanity e.g. it could be regarded as a member of the human community and entitled to the attendant rights and privileges, or it could be regarded as a non-member of the human community and subject to human ownership as any other item of property. The admission of a robot into the human community could detract from or debase humanity by equating humans with machines, and therefore rendering it immoral to grant it such status. For example, in the psychological attachment of people to robots there would be a loss to humanity (granted the latter is relevant whether the robot is deemed equal to humans or simply available to be in relationship with them).

The two spheres identified above contain within each a vast array of specific ethical issues too numerous to detail and argue in this paper. However, each shares some commonalities that must be addressed in order to ground those issues that arise from both of them. *The most fundamental issue already identified is that of the nature of humanity*. The postulation one advances for the nature of humanity will then serve to ground one's claims for the role and attendant responsibilities of humanity within the broader framework of the natural order. Once these two fundamental issues are properly established the questions of 'ought' regarding humanity's actions toward either itself or other things in existence can be guided in a more consistent

fashion. The following chapters will endeavor to construct a moral framework for such decisions and advance a philosophical and theological argument for the nature of humanity.

2.5 SUMMARY AND REVIEW OF ETHICAL CHALLENGES

Clearly, contemporary society remains in the midst of an era of rapid technological advancement that emerged with the rise of machine-based manufacturing in the 18th century, marking the beginning of the Industrial Revolution. Arguably, exponential acceleration in technological innovation is true of the present and most likely of the future of technology, too. Initially, the drive for greater production accompanied by a desire for enhanced efficiency was applied to endeavors that sought to master people's environment and advance the civilization of the world. Few living in the Western World today would dispute the fact that modern life has its conveniences and its comforts, and few would desire to return to an era prior to the Industrial Revolution for an extended period of time at least.

However, in the midst of such industrialization we find that in addition to humanity being the focus as the beneficiary of these technological advancements, it also finds itself as one of the subjects to be made more efficient and ultimately enhanced. The benefits of this focus upon humanity are hard to dispute. Medical science and technology have developed remarkable cures for the ailments that inflict the human body. Few alive today in a country possessing such capabilities would want to live in a place or time where such means are absent.

As the prior sections of this study report numerous ethical difficulties have arisen as a result of these advancements, and there are those who seek even more radical transformations than those prior. The worldview of several of the advocates for such radical change includes the perception that the state of affairs in nature, while having naturally evolved, is incapable of future improvement apart from human sovereignty and activity. Since God is non-existent in their worldview, humans are not playing God, rather they must become and act as God in order to rescue humanity via the creation of a new and better mode of existence i.e. a non-biological embodiment which most significantly of all improvements is the potential for a vastly superior intelligence which will enable greater future enhancements, and technology is the means to achieve such ends. Suffering is implicitly redefined and expanded by those seeking to escape their biological existence to not merely include morbidity and mortality but to encompass the entirety of human existence. Absent in the future vision of those hoping to transcend their

present existence are the prospects of unprecedented (in scale) calamitous uses of such power to transform, or even the presence of ‘evil’ itself, evidencing a myopic and utopic view of the future. What is needed is a contrary worldview that gives meaning and significance to our present existence with hope for a better future existence. It is the researcher’s contention that a biblical worldview provides such a view.

Does a biblical worldview entail the return of humanity to the ways of primitive bygone eras? Of course, few people would propose such a thing and even fewer would join any effort that endeavors to accomplish that end. So, where do we go from here? How do we safeguard humanity and the environment from the follies of those capable of rendering harm, possibly irreversible harm to both?

The assertions in this dissertation that endeavor to answer the prior question will be elaborated on in subsequent chapters that deal with the construction of a framework that places humans and nature in their proper context, and in so doing not only provide ethical guidance but do so by establishing what it means to be human and the role of communion in the relationship between God, humans, and machines.

SECTION B. CHRISTIAN ETHICAL DECISION-MAKING

CHAPTER 3: THE PRESENT STATE OF CHRISTIAN ETHICS

"The baptism of Jesus is the foundation of Christian ethics. Here Jesus speaks his first words in the Gospel, explaining to John the Baptist the purpose of Christian ethics: 'to fulfill all righteousness.' Here is revealed the source of Christian ethics, which lies in the interrelationship between the members of the Trinity" (Hauerwas & Wells 2006:14).

In this the first decade of the twenty-first century, ethics as a discipline is burgeoning as are the contemporary applications for it. The complexity of these applications is readily acknowledged by ethicists and the man-on-the-street. Although the previous chapters are more than adequate to substantiate this complexity, consider a recent announcement by a team of scientists in the U.S.A. regarding the creation of 'artificial life.' The team uses 'synthesis machines' to chemically construct a copy of a bacterial genome. This copy is then implanted into a recipient cell, and according to the lead scientist, Dr. Craig Venter, "As soon as this new software goes into the cell, the cell reads [it] and converts into the species specified in that genetic code" (Online 2). This discovery and accomplishment was the subject of discussion at a meeting in early July, 2010, of *The Presidential Commission for the Study of Bioethical Issues*.[10] Almost as numerous as the contemporary applications are the diversity of approaches and justifications offered by practicing ethicists. In addition to varied approaches, a variety of qualifications of one's ethics exist too, as is the case with the ethicists that fall within the purview of this study i.e. those who are specifically Christian. While ethics is not a new discipline the rise in prominence of a distinctively 'Christian' approach to ethics seems to be flourishing in recent decades.

The construction of a 'Christian' ethics is by no means a simplistic endeavor. A myriad of challenges confront any ethicist, and in the case of the Christian ethicist theological questions must be considered. The focus of this chapter will be limited to exposing some of the problems confronting Christian ethicists in their development of an ethics informed by their faith by examining the works of several such individuals, and will include a modest proposal for a Christian Ethic derived from this examination. The chapter will begin with a brief discussion of what is meant by a 'Christian' ethics and will be immediately followed by a review of

[10] This meeting drew notable members of government and academia to discuss the ethical issues emerging in this field of science (http://www.tvworldwide.com/events/bioethics/100708/default.cfm).

contemporary ethical discourse. Since ethics deals primarily with actions and the methods advocated for the evaluation of them, a section will be devoted to an appraisal of the most notable methods. Before embarking on a journey to establish a firm foundation for a Christian ethics, a section devoted to the nature and influence of modern and post-modern thought upon such a venture will seek to offer both considerations and challenges not to be ignored by any ethicist in our contemporary era. For the Christian ethicist the Bible's role in the development of one's system of ethics has to be addressed, so a section on hermeneutics deals with the affects one's approach to the text can have on an ethics derived from Scripture. Since various forms of moral discourse are contained in Scripture, a section dealing with the identification and understanding of each and their place in an ethical framework has been included. The last section of this chapter endeavors to draw from the discussions in the preceding sections and advance a modest proposal for a Christian ethics adequate to navigate and respond to the contemporary ethical challenges of our times.

Since the focus of this research is on the morality of human and machine relationships, the researcher considers it necessary to elaborate on the ethical approach he employs to enable the reader to better comprehend how he responds to these challenges. Considering the impetus of a Christian ethic is on restored communion with the triune God and the well-being of the created order, its development and use is indispensible to a comprehensive treatment of the moral issues at hand in this research.

God's nature, His revelation, and His purposes for creation are indispensible to the researcher's ethical response to the issues at hand. It is from an ethical foundation rooted in the triune God that the researcher draws guidance in his response to the present and future impact that these issues are having and will have upon humanity and creation's relationship to each other and to God.

3.1 BAPTIZING OR SPRINKLING OUR SYSTEM OF ETHICS?

What is it that makes an ethics Christian? Can a Christian ethicist adopt a system of ethics and by virtue of being a Christian dub the system a 'Christian' ethics? Some argue that adding the descriptive 'Christian' to ethics adds little if anything to its content. Obviously, a Christian ethicist would argue to the contrary.

First, a clarification of what 'Christian' means ought to be established prior to examining its use as a descriptive of ethics. The first recorded biblical use of this term is found in Acts 11:26 where the disciples in Antioch were called 'Christians.' The narrative surrounding this context declares that the apostle Peter would "speak words to you [those in Caesarea] by which you will be saved," (11:14) and that some came to Antioch [after Stephen's persecution] 'preaching the Lord Jesus' (11:20). Those who heard 'received the word of God' (11:1) and "God gave to them the same gift as He gave to us also *after believing in the Lord Jesus Christ*" (emphasis mine) (11:17). Considering accounts such as this one found in the New Testament we can conclude that essentially a Christian would be a person who has heard Christ preached, received the word of God concerning Christ, and believed in Him. By extension an ethicist who is a Christian would be a Christian ethicist but it does not follow necessarily that their approach or system of ethics is 'Christian.'

Second, what makes a system of ethics Christian? O'Neil, in an informative article dealing with the subject of ethics and epistemology, discusses this matter of a Christian ethics and illuminates some important points for our consideration. O'Neil (2006:33) states that "the fundamental presupposition to my argument[11] is that there has been given in Jesus of Nazareth a climatic – and not just paradigmatic – revelation of God because of the implications of his resurrection." Regarding Jesus' resurrection he declares that rather than establishing this historic fact with epistemic certainty, his task "is to argue the more modest proposal that such belief is not in itself irrational or unreasonable" (O'Neil 2006:34). After further discussion regarding epistemic warrant, he draws two implications for his argument from Paul Griffiths' claim that theology derives epistemological authority from an *authoritative tradition*, a tradition that is dynamic and capable of growth and development. The first implication is the use of an epistemology that retains the authority of tradition by rejecting an epistemology that seeks to establish warrant for its beliefs independent of assuming their truth, which in doing so would impose another authority in its place. The other, and correlated implication, is the use of an epistemology that will not require arguments that seek to convince those who do not already take its claims to be true as being true (O'Neil 2006:37). Following these implications he asserts that:

> A Christian theological ethics is precisely that: *Christian*, developed in the conviction that the events that transpired around the person of Jesus of Nazareth represent a divine disclosure of ontic reality, a disclosure

[11] O'Neil (2006:21) "argues for the formal possibility of an ecclesial ethics grounded in a tradition-centered rationality," and he also argues "that such an ethic need not result in a narrow and defensive sectarianism, a rigid and static orthodoxy, or an authoritarian dogmatism."

> given in particular historical context but which are nonetheless freighted with the weight of universal normativity (O'Neil 2006:37).

O'Neil holds that an ethic grounded in tradition does not necessitate an ethic that is narrow, rigid, or static, but one that can be *annexed with theories and models* extracted from outside its tradition. This is done "from within the bounds of its own incarnational grammar" (O'Neil 2006:38). It is evident from O'Neil's argument that a Christian ethics is grounded in the truth of the Gospel and submitted to the authority of ecclesial authority, yet it is one which is also willing to examine other traditions in the light of its truth and adopt those truths in others deemed consistent to its own.

In an earlier work than that of O'Neil, Harkness expresses an outlook and definition of an ethics that is Christian and concurs with much of O'Neil's claims. She considers six frames of reference[12] for what a 'Christian' ethics might mean, and while seeing valuable contributions in each, she claims it is the *ethical insights of Jesus* which offer the best framework. This emphasis appears in her definition of Christian ethics as the "systematic study of way of life exemplified and taught by Jesus, applied to ethical issues" (Harkness 1957:15). Concerning the role of other sources in shaping a Christian ethics, she too, seems in agreement with O'Neil. She cautions that "Christian ethics is on unsafe ground if it either sells its birthright by accommodation to secular standards or refuses to respect and learn from wisdom of the ages," but she offers a possible approach by way of "mutual understanding and critical appropriation" (Harkness 1957:18).

Not all Christian ethical systems claim to have Christ as the locus of their system. Some follow St. Aquinas' lead who modified and built upon Aristotle's moral philosophy, and propose a system grounded in the nature of humanity, and more broadly, in the nature of being itself. According to Bourke (a modern-day commentator on Aquinas), some of the distinctive offerings a moral theologian brings to the table are as follows: (1) a consideration of being and its operations from superior, eternal causes; (2) an ultimate explanation of observable data (Bourke 1951:10); (3) a better account of the nature of ultimate human happiness than the [non-theologian] ethician (Bourke 1951:11). Possibly, the key to an ethics removed from theology as its ground lies in Bourke's (1951:14) assertion that it is "impossible to develop a science of ethics without the assistance of metaphysics." Evidencing some of the particulars regarding the crucial role of metaphysics in ethics, Bourke (1951:15) declares that whereas Kant held the

[12] The six frames of reference are: 1. the best in moral philosophy of all ages; 2. the moral standards of Christendom; 3. the ethics of the Christian church and its many churches; 4. the ethics of the Bible; 5. the ethics of N.T.; and 6.the ethical insights of Jesus (Harkness 1957:6).

existence of God, the immortality of the human soul, and the freedom of humans as *postulates* to bring meaning to his system of morals, Aquinas' metaphysical system claimed they could be held as *demonstrable* conclusions. Given the dismissal of metaphysics, in particular since Hume and Kant, perhaps theology now remains as the sole transcendental basis for a system of ethics. Some Christian moral philosophers, such as Bourke, claim that a revitalization of metaphysics is necessary in order to restore a non-theological system of ethics. Discussion regarding the construction of a system of ethics without theology will be resumed later in this chapter.

Lastly, what affect does being a Christian have upon one's ethics? Does it add anything to the content of one's ethics? While the affects will vary and are particular to each ethicist, some shared sources of influence that are unique to Christianity and that are unique to the content of a Christian ethics can be identified broadly as follows: (*a*) an acknowledgment that the triune God is the transcendent locus for human morality; (*b*) the recognition that the triune God has revealed Himself to humanity in His Word, in the person of Christ, and in the created order; and (*c*) God's revelation contains morally relevant references which can inform human relationships with the created order, one another, and the triune God.

However, despite some common ground not all 'Christian' approaches are the same. In fact, it seems that the same diversity found in the ethics of those not claiming to be Christian is to be observed in Christian ethics. The following section examines the writings of some prominent ethicists who are Christian and analyzes their perspectives on this subject.

3.2 AN OVERVIEW OF CONTEMPORARY ETHICAL DISCOURSE

While none deny the fact that a great deal of attention to decision-making is given in ethics, few seem to agree that the focus of ethics should be upon the decisions. This is clearly expressed by Cunningham's sharp critique of a 'lifeboat' approach to ethics. He holds that most moral decisions are 'hard' decisions that are not as black-and-white as some suppose and require more data and deliberation than spontaneous contemplation affords. Rather than focusing upon hard decisions, the emphasis should be upon the *formation of good character* (Cunningham 2008:23). Grenz's (1997:41) observation that character is not to be determined by a single act reinforces the case for an *ethics of being* over an ethics of doing. Bourke (1951:278), espousing a thomistic ethics, lists four potencies that are directly involved in a moral act: possible intellect, will, concupiscible and irascible appetites. As potencies they can be perfected through habits which lead one to virtues. In speaking of virtue, Bourke (1951:260) cites Aquinas' definition of virtue

as “a good habit perfecting man in any of his rational potencies and inclining him to the right and perfect use of his potencies.” This emphasis on good habits and virtue is echoed in Cunningham’s (2008:39) statement that good character is formed through habits which themselves are formed in and through *relationships* with others. The latter portion of that statement provides a good segue into discussing the context of good character formation.

As communal creatures our character is fully developed only in relationship with others. The *narratives shared by a community* serve as guideposts for character. Key to MacIntyre’s thesis in *After Virtue*, is the place held by tradition and social context in the formation of virtue. He believes this role to be so extensive that one is unable to separate oneself and the consideration of virtue from such narrative contexts (MacIntyre 2007:223). Further affirming the relationship of virtue to community, MacIntyre cites several detrimental consequences to the confinement of virtue to the individual: (*a*) the virtues become merely expressions of natural passions; or (*b*) the virtues serve as a curb to the destructive effects of some of the natural passions; (*c*) justice and the notion of desert become detached; (*d*) priority is given to rules by which to govern and/or guide the exercise of the virtues; (*e*) society becomes an arena in which the individual seeks to secure what is useful or agreeable to them. Nietzsche’s *überman*[13] finds a home in this kind of individualism. However, he is cut off from finding any good outside of self and falls into moral solipsism (MacIntyre 2007:258). Cunningham (2008:61) also acknowledges the power of narrative in his assertion that it is “story telling, especially repeated telling, in the remembering and reassertion of shared assumptions, beliefs, and practices that bind the community together.”

However, if the community has no other ground than itself for its character, then the character it imparts is vulnerable to whim and could end in relativism. This flaw is captured in Grenz’s (1997:57) insight regarding any attempt to justify the ‘good’ by general ethics, namely, its anthropocentric nature which results in circular reasoning that both starts and terminates with self. A Christian ethic offers a connection to a transcendent moral source, the nature of God. Cunningham (2008:168) asserts that the measure for character is the degree to which it reflects the character of God as evidenced in the Bible and the tradition of the Church. Hollinger (2002:20) states that Christian ethics is rooted and concretely grounded in *God’s nature and actions* and in a biblical worldview. Community is the proper context for character formation, but it must be connected to a more ultimate source, and for the Christian living in a community where both are living in communion with the triune God, they are so connected. Since God is

[13] The man who has no absolute good with an authority over him in the social world because by an act of the will he transcends all.

Spirit, and we are sentient creatures (primarily, not exclusively) His communication with humanity requires revelation, and so we turn next to theology and ethics.

Grenz (1997:252) asserts that the source of a Christian ethic is found in the *revelation of God* both in His Word and through His Spirit. To this we should add the person of Jesus Christ. The Bible is important to most Christian ethicists, and how one goes about interpreting the Bible, hermeneutics, is key to a Christian ethic (a later section is devoted to this topic). In approaching the text(s) Barton (2003:25) and others wisely advise of the need to acknowledge the literary form and mode of the individual texts. Hays (1996:4-7) delineates four tasks that constitute a thorough examination and application of ethics contained in the New Testament. These tasks include a reading of the text that looks for the messages, patterns, and themes unique to the individual witness. Concerning diversity between texts he claims that rather than forcing a synthesis it is best to look for shared key images among them (he lists three found in the N.T. – community, cross, and new creation (Hays 1996:198)). Hays (1996:300) also claims that "the most promising hermeneutical strategy is one of metaphorical juxtaposition between the world of the text and our world." Cosgrove (2002:3) offers some hermeneutical rules specific to moral argumentation. These rules appear to originate in conceptions outside the text that are then brought to bear on the text e.g. the rule of purpose which states that the purpose of the rule carries greater weight than the rule itself in moral judgment. While many of these rules are useful overall, they betray a stance toward Scripture that assumes authority over the text which tends to grant by default superior status in interpretation to the interpreter and/or contemporary methods and discoveries (the rule of non-scientific scope as an example).

The person of Christ is central to the message of the Bible and should hold proportionate weight in a Christian ethic. Affirming such a claim, Harkness (1957:29) asserts that "his [Jesus] life and death, his ministry and teaching, is the one adequate foundation for Christian ethics." This sentiment is also apparent in Hollinger's (2002:172-173) remark that since Jesus is the crown jewel of God's redemption story, greater attention must be given to Him as we examine the Scripture. In similar fashion, Vanhoozer (2005:101) views the words and deeds of God on the stage of world history as a 'theodrama' that climaxes in Jesus Christ, summing up what the whole Bible is really about. It is worth noting that Jesus' life, including the events in it and the words He spoke, sheds considerable light on the O.T writings, so it would not be an exaggeration to say that He is indispensable to a correct and comprehensive examination of Scripture. The crucial role Christ should hold in a person's moral life is also made evident in Hays' (1996:31) observation that foundational to Paul's vision of moral life are the themes of conforming to

Christ's death and imitating Christ. Commenting on imitation in O.T. ethics, Barton (2003:52) states that imitation of God is its primary motivation and goal. In light of observations such as these it would seem to follow that Christ should permeate a Christian Ethic, however, it seems a robust system of ethics centered on Christ is absent in many contemporary works.

When the moment of making a decision arrives how is the Christian's decision to be made? If she is living in a community, and she and the community both form their character in imitation of the nature of God as revealed in His Word, Christ, and the created order, is it sufficient for the moment? Is simply knowing that God is love sufficient to guide one in a particular moral decision or does it lead one into something like Joseph Fletcher's situation ethic where 'doing the loving thing' is so void of content that it is readily apparent that it is useless as a guide for any act. Is there ultimately an irresolvable tension between an ethic of being and one of doing?

Wogaman's notion of presumptions standing in harmony with one's ultimate value commitments seems to offer a plausible bridge between the metaphysical realm of being and the realm of the particular i.e. doing. His four positive presumptions are listed as an example: (1) the goodness of created existence; (2) the value of individual life; (3) the unity of the human family in God; (4) the equality of persons in God (Wogaman 1989:73-96). While best explained in the context of a Christian worldview, these presumptions hold some promise as potential starting points in ethical dialog with other worldviews. For example, the first positive presumption affirms the preservation of life and places the burden of proof on contrary views. This position is affirmed in other worldviews, philosophical traditions, popular cultural etc., and thus affords common points of dialogue which opens opportunities to discuss the ultimate value commitments offered as justification for the presumption.

Is there no place for principles and rules in ethics? In view of the *telos* of human persons, namely, eternal communion with God, it is important to remember that the *end of character formation* is not perfect rule keeping or the consistent application of good principles, it *is communion with God*. MacIntyre (2007:119) holds that rules as the primary concept of the moral life is characteristic of liberalism and modernity, and that this fosters a view of virtues as that which leads one to follow the right rules rather than the virtues being the basis for an understanding of the function and authority of the rules. Even in this discussion of virtue and rule, recognition is given to the legitimacy of rules. Hays (1996:95) states that Matthew's Jesus sees the laws as pointers to a more radical righteousness, yet even pointers serve a good purpose.

An adequate treatment of principles and rules is not possible here. The prior remarks are intended merely to discourage any inclination toward antinomianism.

Life is filled with numerous opportunities for ethical decision-making; some are anticipated, others are unexpected; some are simple and others so very complex. The Christian and his community have much to draw upon for the decisions coming their way. To this point God's Word, Christ, and creation have been considered. Hollinger (2002:69) pinpoints an omission common to ethical texts, namely, the Holy Spirit, and he notes that, "Christian ethics is not a natural enterprise." *Divine ability is required*, and for the believer the presence of the Holy Spirit brings the power needed to have victory in our moral lives as Paul so clearly depicts in Romans 7 and 8.

3.3 MORE THAN ONE WAY TO DETERMINE HOW TO ACT

The previous section reviewed some contemporary ethical discourses which included a discussion of some of the methods advocated and employed by various ethicists. A closer examination will now be conducted of the approaches, classical and contemporary, used to solve *the problem of determining how to act*. This problem, claims Bourke (1951:121), is the really practical problem in the matter of ethics and is directly associated with the question of how a person decides whether a proposed particular human act is suitable to the attainment of their ultimate end [ultimate happiness].

Various systems of ethics have relied on different *standards or norms* of moral judgment, and Bourke (1951:121) claims, "it is precisely at this point [the standards or norms used] that each system of ethics finds its distinguishing character." Even a cursory examination of modern ethics reveals an emphasis on the private (individual) and subjective nature of ethical decision-making. Commenting on this state of affairs, Bourke (1951:123) remarks that some ethicists, realizing the difficulties associated with subjective standards, have developed broader theories e.g. utilitarianism, and some have even gone so far as to give up the search for true and unchanging standards, which he correctly claims amounts to an abandonment of the ethical enterprise. Bourke (1951:124) emphatically asserts that "to judge, or measure, human actions we must have a standard of judgment."

Geisler (2000:25) claims that "there are only six major ethical systems, each designated by its answer to the question, Are there any absolute [a standard of judgment] ethical laws?" Some answer yes to this question and are thus consistent with an ethics grounded in the unchanging moral nature of God. The following section will provide an overview of each of these six major ethical systems[14].

3.3.1 Six major ethical systems

As Bourke and Geisler observe, moral standards of judgment can be placed in one of two broad categories, they are either relative or absolute standards. These two broad categories form the division of the six major ethical systems consisting of three systems in each category. The first three systems come under the purview of those that are relative, and the last three, while in agreement on the existence of absolute standards, differ in their accommodation of those absolutes to practical ethical decision-making, most notably in their treatment of conflicts between absolutes.

3.3.1.1 Antinomianism

The system that holds that there are no absolute moral laws is referred to as *antinomianism*[15]. Contemporary manifestations of this view are found in A.J. Ayers' stance that all ethical statements are emotive, merely expressions of our feelings and not grounded in anything absolute, and therefore not binding on others. Nietzsche's declaration that God died and with the death of God all absolute value passed away too, expresses the heart of nihilism which creates a God-given value vacuum. Nietzsche proposed filling this vacuum with values created by man which go 'beyond good and evil' (Neitzsche as cited in Geisler 2000:32). While there are few antinomians that reject all manner of law, all do reject the existence of absolute, or God-given laws.

[14] Normative ethical systems are also commonly placed under two broad rubrics, deontology and consequentialism (the latter sometimes referred to as a teleological approach). The former approach "asks only about the intrinsic rightness or wrongness of an act. Our duty is to do that act which is intrinsically right" (Grenz 1997:29). The latter approach "focuses on the consequences of the act. Our duty is to do the act which will bring about the greatest amount of good and the least amount of evil – that act which will result in the greatest balance of good over evil" (Grenz 1997:29).

[15] Another noteworthy ethical theory that can also be subsumed under this rubric is act-utilitarianism (also classified under consequentialism) which denies the presence of binding moral laws that guide practice in its derivation of right and wrong from an appraisal of the actual outcome of human acts (Frey 2000:165).

3.3.1.2 Situationism

Claiming a middle ground between antinomianism and legalism, situationism seeks flexibility in the application of one's ethics. Joseph Fletcher's writings are the most prominent and influential of those adherents to this view. Fletcher, in seeking to locate an unchanging norm by which to guide one's actions in every situation yet avert subscribing to a system that purports to possess absolutes that apply to all situations, recommends love as the sole norm for every situation. Therefore, Fletcher's system appears to be a form of absolutism which holds to a single norm, love. However, as one examines Fletcher's system more closely it becomes evident that his aversion to a system that claims to possess laws for everything prevents him from establishing laws for the application of love in various situations leaving him with an unguided application of love in any situation. While Fletcher's system recognizes the affect differing situations have on the application of one's norm, in actuality his system grants to the agent the power to alter the norm itself. Fletcher concedes as much when he admits that his love principle is "a 'formal' principle, which rules us and yet does so without content" (Fletcher cited in Geisler 2000:57). This norm is too general to be useful and as a vacuous principle falls under the same criticism Harkness (1957:14) directed to those who do not ground moral decisions in principles at all, namely, it equates "to exalting personal preference – if not whim – into the status of universal right." While no act occurs without a context/situation, the situation cannot determine the content of the love norm. There must be something consistent in the content of love in order to identify it in other situations (a species of action, so to speak), otherwise the situation would so color the norm as to render it unique in every situation and completely obfuscate its meaning to the point of rendering it meaningless. The observation that situationism reduces to antinomianism is affirmed in Geisler's (2000:61) assertion that, "one empty absolute moral law is in practice no better than no absolute moral law."

Another aspect of this view is found in one of Fletcher's (1966:40) presuppositions of situationism, pragmatism. Fletcher (1966:40) expresses the central tenet of pragmatism in his realization and appreciation of "the importance of the contextual or situational, i.e. the *circumstantial* approach to the search for the right and the good." His corresponding disdain for abstract and conceptual morality is also clearly expressed. More recently, LaFollette (2000:419) concurs that a pragmatic approach construes morality as shaped by the variety present in differing circumstances, cultures, and people. It is in such a 'crucible of experience' that morality is advanced and developed. Considering the emergence of morality through experience, a wider range of moral actions are embraced, their validity being proved by practice more so than in

theory alone. This emphasis on practice is highlighted in Fletcher's work. He claims that the answer to Pilate's (the judge at Jesus' trial) question, "What is truth?" is the same answer to Socrates' question, "What is goodness?" This answer, claims Fletcher (1966:42), is that the good like the true "is whatever works." An additional insight into pragmatism is gained by contrasting it to other theories of ethics, namely deontology. Lafollette (2000:401) claims that while deontology holds that for morality to be binding, its source must be independent of those whom it "binds;" this is not the case with pragmatism. He claims that pragmatism is not to be construed as an 'abstract' theory uninformed by practice, rather it sees the two as intricately related elements of ethics – our practice informs our theory which in turn reforms and guides our practice (LaFollette 2000:418). This claim does point to a benefit of the pragmatic approach but leaves open the question of what first guided practice.

3.3.1.3 Generalism

Generalism[16] affirms the existence of binding ethical laws yet believes they are not universally binding, only generally binding. A modern manifestation of this view is witnessed in utilitarianism Jeremy Bentham is credited with the modern development of this view, the essence of which is reflected in his principle that one's actions should be calculated to serve the greatest good for the greatest number of people in the long run. His was a quantitative calculation intended to achieve a greater amount of pleasure than pain. He employed ethical laws to aid in the determination of which acts will render the greatest good. A rule is kept not because of its intrinsic and/or universal value but because the results of keeping it are better than those that result if the rule is violated. In a similar vein John Stuart Mill advocated as good that which brings the greatest pleasure in a qualitative sense e.g. a sick person is happier than a healthy animal because of the superior quality of life of the former. However, that which is deemed to comprise a higher quality of pleasure will vary from person to person.

Prior to proceeding to the following sections on the various forms of absolutism, it is worth noting that a division can be made at this juncture between the prior systems and the subsequent systems drawn by the distinctions found in the two broad categories of ethics, deontological and consequential (also known as teleological). The latter has been treated in the prior subsections, so the former will be treated briefly to illustrate its applicability to the systems that follow. A

[16] Rule-utilitarianism can be placed under this rubric since it derives its rules (for future 'right' acts) from an appraisal of the actual outcome of human acts and holds that since those rules reflect the 'right' act they ought not be broken (Hooker 2000:183).

deontological ethic, in contrast to consequentialism, focuses, first and foremost, on moral rules and principles as ways of guiding behavior (Gaus 2001:179-93). Although a deontological ethic does not deem an act right because of the results it produces, "this is not to say that consequences do not matter and cannot override rules; it indicates only that the correctness of actions is often evaluated without reference to the goodness of the state of affairs that result. Far from being a puzzling irrationality, this feature of deontology is fundamental to rule-governed life" (Gaus 2001:179-93). The justification and analysis of these rules then falls within the province of moral philosophy, which often turns to metaphysical warrants e.g. Kant's categorical imperative, whereas the following systems turn to a theological ground i.e. the unchanging character of God.

3.3.1.4 Unqualified absolutism

Possibly the most widely held position, at least among the theologically conservative sects of Christianity, holds that there are absolutes and that they admit no exceptions or conflicts. Any moral conflicts are merely apparent, none are real. Truth telling under any and all circumstances is one commonly used credo by those proponents of this view. Even if the adherence to the principle would clearly lead to the loss of a human life e.g. someone is providing safe harbor to an innocent child when a known murderer armed to kill inquires as to the presence of the child for the expressed purpose of killing that child. The adherent to the current view would report the whereabouts of the child to the murderer. Committing one sin to avoid another is still sin and unjustifiable.

An early proponent of this kind of view was Augustine, who regarding this matter of truth telling insisted that one should never lie and wrote two works, *Against Lying* and *On Lying*, in defense of truth telling. Augustine did qualify his notion of lying to include the intention of the act i.e. if someone intended to deceive when they lied, then it truly was a lie. Addressing the occurrence of lying in Scripture which God seemed to praise e.g. the midwives who lied to Pharaoh to save the Hebrew babies, Augustine claims God was praising their mercy, not their falsification.

Kant also held that there are moral obligations that are universally binding that admit of no exceptions. The justification he offered for truth telling was that were one to will that lying become a universal rule, it would lead to the eradication of all truth (this follows from a principle he defined that one should act in such a way that he could will his action as a rule for all men). Kant regarded moral laws to be like natural laws in their rigidity.

John Murray (founder of Westminster Theological Seminary) held this view and grounded it on the nature of God i.e. God is truth, and Scriptures affirmation that God can never lie. To this is joined the biblical injunctions for us to be perfect as He is, and to be imitators of God, thereby implying that we ought to never lie. Like Augustine, Murray offers a qualification for what is to be considered a lie. He does not hold that every intentional deception is a lie e.g. a soccer player pulls his leg back as if to strike the ball but then dribbles the ball around the bewildered defender instead is not guilty of lying; rather, he intentionally acted in a way he knew would be misunderstood by the other player.

Many Christians who hold to this view (of unqualified absolutism) fortify their resolve in difficult decisions such as life threatening situations by considering the providence of God, holding that He may intervene and bring about a favorable outcome where doom seemed imminent (quite possibly thinking a right act might merit His intervention).

3.3.1.5 Conflicting absolutism

Like the previous system this system holds that there are moral absolutes and as such they should not be broken i.e. they admit no exceptions. However, it differs in that it recognizes that there can be real unavoidable conflicts among absolutes. These conflicts arise due to the fallen state of humanity. The treatment of these conflicts distinguishes this system from the system that follows. Given that more than one absolute is in conflict, and absolutes are not to be broken, the agent is responsible to perform both, but since he is only able to perform one of them he is forced to break one, and therefore is guilty of sinning against God. The best the agent can do in a conflict of absolutes is to determine which the lesser evil is, do it, confess his sin, and ask God for forgiveness which is graciously provided through the cross of Christ.

Geisler levels four criticisms of this view that are worthy of consideration. First, in obligating the agent to choose an absolute to break there is an implied duty to sin. It seems morally absurd to require someone to be immoral. Second, it entails moral responsibility for that which is unavoidable. One cannot be culpable when one is not free to do otherwise. Third, Jesus faced moral conflicts yet Scripture declares He was without sin. How would that be possible if to choose the ‘lesser evil’ is to sin? Lastly, Christ must have faced moral conflicts in order for Him to be our complete moral example, and if He avoided sin, then it is possible for us to face moral conflicts without personal guilt (Geisler 2000:103-10).

3.3.1.6 Graded absolutism

How is it possible to face moral conflicts without personal guilt no matter what choice we make? The prior view left the agent locked on the horns of a dilemma with no recourse but to sin. All he can do is minimize the degree of wrong doing by choosing to do that which would incur the least evil when performed. The present view holds that there are varying degrees of moral duties, and when the agent performs the higher duty in a moral conflict the agent is exempt from performing the lesser, and therefore not culpable for leaving it undone. Gesiler (2000:114) notes that others who have held one of the prior two views, most notably Augustine, have recognized a hierarchy of sin and moral values, a classification of moral duties, and have acknowledged the selection of the higher duty over the lesser duty in conflict as the greater good (in terms of a hierarchy of moral values not in a utilitarian sense of maximized consequences), not the lesser evil. In his defense of this view, Geisler identifies its three essential premises and offers biblical support for each. Briefly stated they are as follows: (1) There are higher and lower moral laws – even Jesus in His reply to the lawyer's question concerning the greatest commandment evidenced a higher (love of God) over a lower (love of neighbor) law; (2) There are unavoidable moral conflicts – for example, the conflict between lying and saving a life as in the case of the Hebrew midwives lying to Pharaoh and Rahab lying for the spies; (3) No guilt is imputed for the unavoidable – as long as the agent keeps the higher law, he is not guilty of not performing the lesser. This is clear for three reasons: reason dictates that one cannot keep two conflicting laws; one is not morally culpable for omitting a lower law in order to keep a higher; and the Bible records several examples of people that God praised who kept the higher of two duties in a moral conflict (Geisler 2000:116-20).

Is the difference between this view and the one prior merely a matter of semantics? This view appears to be simply calling the performance of the lesser evil (which necessarily entails that the agent is actually performing the greater good in a conflict) by a better name i.e. the greater good. Granted, unlike the prior view it aids in alleviating any reticence on the part of the agent in the performance of a greater duty by removing a false sense of guilt, and thereby affirming his act as good and preserving a better relationship between the agent and God.

A synthesis of these two positions lies in a better understanding of the nature of the 'conflict,' which can be found in unqualified absolutism's perspective on conflicts, namely that conflicts are only apparent. It has been acknowledged in all three forms of absolutism that there are higher and lower moral laws (as even Augustine an adherent of the first view claimed), so it seems to

follow that a ‘real’ conflict could only occur when two equally weighted laws are required to be obeyed at the same time, and the omission of one is unavoidable. The present view clearly states that in these impossible moral situations of multiple moral duties one is always higher, but this implies an ‘apparent’ conflict. However, if these absolutes are grounded in the nature of God, then there are no gradations of moral values and no conflicts.

Why is there a conflict? Perhaps the answer lies in Jesus’ reply to the lawyer. In all of our moral conflicts the Christian has a twofold obligation and one (loving God) is always higher than the other (loving our neighbor). In the prior scenario the obligation to tell the truth to our neighbor (who wants to kill an innocent person) is lower than our obligation to God (who wants us to show mercy to an innocent person). So, the conflict we perceive to be ‘real’ is due to the fact that we erroneously equated our moral obligation to a human being to be on an equal footing to our moral obligation to God. All of our actions ought to be ordered toward God as their ultimate end, and so our proximate ends e.g. the good for us and/or our neighbor, ought to find their correctives and orientations from it as well.

This synthesis does not reduce absolutism to an ‘end justifies the means’ ethical system e.g. consequentialism, because its ‘end’ is not used in the same sense. The end in view here is singular and ultimate, it is God, and the means are based on His absolutes. This synthesis is not to be taken as a rejection of graded absolutism with its suggestion of higher and lower duties, rather, it is offered as an alternative explanation for the prioritization of moral absolutes that affirms the unbreakable nature of the moral laws in God and that accommodates the finitude of humanity in emulating Him.

3.3.2 Other classifications of ethical systems

3.3.2.1 Christian doctrine as a foundation

The distinction between a Christian ethics and one that is not, according to McGrath (1991:145), is the fundamental role of Christian doctrine to it. How one chooses to act is predicated on one’s prior commitments, which as rational creatures are derived from the ‘mental worlds’ one has constructed and inhabits (McGrath 1991:146). It follows that the soundness of one’s mental world will depend upon the degree of thought given and the sources from which it is derived, and the commitment to it will depend on the firmness of one’s belief in it. At the ground floor of

our mental world is doctrine. McGrath offers a justification for placing it there by arguing that "to make informed moral decisions, it is necessary to have a set of values concerning human life. Those values are determined by beliefs, and those beliefs are stated as doctrines" (McGrath 1991:146). Even in the authority granted to Jesus in a Christian ethics, McGrath (1991:148) points out that it is contingent upon our doctrines concerning Him, for without them He is but another moral teacher whose teachings are subject to correction or rejection. Considering the fundamental role of doctrine to Christian ethics the crucial question becomes, how does one determine the authenticity and reliability of those doctrines deemed foundational? In defending the importance of truth as a criterion for testing doctrine, and responding to the charge that both Christian doctrine and talk of truth is outdated and irrelevant, McGrath (1991:150) warns that "the attractiveness of a belief is all too often inversely proportional to is truth." The establishment of the truth of Christian doctrine is imperative to securing the obedience of those who believe, since all people base their actions upon their beliefs. Obedience to truth is often contrasted to intellectual and personal freedom (the latter often recognized as the better), however McGrath (1991:150) astutely notes that "an obedient response to truth is a mark of intellectual integrity." Regarding this matter of truth Jesus made the correlation between the truth and Himself in His claim to be the truth (John 14:6), and McGrath (1991:151) asserts that "if the Church ever loses her faithful obedience to her Lord, she has lost her life and her soul."

To illustrate the importance of Christian doctrine to our ethics McGrath presents two major Christian doctrines and illustrates their impact upon ethics. First, he lists the doctrine of justification by faith and notes the following points about it: (1) it renders works impotent to salvation; (2) it transforms us; and (3) it enables us to do good works. This doctrine is identified by McGrath (1991:152) as the starting point for an authentic Christian ethics due to "the recognition that the conversion of the individual leads to a new obedience, a new lifestyle and a new ethic." The second doctrine listed is that of original sin which evidences the real limitations of human nature. Humanity is flawed in such a way that it is inherently self-centered, disobedient and rebellious. A transformation is required to either eliminate or reduce the propensity for wrong-doing. McGrath (1991:153) sees this doctrine as bringing "a breath of refreshing realism to Christian ethics" and that it calls into question "the myth of human perfectibility and inevitable progress."

Clearly McGrath (1991:156) holds doctrine as fundamental to Christian ethics, and he also prescribes it as the remedy to recover the health of the Christian community and the world as is evident is this statement: "And so our moral vision—grounded in Scripture, sustained by faith,

given intellectual spine by Christian doctrine—stands as a civilizing influence in the midst of a world that seems to have lost its moral way." While his article was not intended to construct a system of ethics, he does advocate the grounds for a system that would result in an absolutist system. He provided an argument for constructing an ethical framework using doctrine as the foundation. While it was not explicitly stated in the article, crucial to right doctrine is a sound hermeneutic employed in the service of a thorough and systematic theological examination of God's revelation.

3.3.2.2 Mutual-love ethics

In his response to divine-command and natural law systems of ethics, Vacek offers an alternative that he believes overcomes the humanistic inadequacies in the former and the religious inadequacies of the latter. The alternative he offers is one he refers to as 'mutual-love' ethics in which the notion of what is right is determined by its appropriateness to our love relationship with God (Vacek 1996:633). In his defense of mutual-love ethics he contrasts it to the other two systems. A concise overview of this defense follows.

Mutual love is explained as the most fundamental way in which we relate to God. It is characterized by a shared life that is progressively developed through the free self-communication and interactions of both, and in so doing we become 'co-creators' with God and 'partners of the Absolute' (Vacek 1996:644). Citing several scripture verses, Vacek (1996:645) claims that we can be God's friends, and since He wants a mutual love relationship with us, "God must accept dependence on us. Otherwise, there is no mutual love relationship." In this union we become fully human. We come to realize that we are unique and irreplaceable and that everything we do is significant and matters not only to us but to God as well (Vacek 1996:645). As we grow in this love relationship with God so we begin to ground all we do in it which strengthens the bond of love with God even more.

In place of right action based on obedience, as friends of God we want His will to be done, and He, in His love for us, wants ours to be done (with the added qualification 'where possible'– also stated as God desiring for us "as much freedom as possible and only as much restriction as necessary") (Vacek 1996:647). God loves us, and He desires our personal fulfillment which requires our active involvement in the planning and enactment of our lives. This means God's particular will for the individual is not determined in advance of their involvement, affording the

individual freedom to contribute to the choices that confront them, for "like all good lovers, God must be somewhat flexible and tolerant toward us" (Valek 1996:648). As described by Vacek (1996:650), this cooperative relationship is not merely a do-the-loving-thing content-less attitude, but one with content:

> generally gained through love-informed reason reflecting on our various involvements in the world . . . we try to discern what love asks of us in a particular situation, we attempt to discover the one or several alternatives that are appropriate to our present love relationship with our God, who is creatively involved with all of creation.

Additionally, the role we play as co-creators entails not merely conformity to nature as a natural-law ethics suggests but extends our participation into the transformation of nature (Valek 1996:250). Valek (1996:652) argues that rather than seeing God primarily as sovereign Lord, or sagacious Creator, or final Good, we should see Him as an engaged and engaging Lover, and our primary response to be a mutual lover is due to the desirability of being united with Him.

This system of ethics offers a strong foundation for that which ought to motivate one to perform right acts. Love is unquestionably the prominent characteristic of God, and so it comes as no surprise that scriptural exhortation to love God, oneself, and one's neighbor is too. The power of love to motivate good acts is evident in Jesus' comment about the woman (a sinner) who anointed His feet with ointment as a response to the extent of God's loving act of forgiveness towards her, thus loving Him much in return (Lk 7:37-48). This view also accords well with the biblical declarations of our newfound position with God in Christ. We are adopted sons of God (Gal. 4:5), joint-heirs with Christ (Rom 8:17), friends of God (Jn 15:15), and knowing who we are and whose we are can dramatically affect our actions.

However, although he contends it is not without content, what he offers as a guide closely resembles Fletcher's situationism. Law/commandments and love are not polar opposites. Jesus Himself said, "If you love me, you will keep my commandments" (Jn 14:15). Certainly, as adopted heirs and friends of God, we better understand the reasons for the commandments and do not adhere to them out of 'blind' obedience any longer, but we realize their legitimacy and now properly desire to practice what is now more clearly known to be right and best. Many new parents admit to a similar 'maturity' as they begin to see things from their parent's perspective. Perhaps a balance to the elevation of the individual (human as 'co-creator') and the relegation of God (as a 'fellow creature') proposed by Valek, is to consider the present-but-not-yet tension

concerning the Kingdom of God. In our present state we still 'see in a mirror dimly' (1 Cor 13:12) and require God's direction in both law and Spirit to lead and guide us.

3.4 A NEW LIGHT FOR CHRISTIAN ETHICS? MODERN AND POST-MODERN THOUGHT

In order to examine the influence of modern and postmodern thought on Christian ethics a review of the salient features of each will follow. Subsequent to that review a discussion of the correlation and impact of these features on the fundamental grounds for a Christian ethics will be presented.

3.4.1 Key features of modernity

In section 2.2 a brief synopsis of this time period can be found, so only a review of the salient features will follow. Modernity sought *liberty* from the authority granted to human traditions (religious traditions in particular), and it sought to exert mastery over nature, including humanity. There was a growing confidence in *reason* and empirical inquiry and the promise it held for *certitude* in matters of truth which, in turn, held promise for unfettered progress in the drive to improve human life. This led to an almost exclusionary approach to truth through reason and human experience. As inquiry and labor became more specialized, segmentation occurred in the social order, creating disparate spheres of life and moral choices, making it increasingly difficult to offer a unifying frame of reference. This kind if diversity (pluralism) was evident in belief systems too, and it became more pronounced as transnational movement increased and populations with divergent worldviews lived as neighbors (Hollinger 2002:100).

3.4.2 Key features of post-Modernity

The period referred to as 'Post-modern' was manifest in the twentieth century and persists to today. Of this worldview Craig (1994:70) comments that "in some respects postmodernism just *is* the awareness of the bankruptcy of modernity [the denial of God and the objectivity of value and purpose which issues inevitably in absurdity and despair]." Moreland and Craig (2003:145-49) suggest examining postmodernism by breaking it down into seven different aspects as follows: (1) metaphysical realism – a rejection of metaphysical realism, claiming 'reality' is strictly a social construction; (2) truth – there is no objective truth, it is relative to a linguistic community that shares the same narrative; (3) rationality and knowledge – there is no predefined

rationality e.g. laws of logic. There is no neutral standpoint to approach the world, so objectivity is impossible. Knowledge is a construction of one's social, linguistic structures; there is no truthful representation of reality to be obtained by one's mental states; (4) epistemic justification – a rejection of foundationalism, claiming all perception is theory laden i.e. there are no basic sensory experiences, no uninterpreted data; (5) universals – a rejection of the existence of universals e.g. redness, humanness, justice; (6) language – a rejection of authorial meaning, asserting that the meaning of the text resides in the community of readers who share an interpretation of it. There is also no such thing as thinking without language; in fact, thinking is simply linguistic behavior in which people exhibit the use of words in accord with the linguistic practices of their social group. Language also imprisons meaning as one is unable to get 'outside' one's linguistic filter to talk about the way the world really is; (7) metanarratives - there are none. There is no way to decide among competing worldviews which one(s) is true, and there is not a single worldview that is true for everyone. There are only local narratives.

3.4.3 The effects of Modernity and post-Modernity upon Christian ethics

The elements that are central to a Christian Ethic will be used to guide an examination of the affect of modernity and post-modernity upon it. These elements are as follows: (1) Revelation; (2) Ecclesial authority; (3) Approach to Scripture.

Given the emphasis upon reason and experience in modernity, it is readily apparent what the affect might be upon divine revelation. In an increasingly pronounced rejection of the supernatural in favor of a growing *emphasis upon naturalism*, no room was to be found for God's revelation. The affect upon the foundations of Christianity, let alone Christian ethics, are profound. If God is to serve as a ground for ethics He must exist and His existence must be knowable in such a manner that human moral conduct at minimum receives its template from God, if not a moral mandate from Him. This anti-supernatural bias also disconnects the deity of Christ from His humanity which, in addition to the significant soteriological significance and in light of Jesus' claims concerning His deity, casts Jesus as either a liar or a lunatic, either of which calls into question His ability to serve as an authoritative voice or guide in the formation of any ethical system. The effects of this anti-supernatural bias also extend to God's revelation in the Scriptures which now becomes merely a human construction and devoid of any divine authority or integrity (Geisler & Nix 1986:138-40).

The Scriptures seen as a human construction alone also calls into question the influence of the human co-author, their community, and their tradition in fashioning the narrative. Perhaps myth is presented as fact, or the facts are embellished or misrepresented altogether for authorial and/or communal gain. Creation, too, divorced from its creator now stood alone unattached from a source that had not only supplied an overarching purpose and destiny for all things but that had also served to provide moral guidance and responsibility for its proper use and care. Things continued to be the object of human inquiry but now became subject to unguided and unrestrained human mastery (Hollinger 2002:95).

As human inquiry developed, superstition that had been fostered and protected by tradition was rightfully exposed and rejected, however, tradition itself was relegated to an inferior position and stripped of its authority (this is certainly understandable given the loss of trust due to some error and abuses). Most notably the church began to lose credibility as science and the scientist approached levels of authority the church once held. The instruments of the scientist, reason and experience, became the tools of the 'new' theologian, and theology was transformed into a science in the sense that it was now strictly confined to examination and explanation by reason and experience (Pearcy 2004:101).

This approach carried over into how the text of the Scriptures was handled. The emergence of 'higher criticism,' a method which studies the historic origins, the dates, and authorship of the various books of the Bible, is a prime example. While the study of such matters is, in itself, a very useful tool to aid one's hermeneutic, the prominent practitioners of the day brought their personal bias to bear upon it. Considered by most scholars to be the founder of the school of Higher Criticism, Spinoza (1632 – 1677), a rationalist Dutch philosopher who held that all religion was superstitious, denied the Mosaic authorship of the Pentateuch and credited the origin of the Pentateuch to Ezra or to some other late compiler (Geisler & Nix 1986:159). A Frenchman, Astruc (1684 – 1766), observed the use of *Elohim* and *Jehovah* in the Pentateuch and derived from it the theory that the book was composed of different documents. He also denied the divine authority of the book of Genesis, suggesting it contained disorder and contradictions (Online 44). The nineteenth century featured many German scholars who were rationalists and who also continued to form hypothesis concerning the origin and authorship of the books of the Bible. Clearly their anti-supernatural bias preceded their critical approach to the Bible and forced them to propose other hypothesis to explain away the supernatural aspects of it.

The effect of postmodernism upon one's understanding of revelation is also profound. Given the key features of postmodernism (listed above in 3.4.2) it is clear that reality, including language, truth, and knowledge, is delimited by one's community whose defining characteristic is its particular language. While postmodernism does not explicitly reject revelation (it seems possible that God could have His own linguistic community and at least direct His 'words' to human communities), each linguistic community appears 'shut-in' and unable to adequately share in a broader i.e. universal, linguistic community. Unless God Himself adopted the language of a given linguistic community only then could He communicate with other communities, however, in order to do so it would be an assumed language since it would not convey the meaning of His own linguistic community. In other words, limiting meaning and language to communities, excludes cross-community (universal) communication including the isolation of God's own community. Willard seems to concur with this assessment concerning the affect upon revelation when he wrote:

> Did the Patriarchs etc. just start one cultural tradition among others, or did they, within some limits, find God as he really is *apart from all languages* and pass the objective truth on through the centuries to us. In John 14 Jesus explained to His little graduating class that the 'world' cannot receive the Spirit of truth because "it neither sees nor knows Him." "But," He continued, "you know him for he resides with you and shall be in you." He talks as if the 'world' were blinded to *a reality that is there all the same*, their empirical language-game notwithstanding. Is Christian revelation, and Christian experience today, access to a reality by which the adherents of all language games are to be judged, or not? Acts 17:30-31 suggests it is (emphasis mine) (Online 15).

Ecclesial authority continues to be suspect and/or rejected today in similar fashion to the treatment it received as a result of modernism. Interestingly, postmodernism in one way affirms the authority of particular traditions by granting exclusive weight to one's community, which for many religions equates to granting similar authority to their tradition. On the other hand, one's community (or tradition of the community in most cases) has no authority beyond itself (Moreland & Craig 2003:149).

The impact of modernism upon one's approach to Scripture persists, and with postmodernism's added denial of authorial meaning, the affects continue with the restriction of the meaning of the text to the communities shared interpretation of it. In his text on biblical interpretation, Howe addresses this matter of meaning in the text. He explains that, "the message that the author has encoded resides in the text of that message once it is encoded" (Howe 2004:439). This explanation clarifies the definition of 'authorial meaning' and rejects the notion that it is

necessary to directly access the mind of the author in order to secure the meaning of the text, "because his meaning resides in the text as form to matter" (Howe 2004:439).

Reader-centered theories are the hallmark of postmodern approaches to interpreting the text of the Scripture. However, by placing the locus of meaning in the reader and not the text, those authors who assert such propositions (that the locus of meaning lies in the reader) are themselves endeavoring to achieve that which they claim is not possible, namely, the conveyance of 'their' meaning to the reader. Vanhoozer (2005:90) comments that for some the author (of the biblical text) has been lost due to historical distance or linguistic indeterminacy, the result being that with "the author goes what may be the last best hope for a criterion of validity."

The prior examination has focused upon the detrimental effects of modernism and postmodernism; however, even in their challenges to preceding traditions and understandings they have produced beneficial affects too. Modernism's emphasis upon reason and empirical examination is a welcome complement to God's 'special' revelation. As one of God's modes of revelation, 'general' revelation holds aspects of God's truth accessible to humans by reason and experience (both given to people by God) and as such should not be neglected by humans in their pursuit of truth. As subsequent centuries have evidenced there is much to be learned about God and His acts from a closer examination of creation. Also beneficial is the corroboration and harmonization of claims made by all branches of study, in particular those pertaining to matters of faith and those to matters of reason. The erroneous claims of the theologian need to be corrected where possible by the findings of the scientist or philosopher.

Postmodernism's recognition of the weight one's community carries in one's understanding of reality serves to remind us of its influence upon objectivity. Since all are members of a community (or communities) everyone needs to be conscious of, acknowledge, and critically examine what they hold to be true as a result of their 'membership' in a community. In this day of pluralism it is beneficial to learn the perspectives of those living in one's surrounding communities, not only in order to communicate what one wants to impart to them, but also to learn from their unique perspectives too. Additionally, while denying universal authority i.e. metanarratives, postmodernism has reinforced the authority of a given community and its traditions. If the triune God was properly recognized as the ultimate 'community,' then in a very real sense, meaning is found in community, and all created beings as members of that community derive meaning from that source, and one day will know as they are known (1 Cor 13:12).

3.5 FOUNDATIONS OF CHRISTIAN ETHICS; FIXED OR FLOATING?

In Cunningham's (2008:22) criticism of what he called 'lifeboat' ethics it is made clear that when it comes to ethical decision-making the moment of a decision is preceded by so much more than that which is immediate to it. The decision arises from a foundation that has been constructed by the individual in a deliberate systematic way, or in a haphazard disjointed way, or quite possibly an admixture of both over time. Additionally, a more fundamental question concerning the foundations of Christian ethics needs to be addressed, namely, the existence of a foundation beyond the individual or people group i.e. the presence of a transcendent foundation. Both personal experience and a brief examination of the writings of other Christians will reveal that the individual and people groups to which we belong (faith communities and societies) do not possess a unified 'fixed' foundation. Is this evidence that there is not a fixed foundation at all, even a transcendent one? In an effort to answer this question the writings cited heretofore by Christian ethicists will be examined.

Even after a cursory review of these ethicists it is readily apparent that all acknowledge the existence of a transcendent being i.e. God, so, it can be quickly established that the proper foundation for our decision-making most likely is located beyond humanity. After his observation that general ethics reasons in a circle, Grentz (1997:57) asserts that it provides a strong argument for a transcendent connection to a foundation for ethical judgments. However, that the foundation is transcendent does not, in itself, render it 'fixed' or unchanging. It is beyond the scope of this paper to attempt to elaborate on the philosophical arguments for a Being that does not change e.g. that there is a necessary Being; such a Being is pure actuality and therefore cannot change, but suffice it to say that good arguments do exist for such a Being. Theological justification can also be offered that God is such a Being e.g. 'I the Lord do not change' (Mal 3:6), and "Jesus Christ is the same yesterday and today and forever" (Heb 13:8). Sound philosophical arguments can be made for the existence of an infinitely good Being, and theology can once again provide justification that God is such a Being. The point is that convincing arguments can be offered that *a firm foundation exists for human morality in God*. Hollinger (2002:20) echoes this assertion in his declaration that Christian ethics is rooted and concretely grounded in God's nature and actions (he adds worldview). So, how does humanity connect with this transcendent foundation?

The answers offered by Christian ethicists to the prior question will reveal the locus of variety among them and reveal the entry points of insecurity to the individual and/or people group's

grasp of a firm moral foundation. The 'connection' is contained in general and special revelation. The latter is recognized as God's communication with people in a manner similar to human-to-human communication and includes the Bible and the person of Jesus Christ. Special revelation is recognized as such by the ethicists listed above. None of the ethicists listed above challenge the authority and importance of Jesus Christ to a Christian ethic. The area of greatest diversity pertains to the handling of the Scriptures, and the greatest difficulty surrounds the question of its infallibility which ultimately relates to its divine-human nature. This is clearly evident in Cosgrove's (2002:91) declaration that "the Bible is an indispensable but imperfect human witness to divine revelation." Wogaman (1993:278) claims as undeniable fact that there are "internal in-consistencies in scripture and between scripture and factual truths." If, in fact, the Bible is not divine revelation its connection to the transcendent source of morality is severed, and it becomes one among many religious books. This severance also imperils the claims and account of Christ's deity since they, too, are found in Scripture. It seems quite reasonable to assume that one's handling of Scripture will be dramatically affected by the belief that it is, or is not, divine. Therefore, one's hermeneutic and resultant interpretation will be affected too.

The philosophy of Immanuel Kant, particularly his epistemology, has also introduced another severance, this one being between the 'knower' and the 'thing known.' Now, not only is the connection to the divine in special revelation severed, the very connection of the mind to reality has been severed too. The loss of reliability in knowledge is evident in mild form in the very tentative nature of moral assertions. As an example, Wogaman (1989:99) affirms as conclusive Kant's epistemology and declares this is a reminder of the tenuousness of moral judgment.

From this brief discussion of foundations it appears that very few, if any, Christian ethicists dispute (at least among those examined in this study) that God is the locus and firm foundation of human morality. Also apparent is that the entrance of ambiguity finds its source in humanity's grasp of that foundation, particularly as known by revelation from God.

3.6 RIGHTLY DIVIDING THE WORD OF GOD

What kind of 'grasp' of God's revelation affords a 'firm foundation' for human morality? First, one needs to *establish the ground for a reliable perception of reality* and then proceed to *affirm the nature of Scripture and its place in reality*. Thirdly, one needs to *affirm the possibility of a*

reliable interpretation of the text itself. A concise overview of the arguments supportive of each point follows.

In seeking to *establish a ground for the reliable perception of reality*, Howe (2004:459) removes one option by dispelling the notion of 'total' objectivity, which according to him, "implies a view from nowhere, that is, a view that is not peculiar to one perspective." It is almost universally acknowledged that everyone has a framework of existing understanding developed and molded by one's place in history, locality, society, and family. Therefore, everyone approaches reality with a set of presuppositions that 'taints' their view of it rendering it 'subjective.' However, even this assertion reveals a tenet resembling that which one would expect to find in a framework that rejects subjectivism i.e. one that affirms a fact that is not merely another interpretation (Vanhoozer 2005:91).

To obviate the tension between subjectivism and 'total' objectivity, Howe (2004:462) advocates the adoption of 'Moderate Realism'[17] (hereafter referred to as MR) as an approach to reality and interpretation. This approach does not deny the existence of presuppositions and pre-understandings, but is does affirm the existence of self-evident, undeniable, first principles in both thought and existence itself that serve as transcendental presuppositions which are not subject to history, locality, society or family; they are universal. An example of such principles would be the laws of logic e.g. the law of non-contradiction which states that two contradictory statements cannot both be true at the same time and in the same sense. MR also holds that subsequent knowledge is not deduced from the 'foundations,' rather it is reduced to them (the foundational principles serve to 'test' truth claims arrived at by the various avenues of thought) (Howe 2004:463).

Describing truth as cartographic correspondence, Vanhoozer (2005:103) rejects the notion of truth as mirroring (or picturing) reality held by Charles Hodge and Carl Henry, rather he perceives truth to be more like a map. As a map, truth is 'charted' in a plurality of ways with each type of map reflecting certain interests e.g. one highlighting historical landmarks and another points of scenic interest (Vanhoozer 2005:103). The absence of a universal all-purpose map is offered as proof that "a map is actually an interpretive framework, not a mirror of nature" (Vanhoozer 2005:103). This perspective does not negate the presence of universal truth claims,

[17] Moderate Realism is a theory that addresses the philosophical problem of the existence of universals – "This system reconciles the characteristics of external objects (particularity) with those of our intellectual representations (universality), and explains why science, though made up of abstract notions, is valid for the world of reality" (Online 30).

for even in a variety of maps of a particular locale is the implicit ability to perceive certain commonalities of the locale being mapped[18], however, it provides a much needed balance between the extremes of a mirroring theory and a purely situated theory of truth.

Few texts attest to divine direction in composition, so what is one to make of the existence of a text claiming to be written by human hands yet 'inspired' by a supernatural agent, God. That God inspired the Scriptures presupposes His existence and His ability to communicate to humans, as well as the ability of humans to receive it. These presuppositions *affirm the nature of Scripture and its place in reality*, but the more problematic issue for theologians and non-theologians alike, is the possibility for 'contamination' of the text with the introduction of fallible, preconditioned, and motivated human thought and expression. Is it possible for God to author a text through human agency without overriding the mind of the agent i.e. the mechanical dictation theory, or without corruption by the inclusion of the agent?

The doctrine of inspiration, that human agents were Spirit-moved (superintended by God) to write God-breathed writings (Geisler & Nix 1986:36), is a mystery analogous to the human-divine nature of Christ, yet it too, is not a contradiction. It is advisable to note that the doctrine of inspiration strictly refers to the autographs (originals), not the translations, and that although this is the case "the copies are known to be accurate and sufficient in all matters except the minor details" (Geisler & Nix 1986:43). The extremes to be avoided are: (a) the mechanical dictation theory[19] which fails to account for the obvious personality and literary differences evident in the text, and may incite bibliolatry; and (b) theories that refute or diminish the divine aspect which at minimum render the text fallible, and at worst deny the truthfulness of both the Scriptures and Christ in their attestation to the contrary (Boa 2007:213).

The inspiration by God of all Scripture is explicitly stated in 2 Timothy 3:16, and in 1 Corinthians 2:13, Paul asserts that his words were given by the Spirit. In Hebrews 5:12 the written record is referred to as the 'oracles of God.' Jesus referred to the Hebrew Scriptures as speaking of Him – truth that was being and was about to be fulfilled (Lk 24:27, 44; Jn 5:39). Jesus also referred authoritatively to the Scriptures on several occasions e.g. as recorded in Matthew 4, He was tempted in the wilderness by Satan, both He and Satan referred to Scripture with the authoritative reference 'it is written' to indicate the God-given nature of the Scriptures being used. There are numerous explicit claims to the inspiration of the Old Testament, and as

[18] "All the maps are reliable: they correspond – in different ways!" (Vanhoozer 2005:104).
[19] This is not to refute the possibility that it may account for some of Scripture, just not all of it.

Geisler and Nix (1986:53) argue, the New Testament is both logically and implicitly included in that claim since it too, is Scripture (1 Tim 5:18; 2 Pet 3:16), and all Scripture is inspired.

If we can know the world as MR suggests, and the Scriptures are a part of that world, then the prospects for *affirming the possibility of a reliable interpretation of the text itself* are good. While several factors may inform the interpretation of the text e.g. historical setting and cultural background, at minimum adjudication between interpretations is possible at the level of first principles. If an interpretation results in a conclusion that contradicts a first principle, then it cannot be correct. Conversely, if an interpretation results in a conclusion that does not contradict a first principle, it could be correct and may at least be adopted provisionally in preference to the one that was contradictory (Howe 2004:471).

One consideration affecting reliability in interpretation is the locus of the text's meaning; is it in the author's intentions/purposes or in the text itself? Since we no longer have access to the human author it would render that pursuit speculative at best. Geisler and Nix (1986:61) deem such conjecture as 'both wrong and inappropriate' since the "locus of interpretation is in the written text (2 Tim 3:16), not in the author's mind behind the text. . . . Their purposes are expressed in their propositions." It is worth noting that not all Scripture is propositional, and Vanhoozer (2005:107) correctly asserts that "it is crucial to acknowledge that authors can do more than one thing with their texts."

In addition to first principles and propositions, Vanhoozer (2005:100-104) suggests the wise interpreter to consider the following: (a) the literary form of the text is itself a dimension of its truth; (b) the Bible is informative and contains a propositional core, but as a whole it is a theodrama – "the words and deeds of God on the stage of world history that climax in Jesus Christ"; (c) the Rule of Faith is a necessary interpretive framework for understanding Scripture correctly; (d) as an ongoing theodrama and humans as active participants in it, the Bible is also about what they should say and do in response to it; and (e) the different kinds of literature in the Bible map the theodrama in distinctive ways.

In conclusion, reality is knowable due to the link the mind has to the world. The universal nature of that link is evident in the existence of first principles of thought and being. The Scripture, being divinely inspired and written by human authors, is accessible in reality to other minds which can test their interpretations of it by the illumination of the Spirit, first principles, the Rule of Faith, and their interpretive community. Therefore, it is possible to 'grasp' God's revelation to

humans given the nature of reality and the rational nature of the human agent; a creature that was created in the image of a rational being. How we esteem the original i.e. God's revelation in Scripture, will affect how we handle it, which in turn will affect what remains of it after our handling of it, which in turn will affect how consistent what we derive from it is to the original.

3.7 FORMS OF MORAL DISCOURSE IN SCRIPTURE

Identifying the forms of moral discourse in Scripture is useful to understanding what is being said and how it may be applied in contemporary contexts. First, some general observations concerning Scripture will be considered as they ought to guide our extrapolation of both the forms of moral discourse and their application in a different context. The location of the discourse e.g. Old or New Testament, distinguishes the forms of discourse too, so separate treatment of each will be conducted and a suggestion for harmonization presented.

The Scripture was not written as books of moral prescriptives neatly divided and categorized according to areas of ethical concern. Even the forms of moral discourse proposed in subsequent sections are derived from a study of the scriptures and not explicitly identified as such in them. A significant portion of the scriptures are in narrative form (Barton 2003:2), which brings attendant difficulties when gleaning ethical insight. Barton (2003:3) notes three difficulties: (1) they are often not morally edifying; (2) it is hard to determine what is being commended and what is deplored; and (3) in the moral world of the narrative it is difficult to distinguish the real world from the imagined world. Noting the divisions, their nature, and the flow of the scriptures in relation to their central figure and theme, Christ, is very helpful as one navigates the text and the difficulties therein.

The O.T. is often arranged in three sections, the Law, the Prophets, and the Writings (Geisler & Nix 1986:23). This classification is supported by several sources, but the most noteworthy is Christ Himself (Lk 24:44), although He refers to the Psalms specifically rather than the term 'Writings.' With the translation of the Hebrew Scriptures into Greek (the Septuagint) some of the books were reclassified, regrouped, and renamed. The result was a fourfold classification into books of Law, History, Poetry, and Prophecy (Geisler & Nix 1986:24). In the N.T. a fourfold classification is also to be found; the Gospels, Acts, the Epistles, and Revelation. While these classifications are useful, identifying that which brings unity to the scriptures is extremely beneficial. Geisler and Nix (1986:29) suggest that the unity of Scripture is found in "the

progressive unfolding of the theme of the Bible in the person of Christ." With Christ as the focus, he covers all eight classifications as follows:

> The law gives the *foundation* for Christ, history shows the *preparation* for Him. In poetry there is an *aspiration* for Christ and in prophecy an expectation for Him. The Gospels of the New Testament record the historical *manifestation* of Christ, the Acts relate the *propagation* of Christ, the Epistles give the *interpretation* of Him, and in Revelation is found the *consummation* of all things in Christ (Geisler & Nix 1986:29).

Clearly, *Christ is the locus of Scripture*; however, Barton, in his treatment of O.T. ethics, reminds us of the importance of humanity especially as it relates to ethics. He notes that while the O.T. is about God, "it is also *a book about humanity*, its duties and its failings" (emphasis mine) (Barton 2003:2). He also notes that one characteristic of the Hebrew narratives is that they exemplify respect for the dignity of human action by assuming human beings to be responsible moral agents, and this perspective is an important part of the O.T.'s moral vision (Barton 2003:7).

Clearly, as both authors suggest, the Bible is a narrative of the Divine and human drama. It is a drama that begins with an early severance of relationship by man, followed by the relentless pursuit of God to restore a people into fellowship with Him, and the preparation and entrance of Christ to secure the redemption and ultimate consummation of a restored Divine-human relationship. With this in view one might anticipate that moral discourse in Scripture leans toward treating matters that directly impair humanity's relationship to God with a priority that in effect subordinates matters that impair humanity's relationship to other people or things to (arguably is contingent upon) it. This seems to be confirmed by Barton (Barton 2003:7) in his mention of forgiveness in the O.T., "the Old Testament has very little overt teaching on the need for forgiveness between human persons; forgiveness is nearly always a characteristic of God alone." With these general considerations in view an examination of O.T. moral discourse follows.

Barton identifies three basic ethical models in the O.T.: (1) Obedience to God's declared will – he agrees that many people in ancient Israel seem to have thought that people ought to do as God told them. Both the authors and the ordinary Israelite regarded the 'good' as that way of life which God enjoined. Referring to Eckart Otto, he concurs that this obedience is not blind or one of submission to pure divine whim because Yahweh's actions toward Israel are not arbitrary but manifest the same moral character that God demands of them (Barton 2003:48); (2) Natural law

– if a loose definition is adopted, then it should not be ruled out in principle. It is also important to see that the term 'natural law' is not intended to imply an ethic which allows no place for God. Natural law and positive law are two ways by which ethics flows from God: they are not to be opposed as one being human and the other divine (Barton 2003:50); (3) Imitation of God – this is a model particularly visible in Deuteronomy.

At the core of an O.T. ethic is the testimony that God's dealings with people can *serve as a model* for people's dealings with one another. Sharing the core of an O.T. ethic is the assumption that God acts according to moral standards that human beings also share. There is a sense of community of moral perception between God and humanity which corresponds to the idea of imitating God and is prevalent in more than only those texts that exhort one to behave as God does (Barton 2003:52). Barton sees merit in Otto's assertion that a unifying theme for much of the O.T.'s statements on ethics may well be in the notion of the imitation of God. He also makes a good observation that there is a *strong teleological aspect* (versus strictly deontological) to the moral teaching of the O.T. and provides as an example the Torah, which he states is "'teaching,' advice on how to follow the path that will take the hearer or the reader to the goal God has in mind" (Barton 2003:52-53).

Concerning virtue in the O.T., in the Wisdom literature morality seems absolute with either good or bad and no gradations or variations. The language of vice and virtue are plenteous in the Pauline epistles, but the notion of people consisting of a mix of both and developing in virtue while eradicating vice is lacking. People are seen to belong in one of two camps. Barton (2003:67) thinks that Proverbs, while presenting good and evil as fixed, has as its actual purpose some kind of moral training; by reading about the wise and the fool one learns to imitate one and turn from the other. He asserts that the Hebrew and Greek cultures differ in that the latter holds that one can grow in virtue while the former sees virtue as something one either has or lacks. He believes the Bible's focus is on conversion, not moral progress, showing the difference between the Hebrew and Greek approach. He agrees with E.W. Heaton who claims the Wisdom literature is oriented to success rather than to virtue (Barton 2003:70); however, since virtue ethics holds the achievement of a stable and good moral character as the great aim of human life, Barton (2003:73) sees as acceptable the constructive use of the Bible in a system of virtue ethics.

In turning to the N.T. for moral guidance, Hays (1996:189) asserts that no method is airtight and that we can only read the texts carefully, asking what common ground they share, what themes and images appear repeatedly, and what convictions undergird their various stories and

exhortations. The unity in the N.T., Hays (1996:193) declares, is not one of a dogmatic system; rather it is a looser unity of a collection of documents that deal with a single fundamental story. He suggests the presence of key images in all of the texts that summarize the story and govern their interpretation by placing them in a coherent framework. He perceives three images in the N.T.: (*a*) community – the primary sphere of moral concern is not the character of the individual but the corporate obedience of the church. The ethical mandates are brought into focus when understood in ecclesial terms; (*b*) cross – the paradigm for faithfulness to God. The community expresses and experiences the presence of the kingdom of God by participation in the fellowship of His sufferings (Phil 3:10); (*c*) new creation – the church embodies the power of the resurrection in the midst of a not-yet-redeemed world. The new creation is already appearing. We are in the hope-filled interval between his death and his coming (Hays 1996:198).

The sequence of these images is important (listed in that sequence above). They will not resolve all tensions, but they will aid in discovering a coherent moral vision in the texts. These images are present in and bring unity to the entire canon. Hays (1996:308) astutely observes that "there can be no understanding of the church as community in N.T. terms apart from the prior reality of God's election of a covenant people, as narrated in the O.T." He also points out that "the rich O.T. imagery of God as creator and eschatological redeemer of Israel" informs "the content of the N.T.'s vision of new creation" (Hays 1996:308).

The image of the cross is the distinctive contribution of the N.T., and given the centrality of Jesus' death and resurrection to the salvation of humankind, Hays (1996:308) rightly asserts "that the cross becomes the hermeneutical center for the canon as a whole." The import of this for both Christian theology and ethics is that one ought to read/view the O.T. through the lens of the N.T.

Another significant point of unity in the moral vision of the Bible was mentioned earlier by Barton. He claims the theme of humanity's imitation of God is a focus for moral living in the O.T. Hays (1996:31) echoes the presence of this theme in the N.T. with his claim that the "twin themes of conformity to Christ's death and the imitation of Christ are foundational elements of Paul's vision of the moral life."

The foregoing discussion of paradigms in Scripture is of particular import to a discussion of contemporary ethical issues for which specific biblical correlates are absent. Hollinger

(2002:169) elucidates the importance and relevance of biblical paradigms[20] with their implied directions for ethics. These paradigms do not provide specific ethical mandates, rather they supply theological teachings that serve as a framework for moral direction (Hollinger 2002:169). The earlier focal images of Hayes are excellent examples, as well as Hollinger's (2002:170) summation of the overarching biblical story as contained in the activity of God in the creation, fall, redemption, and consummation of all things, which lies at the heart of the Christian worldview and provides a foundation for moral living. The resolution to the moral tension that lies between allegiance to human rulers versus allegiance to God is another example offered by Hollinger of the crucial role of paradigms in the moral life of human beings. The lordship of Christ over all things is derived from various N.T. texts and serves as a paradigm for an ethical response to human rulers that seek to usurp His lordship in areas to which He holds a conflicting claim (Hollinger 2002:170).

Hollinger provides two additional examples of biblical paradigms that are both useful and illustrative for the subject of this research. First, he cites the contrasting paradigms of human sinfulness and humans as in the image of God. The former provides a corrective skepticism for utopian schemes that assume the total goodness of humanity; and the latter provides the ground for the rejection of schemes that seek to degrade human dignity (Hollinger 2002:170). His second example are the contrasting paradigms that affirm on the one hand God's providence over all human action but on the other hand affirm human action as an act of stewardship. Balancing these paradigms prevents us from assuming a God-like role in ethics and also keeps us from neglecting our responsibilities as stewards placed in the world as God's emissaries (Hollinger 2002:171). Clearly, biblical paradigms offer the kind of framework well suited to guiding specific moral decisions that arise within their purview.

This brief treatment of moral discourse in Scripture demonstrates that the Bible is written in a manner that conveys the dynamic of a living God dealing with a living humanity. The focus is upon revealing His nature so humanity might imitate Him in preparation for communion with Him. The cross of Christ makes this possible, and the indwelling power of the Holy Spirit makes it attainable. Laws and principles are to be found in Scripture but the focus is upon a person not a prescription.

[20] Biblical paradigms are defined as basic understandings of life and theology (Hollinger 2002:169).

There is much to be considered as one seeks to develop an ethic that can be called Christian. A brief and modest proposal for an approach that endeavors to address the issues reviewed in prior sections and to provide an approach to ethical decision-making follows.

3.8 A MODEST PROPOSAL FOR A CHRISTIAN ETHIC

An ethic that is distinctively Christian should be anchored to and rest upon the One who is morally perfect, the triune God. Central to the life of the Christian and the believing community of which they are a part should be the person of Jesus Christ. The life of Christ should serve as their moral exemplar and His instruction as their guide for life. A Christian ethic and moral life is, first and foremost, about following a person, Christ, and somewhat incidentally about following principles and rules. The person of the Holy Spirit resides in the community and believer, enabling, transforming, and guiding them in their new life in Christ. This new life is a restored relationship with the triune God and His body, the church, in the present. It is in this communal context that character is fashioned and moral direction is afforded. In Christ the *telos* of humanity is restored, intimacy with the triune God regained, and the present life lived in a conflict of kingdoms to be resolved at the *parousia*.

In the present life the Christian ethicist does not walk blindly but must humbly acknowledge both a partial understanding of that which is (1 Cor 13:12) and dependence for complete understanding in all things upon God's revelation. The Christian ethicist should be devoted to grasping as firmly as possible that which has been revealed. Concerning the Word of God in both Scripture and in Christ, this devotion begins with an acknowledgement that the Divine has spoken (and is able to) through the finite with no corruption to the Word. As Christ is both fully divine and fully human, so, too, is Scripture (human authors and divine inspiration). Although Scripture is not to be worshipped and Christ is, it must be approached with a reverence due to a work of God. This attitude ought to lie at the base of one's hermeneutic.

Worth noting here is the relationship between God and the Bible and its pertinence to the foundation of a Christian ethic. The Bible as God's revelation to humans, in terms of ethics, is a means to an end; the end being restored communion between the triune God and His creation. As such, it provides to humanity God's wisdom which is necessary for reconciliation with God and one's well-being in His created order i.e. the essence of Christian ethics.

Also, at the base of one's examination of God's revelation, be it the Word or the World, ought to be an adequate epistemology. As already acknowledged our understanding is partial; however there is a great difference between a lack of comprehensive knowledge and an inability to comprehend. Immanuel Kant's epistemology which claims we do not have immediate contact with the essence of the object of our experience, has been widely embraced. This view of knowledge does more than serve to remind us that our grasp of it is tenuous; it severs the knower from the thing known. However, that an intelligible discussion is possible about many 'things' between two or more people implies a comprehension of things that exceeds a mere representation of them. *A Moderate Realist approach appears to afford the best explanation for understanding the nature of existence and knowledge.*

Once it has been established that reliability in our knowledge of what has been revealed is possible, the examination of Scripture should next consider how it was communicated i.e. linguistics. Suffice it to say at this juncture that the greater one's knowledge of the original languages and their contexts (cultural and textual) the more informed one's interpretation and the better the ethical insights derived from it. Regarding hermeneutics, several valuable insights have been provided in the works examined thus far e.g. literary form, focal images, paradigms, themes, the particular witness of the authors, hermeneutical filters (love and mercy), metaphor, and analogy.

In Scripture there are paradigms and principles for wise living e.g. Proverbs, commands, and rules. It is important that the context, which includes the intended audience, be taken into consideration when determining the pertinence of these guidelines and commands in the present context. Also, present in creation i.e. general revelation, are norms and principles built into the nature of things i.e. Natural law, as referred to in Romans 2:15 concerning the "the work of the Law written in their hearts." So, while stressing an *ethic of being* which emphasizes a person's character, there remains a place for principles and rules to guide and/or delimit human behavior. However, a comprehensive ethic will be one comprised of both being and doing, and *agape* (as a God's love) is the essence that is central to and all-encompassing of both. God *is* love, and as those indwelt by the Spirit of God and as those *in* Christ, our doings are moved and permeated by His love. Jesus said, "If you love Me, you will keep my commandments" (Jn 14:15). This statement evidences an obedience that is preceded and motivated by love. In this Vacek's mutual-love ethic is correct that as lovers of God persons will want His will to be done. As a person's will in love aligns with His will (delights in Him), so God will grant the desires of their heart (Ps 37:4). Also overlooked and worth including in a Christian ethic is the Bible's treatment

of sin, confession, and repentance in both the individual and corporate realms, which does not negate or diminish an ethic of being, but it does imply an *ethic of doing* (in these instances fitting acts in response to the moral correctives of God) in a balanced approach to Christian ethics.

The Christian ethicist has much to draw upon for both the development of a system of ethics and for living out the moral life in Christ. However, believers (ethicists or not) are not living in isolation; they are in the midst of a community which itself has a history, and so familiarity with Church history, including an adequate understanding of the doctrines of the Church, is important in many respects; an understanding of prior moral dialogue (recent included) is particularly pertinent to ethics. Crucial too, is the role of the community in the achievement of a more balanced and thorough interpretation and proper application of Scripture. Also, with regard to ethical decisions the corporate dimension should not be neglected as some decisions are not restricted to the individual, and even when they are, the individual could benefit from the counsel of others in order to make the wisest decision.

A Christian ethicist and their community is not removed (might be isolated in) from the world. Being in such a position affords the believer the opportunity to dialogue and participate in the moral life of the world too. It is in the public square that metaphysics, epistemology, logic, and moral philosophy can be useful as one engages the world in dialogue concerning matters that pertain to the moral life. The Christian and their community should also play an active role in laboring to improve the lot of the poor, orphan, and widow (Jas 1:27).

In drawing from the prior discussion the researcher proposes an ethical decision-making model intended to inform a later treatment of the problem under consideration. In light of the prior discussion of ethical systems it is evident that there are merits and demerits to arguably all of them. Honest proponents of each will admit to the presence (usually dramatically diminished), or need thereof, of aspects in other systems to make up for deficiencies in their own. This is evident in the findings of a recent review of ethical decision-making models which demonstrated the frequent admixture of a deontological and teleological approach in ethical models used by counselors (Cottone & Claus 2000:275-81). The researcher's contention is that some of this 'confusion' confirms a 'common' ground to morality and a division due to the denial of its common derivation and/or destination. To state it more clearly, God is the ultimate ground of all truth, including ethics, therefore the deontologist (and many do) ought to admit the rules and principles inhere in Him (albeit not in the form of principles and rules), and the teleologist ought

to acknowledge that the end (or greater good) is not humanity but the Trinity – He is the only truly justified end that in turn justifies all means that have their orientation toward Him as end.

First, the model holds the person of Christ as its focal image and imitation as the agent's response to Him. The practice of imitating has concrete direction (versus abstract theory) in the life and teaching of Jesus Christ. Brief mention of a few applicable moral guides evident in His life include, but are not limited to, His self-sacrificial love for God and others (doing the greatest good for humanity by reconciling them to God), His subservience to the will of the Father, and His humility demonstrated by His servanthood to all.

The Bible also contains principles, rules, images, and paradigms, and earlier references to Wogaman, Hays, and Hollinger reveal the role they play in the moral life. Pertinent to this discussion are the affirmation of creation's goodness and the value of human beings (Wogaman), the N.T. emphasis upon community and new creation in Christ (Hays), and the contrasting paradigms that affirm on the one hand God's providence over all human action (stewards but not gods over creation) but on the other hand affirm human action as an act of stewardship (Hollinger). In this way Scripture and Christ's life can be construed as grounding and accommodating a deontological approach and providing direction for moral decisions.

In that this method holds God as the ultimate end and the greatest good, it is teleological. Since we are not our own, having been bought with a price, we ought to glorify God in our bodies (1 Cor 6:19-20), therefore all our acts ought to find their orientation in Him and end in Him. This is brought about not by a calculation of maximum good from results but is accomplished by willing what He wills, resulting in our ultimate good in Him. Relevant to this research would be the harmony of our will with His concerning our future i.e. bodily resurrection versus posthuman transformation. Also, seeing God's communion and His inclusion of humanity through Christ as a paradigm of communion (God and humans), humans should not take the initiative to expand what God has not expanded by including non-humans e.g. robots.

Finally, a person's adherence to these rules, principles, paradigms, and images in Him, have present in their moral actions the grace of God working through the Spirit of God empowering them to walk as Christ walked (right practice). And, in this human-divine movement the community of Christ becomes more like Him – God's character is formed in them. In this context one's being will supply a sound foundation for one's doing. Like some of the ethical models reviewed (Cottone & Claus 2000:275-81), this one finds direction in rules and principles,

is concerned with the greatest good, has a societal influence and interaction (God and human relationality), and is concerned with right practice; rather than appraising the acts by empirical comparison, however, it looks to God for divine approval of one's moral life.

3.9 CONCLUSION OF CHRISTIAN ETHICAL DECISION-MAKING

Christian ethical decision-making has a sound foundation and a rich tradition that extends over several millennia. The locus of morality for God's people has always been God (not that they have consistently revered Him as such). He has revealed Himself to them in various ways e.g. the prophets and Scripture (and in some of the same ways to the world), but two millennia ago He revealed Himself to the world through Jesus Christ. It is after His resurrection that the moral life, while retaining God as its locus, was now connected in a very personal way to the divine origin in the God-man, Jesus Christ, and given renewed hope in the promise of its God-given future. His coming has shed a new light on that which came before and established the *telos* for all humanity in Him. It is in communion with God in Christ and with other believers that Christians now live their moral lives.

Granted, recent history has witnessed an increase in complexity with regard to the matters that are now a part of the contemporary moral life, and the Scriptures seem silent on crucial moral issues of the day; however, much of the confusion and probably some of the complexity, is the result of a disconnection first and foremost from a constant and sure foundation i.e. God and His revelation to mankind, and secondly, from an understanding of reality that renders it intelligible. Restoring the latter will afford both unbeliever and believer alike the ability to perceive that which God has revealed with greater clarity and confidence. It also holds promise for providing a common ground for moral dialogue and action, possibly provoking the unbeliever to question the validity of his justifications apart from a transcendental ground. Restoring the former, at a minimum, appears to be a threefold task. Primary is the restoration of the relationship between God and humanity. In order to be properly connected to the transcendental source it is imperative to believe in the One whom He sent in order for the reconciliation to be completed i.e. transformation via conversion. It is also imperative for understanding and for living the moral life in accordance with the exemplar, Christ. Second is the restoration of the Word of God to a place of authority in the life of the believer and his community of faith. Accompanying this restoration should be zeal to thoroughly examine the Scriptures and provide sound instruction in hermeneutics. Thirdly, and as a result of establishing and practicing the second task, is the establishment of sound doctrine to the life of the believing community in order to form a loving

community that actively grows toward corporately attaining the “unity of the faith, and of the knowledge of the Son of God, to a mature man, to the measure of the stature which belongs to the fullness of Christ” (Eph 4:13).

The believer now living in Christ and in a community of faith that shares their love for Christ, that respects and carefully examines the Word of God, and is attuned to the Spirit of God, is in a wonderful position to live the moral life (as did Christ) and to be the moral exemplar the world so desperately needs in the interim of Christ’s incarnation and return – “Beloved, now we are children of God, and it has not appeared as yet what we will be. We know that when He appears, we will be like Him, because we will see Him just as He is. And everyone who has this hope fixed on Him purifies himself, just as He is pure” (1 Jn 3:2-3).

That Christ was incarnated in human form itself is very noteworthy. What is so ‘unique’ about human beings that the Son of God would be found in human form? Perhaps a more foundational question in light of the prior discussions about AI and robots would be, what is really meant when someone is called a human being? Given the intent of some to include machines and animals in the community of human beings or the efforts of others to define the beginning and cessation of a human being at points other than fertilization and natural expiration, it is crucial to all that a clear understanding of that which constitutes being human is sought and secured. We now turn to an examination of this matter in the following chapter.

CHAPTER 4: WHAT IS UNIQUE ABOUT HUMAN BEINGS?

"Lodge us together with bonobos for 15 generations," says Great Ape's Trust William Fields, "and the bonobos would become *less* bonobo, the people *less* human. We aren't really that *different*" (emphasis mine) (National Geographic March, 2008:57).

What in prior centuries has appeared a question easily answered by common sense, has in this modern era evolved into an apparent complex of questions that call into question prior distinctions and assertions. *The 'loaded' question is: what is unique about human beings?* This question can be answered by looking in two directions: inward – by self-examination determining that which constitutes mind and mental activities, and outward – by an examination of our bodies and other beings in existence around us. The first section provides a comparative examination that considers being human from a position that excludes the light of revelation i.e. a theological examination and, therefore, remains within the bounds of reason and experience. As such, the first section will be comprised of subsections that consider the matter from a philosophical perspective in order to ascertain the nature of human beings, followed by a brief look at the data science presents that aids in a consideration of the uniqueness of human beings. The prospect of technology producing a human-like artifact is also considered along with the challenge the success of such a project poses for the claim of human beings to uniqueness in the created order. Finally, the first section includes a consideration of the consequences for human beings were their place in the created order to be changed e.g. deemed on equal footing to humanoid robots. The second section will be devoted to a theological treatment of the subject which will focus on the centrality of Christ as 'the image of God,' and His incarnation as an affirmation of an embodied human existence. Additionally, His death and resurrection demonstrate His vindication of humanity and creation, and reveal the nature of a future embodied existence promised to the redeemed. In the conclusion a derivation of ideas on what it means to be human will be assembled and used to inform the following chapter's examination of the ethical issues involved in the project of creating a human-like machine.

4.1 AN EXAMINATION OF HUMANITY FROM A PHILOSOPHICAL AND SCIENTIFIC PERSPECTIVE

While both philosophy and science share a common source of knowledge, experience, and therefore both have the same kind of knowledge i.e. empirical knowledge, they do investigate

reality in different ways. How each approaches the question of being human will be reviewed separately in the following sections. This segregation should not be taken to imply that an adequate answer to the question can be obtained purely by one or the other (in fact, a third area of knowledge i.e. theology, is necessary), or that the answer should be approached only by way of a single discipline, rather it reveals the need for a complex answer. Adler[21] claims that Western thought for the past twenty-five centuries has treated this question as a purely philosophical one, in part due to the dearth of scientific evidence. He asserts, "the comparative question about man is neither a purely philosophical nor a purely scientific question. It is instead what I have called a mixed question" (Adler 1993:13). Holding these initial considerations in mind, let us proceed with a review of philosophy's treatment of the subject.

4.1.1 Differences and why they matter

Prior to reviewing either the philosophical or scientific treatment of the question a brief excurses into a matter of relevance to both is in order. Adler raises what should be considered the most significant consideration in regard to the question at hand in his 'distinction of differences.' He perceptively notes the confusion on the part of philosophers and scientists[22] alike when comparing humans to other beings in terms of how they differ. In order to reveal the nature of the confusion, a brief review of modes of difference is in order.

The most common modes of difference are those of degree and kind. A difference in *degree* is characterized by the following: (1) both objects being compared possess a *common characteristic* – one has more of it than the other; (2) there is a *possibility of intermediates* between two objects – there is continuity in their differences rather than discrete (unconnected) differences a.k.a. a difference in kind (Adler 1993:20). The comments of Fields in this chapter's opening quote exhibit the characteristics of a view that would hold to a difference in degree between bonobos and humans. A difference in *kind* is characterized by the following: (1) one of the objects being compared possesses *a defining characteristic not possessed by the other*; (2) *no intermediate object* is possible – present is a discontinuity or discreteness of kinds e.g. no intermediate between a triangle and a quadrangle (Adler 1993:19-20). These two modes of

[21] In section 4.1, the researcher relies almost exclusively on the work of Adler to guide the argument. The primary reason for doing so is that Adler's work uniquely exposes the fundamental problems in the contemporary debate about human uniqueness. He also lucidly depicts the consequences for humanity based upon the resolution to the problems. And, even though Adler's work predates recent discussions on this topic, it is evident to the researcher that his treatment of it remains specifically pertinent, if not pivotal, to the challenges of technology to humanity.
[22] This confusion is still readily apparent in contemporary discussions of human uniqueness be they popular or academic in nature.

difference have been the primary (arguably exclusive) modes considered and applied in the comparisons drawn between man and other objects.

An apparent dichotomy emerges when one holds that humans are different in kind (no intermediates are possible) from an ape, for example, yet *simultaneously holds* to a theory of evolution that affirms the phylogenetic continuity of humans and apes (which seems to require a difference in degree). Adler (1993:32) refers to a few examples in the writings of scientists and philosophers alike that reveal an almost schizophrenic position on the difference between humans and other creatures, vacillating within the same work between claiming to perceive differences in kind and then reverting to assertions that humans only differ in degree.

Adler suggests a further distinction of differences in kind that he suggests would resolve the tension and sustain the claim of phylogenetic continuity of nature. Differences in kind, Adler (1993:25) claims, can be classified as *'superficial' or 'radical.'* These classifications apply solely to 'real' (manifest) rather than 'apparent' differences in kind, the latter being reducible to difference in degree. Adler (1993:23) describes an apparent difference in kind as one in which "the difference in degree in a certain respect is large, and when, in addition, in that same respect, the intermediate degrees which are always possible are in fact absent or missing (i.e. not realized by actual specimens)." This large gap in the series of degrees gives the appearance of a difference in kind. Adler makes the point that anyone who holds that living things only differ in degree would necessarily hold to a view that any differences in kind are merely apparent.

According to Adler (1993:24), a "manifest [real] difference in kind may be based on and explained by an *underlying* difference . . ." (emphasis mine). If this underlying difference is one of degree, and one of the two objects being compared is below and the other above a *critical threshold*, then the difference in kind is *'superficial.'* If the underlying difference is one of kind, such that one object totally lacks a factor or element fundamental to their constitution which is present in the other, then the difference in kind is *'radical.'* Both the superficial and radical differences in kind are 'real' i.e. manifest, therefore, "if one does not go below the observable [manifest] differences to explain them in terms of the factors from which they arise [the underlying difference], all real differences in kind are alike" (Adler 1993:25).

Adler provides two examples that may be helpful to elucidate these differences in kind. The first example deals with the three states of matter: solid, liquid, and gaseous. Water, ice, and steam each possess properties lacked by the other thus constituting a difference in kind. However, we

can determine that the difference is due to the motion of molecules and a critical threshold at which one turns into the other state e.g. water to steam, thus revealing a superficial difference in kind. The second example is closer to the subject at hand. In comparing inanimate bodies to living organisms we see that the latter exhibits behavioral characteristics lacking in the former, thus differing in kind. *How we explain the underlying difference* e.g. a soul or vital principle in living organisms *totally lacking* in inanimate objects or degrees of material complexity that lie above or below a critical threshold, will render the difference *radical, or superficial* (Adler 1993:26). In view of these modes of difference, human beings in comparison to other beings can be either different in degree or different in kind - both superficially and radically. Adler asserts that the first two are compatible with phylogenetic continuity (a radical difference in kind is not).

A concise review of Adler's argument is as follows: (a) in order to clarify the distinctions made between beings regarding their constitution, consistent use of the terms 'degree' and 'kind' is required; (b) in order to affirm phylogenetic continuity and retain the use of 'kind' in differentiating one being from another e.g. apes from humans, 'kind' must be further distinguished ('superficial' or 'radical'). The former is consistent with phylogenetic continuity, the latter is not; (c) *In order to affirm the uniqueness of humans and phylogenetic discontinuity* i.e. not evolved from other creatures, *a radical difference in kind must be demonstrable*. The subsequent section reveals the inability of philosophy to demonstrate a radical difference in kind.

4.1.2 Philosophy reaches for but fails to carry the threshold

Philosophers can be found who hold to any one of the three possible views on the difference of man. Among those who hold to the view that there is a radical difference in kind are such notables as Plato, Aristotle, Augustine, Aquinas, Descartes, and Kant. Most of those who support this view attribute human uniqueness *to the power of reason, intellect, and free choice*, which are *manifested in unique human activities* e.g. language, art, and abstract ideas, to name a few. Some derive a hierarchy of being in nature with non-living things on a lower level and living things which are typically classified even further on a higher level. Many of these same philosophers attribute unique human powers to the possession of a non-physical principle that is absent in all other physical things. Some posit the presence of these powers to a divine deposit made by God. Naturally, such an assertion, be it non-physical or divine, is rejected by materialists as is the claim that humans are radically different. Adler (1993:56) points out that some of these philosophers held other views that were inconsistent, arguably contradictory, to the view of a

radical difference e.g. Locke and Leibniz claimed that the order of beings was comprised of a continuous series with no gaps or jumps, which is contradictory to a radical difference in kind which holds to a discontinuous order of being.

Those philosophers who hold that humans differ in degree only, typically hold to classical materialism, "the doctrine that whatever exists is either matter, or entirely dependent on matter for its existence" (Flew 1999:222). Many of these same philosophers (Hobbes, La Mettrie, Feuerbach) hold to a *mechanistic view* of physical things and consider humans to be automatons like other living things simply differing in degree alone from either animate or inanimate things. As mentioned in the prior paragraph, they deny the view that humans are radically different due to the exclusion their view entails of the immaterial. Most also espouse a single continuum in nature, rejecting the reality of kinds or species (Adler 1993:59).

The view that holds humans differ superficially in kind, according to Adler (1993:59), is held by Marx, Engels, Lenin and other dialectical materialists[23] who reject mechanistic materialism. They hold that humans differ in kind and refer to their *power of thought* and their use of it to *control the environment* as evidences of human uniqueness. Like the materialists, they, too, hold to the continuity of nature and deny the presence of anything immaterial in humans. While they did not use the term 'critical threshold,' their reference to Hegel's law of transformation of quantity into quality[24] (used to account for human difference in kind) posits a similar concept and is in accord with the superficial difference in kind as described by Adler.

The two philosophically tenable alternatives offered in response to the question of human difference, as deduced by Adler (1993:63) are as follows: (1) *the principle of continuity* in nature which permits only the views of differences in degree and differences in kind superficially; and (2) *the principle of hierarchy* which asserts radical differences in kind and permits a plurality of partial continua only among distinct kinds. The first alternative is one which affirms a single all-encompassing continuum in nature which denies radical differences in kind. The second alternative posits a hierarchy of kinds that are discontinuous. However, within each kind there are gradations in kind such that the higher species in each kind approaches the lower species of the kind above it. Adler (1993:62) likens this to the incremental approach of the whole number

[23] "It asserts that matter is primary or fundamental, and states general laws governing the motion and development of all matter. . . . do not advance a reductive theory; they do not assert that everything that exists is *nothing but* matter. Rather, they are concerned to oppose idealism; in their view, matter is not a product of mind, but mind is the highest product of matter" (Flew 1999:94-95).

[24] Sometimes referred to as 'the law of leaping development' (Adler 1993:59).

one to the next whole number in the series without actually becoming the next whole number. Adler sees these two alternatives as *mutually exclusive* and grants initial advantage to the second alternative due to the attestation of 'common experience' to its claims; however, he concedes that dialectical materialism and a more robust mechanistic materialism remove that advantage and *render the purely philosophical answer to the question irresolvable*.

Confirming his assertion that this is a mixed question, he points to science as necessary to establish the critical thresholds and to bring clarity to the special data derived through scientific investigation, so an examination of science's contribution to this question follows. The following section reveals several characteristics revealed by the sciences that give weight to an argument for human uniqueness, however, there remains an underlying inability, this time on the part of science, to conclusively demonstrate a radical difference in kind.

4.1.3 Science weighs the evidence with an answer hanging in the balance

The contribution of science to the question of human uniqueness gained momentum during the sixteenth through the eighteenth centuries, otherwise known as the scientific revolution. Adler (1993:41) suggests that the contribution of science during this period can be divided into three stages: (1) the initial entrance of science marked by the development of the theory of evolution and paleoanthropology (study of human origin and evolution based on fossil evidence); (2) the development of the behavioral sciences, particularly comparative studies of human and animal behavior, and neurology; and (3) the work of computer technology – especially machines that simulate human performances. This third area of contribution will be reserved for separate treatment in the next section.

The most significant contribution to the theory of evolution was made by Charles Darwin. Central to Darwin's reasoning is the principle of phylogenetic continuity. Adler (1993:79) remarks that Darwin's commitment to this principle was so strong that even if evidence could be offered to show a difference in kind between humans and animals, he would have simply concluded that humans were a rare exception requiring a different explanation for his origin. This was not the case; Darwin held the evidence supported the application of this principle to humans. Darwin's hypothesis about the origin of humans was not based on fossil evidence, but rather it was based on *a comparative analysis of human and animal behavior*. Essentially,

Darwin's work put humans in the category of brute animals i.e. there is no radical difference in kind between humans and animals.

Since Darwin drew his conclusions in ignorance of the fossil evidence, what changes to his theory and or conclusions emerged with the discovery of many more fossils? A difficulty in Darwin's theory is manifest in light of subsequent fossil discoveries. Darwin himself saw that if the continuity in nature was as he supposed, then it would be impossible to fix a point at which humans emerge from among the evolving gradations of apes. He did not see this as being of much importance, but contemporary anthropologists must draw a line between human and non-human in order to classify fossils into those that belong in the hominid family and those that belong in the pongid family (Adler 1993:82). *This line is necessarily drawn by holding to a difference in kind*. This is not to say that these same anthropologists do not agree with Darwin's theory of human evolution and origin, because most still do adhere to it. Leading scientists today, declares Adler (1993:83), claim that humans are unique and *base their claim on certain characteristics, both behavioral and physical*. In the sections that follow these characteristics will be examined in two broad categories, those related to internal aspects (discovered by inference) and those related to external aspects (discovered by observation).

4.1.3.1 Internal characteristics unique to humans

The characteristics discussed below are internal in the sense that their immediate operation is not observable by external means (with the possible exception of brain activity); however, as will be apparent in the subsequent section they are manifest in many external characteristics that depend on them for actualization, and they too, are unique to humans.

Consciousness: This characteristic of humans and its origin poses a distinct problem for the mechanical, atomistic philosophy mentioned earlier. To begin with matter and then merely rearrange it, results in rearranged matter, not mind and consciousness. Moreland (2009:19) claims that the origin of consciousness is at the center of the storm (in the argument about consciousness), but the nature of it is commonsensical. The example of a person waking from sleep and becoming aware of their surroundings is used by Moreland (2009:19) to make two observations about consciousness: (1) any physical object (state, process, property, relation) can only be completely described from a third-person perspective, but states of consciousness require a first-person point of view; and (2) states of consciousness are best defined by reference to specific examples. After describing consciousness, Moreland (2009:21) declares that "mental

states are characterized by their intrinsic, subjective, inner, private, qualitative feel, made present to a subject by first-person introspection." Mental states possess features that are not features of anything physical e.g. being true or false, intentionality (beliefs, desires), some are vague (sensations), some are pleasurable or unpleasurable (sensations), and familiarity, therefore mental states are not identical to physical states (Moreland 2009:21).

While it can be argued that humans are not alone in the possession of consciousness, the very existence of it at all presents a serious challenge to the materialist, naturalist, or evolutionist since matter cannot account for the appearance of mind (Feser 2006:140). The appearance of mind also lends credence to the presence of a radical difference in the continuum of nature, the admission of which would refute the evolutionist's theory of origin and development. Tattersall (2011:33) acknowledges that "complex human self-awareness is a very particular possession of our species," and is experienced in "a way that is, as far as we know, *unique* in the living world" (emphasis mine). Describing the discontinuity between the nonsymbolic, nonlinguistic ancestor of *Homo sapiens* and *Homo sapiens* as "the most profound cognitive *discontinuity* of them all," Tattersall (2011:33) goes on to assert that "there is a qualitative difference here; and, based on any prediction from what preceded us, the only reason for believing that this gulf could be bridged, is that it *was*"[25] (emphasis mine).

Free will: Several philosophers have placed this characteristic high on the list of those that are unique to humans. When speaking of free will the most common understanding of it is called 'libertarian freedom' by philosophers. This view of free will holds that a free act is not coerced or determined by external forces (it originates solely in the agent) and that the agent is free to act or refrain from acting. Recognizing the uniqueness of human free will, Rolnick (2011:373) points to the discoveries in quantum mechanics – that reveal a level of indeterminism in the universe that defies classical physics' notion of determinism – as "describing a world that is fitting for free will." He also claims that the flexibility of thought to consider past, present and future actions (and its accompanying responsibility), as opposed to the unidirectional nature of time itself, is another indicator of human freedom (Rolnick 2011:368).

Presupposing free will also makes sense of systems of reward and punishment in familial, civil, or governmental regulations. As Davies (2009:57) notes, "a consequence of *voluntary action* is

[25] Note: Although Tattersall uses terms that appear to affirm this uniqueness of *Homo sapiens* in such a way as to possibly confirm their difference in kind, and thus a refutation of the evolutionary theory of humans, he does not do so in the work cited.

responsibility. Responsibility means we are held accountable for our actions" (emphasis mine). We are also indirectly aware of our deliberation concerning our choices prior to our actions i.e. we are aware that we could do otherwise. In comparing humans to other animals in regard to free will it has been noted by philosopher and scientist alike that humans are able to control appetitive urges e.g. food, drink, and sex, suppressing them temporarily or indefinitely, whereas brute animals are driven by instinct. Our love for another is also evidence of libertarian freedom. What lover believes they are loved by a lover whose expressions of their love are driven by compulsion rather than spontaneity?

Morality: This characteristic of humans is both inferred and observed. Humans have a moral conscience and perform moral acts; the one is privately held by the agent and the other is observable in 'public' acts. The difference between humans and other animals in this regard is readily apparent in our treatment of animal behavior. For example, if a dog were to snatch a piece of meat off the counter at the butchery, we would not shake our heads and lament the conduct of dogs these days, nor would we expect the dog to consider his action immoral, or that he would feel any shame or remorse for it. Another human characteristic, libertarian free will, appears to be implicit in moral behavior due to the recognition that an agent either could do (in contemplation of a future act) or should have done (in remorseful reflection of a prior act) otherwise. Regarding this conflict of moral duties, Moreland (2009:153) affirms the line of reasoning that only an agent capable of forming universal judgments can possess this kind of deontological sense of moral duty in contrast to those (other organisms) that only act to satisfy personal desires, and therefore only experience a conflict of desires e.g. to eat before drinking.

Such innate desires that drive action are sometimes said to be instinctual. Human behavior and animal behavior are often contrasted on this basis with the conclusion being that animal behavior is purely instinctual. While human behavior does have instinctual elements e.g. struggling to live when drowning, human behavior evidences a sense of 'ought' that governs or presides over instinct. Taylor (1989:5) succinctly addresses the distinction of moral reactions claiming they represent two facets. One side resembles an instinctual response e.g. a distaste for rotten food or a fear of falling, while the other side "seems to involve claims, implicit or explicit, about the nature and status of human beings" (Taylor 1989:5). He declares that these "moral intuitions are uncommonly deep, powerful, and universal" (Taylor 1989:4). This evidence of a moral law not only reflects a marked difference between human and animal behavior but also requires a justification that is not adequately satisfied by a naturalistic account and provides strength for a claim to an immaterial cause. Taylor (1989:5) mentions that this aspect of moral reactions "is an

assent to, an affirmation of, a given ontology of the human," something "an important strand of modern naturalistic consciousness has tried to hive this second side off and declare it dispensable or irrelevant to morality."

Religious awareness: In seeking to sustain an interdisciplinary dialogue, especially between theology and the natural sciences, Van Huyssteen (2003:175) learns from the sciences an interesting characteristic found to be expressed and experienced only among human beings, religious awareness. After comparing the various theological views of the *imago Dei*, he agrees with Jenson that humans have an ability to respond to God's address (Van Huyssteen 2003:168). He then reveals that a discovery by the sciences about how the mind works could provide a complementary view of the nature of human uniqueness that would resolve the apparent dilemma between theology's claim to humans as being created in the image of God and the sciences view of humans as rational animals (Van Huyssteen 2003:170).

After tracing the evolution of human intelligence from which emerges new modes and levels of operation i.e. consciousness, Van Huyssteen (2003:173) turns to Tattersall's report that every human society has possessed a religion of some sort. According to the archeological record of modern humans, "religious belief is one of the earliest special propensities or dispositions" detectable in the record (Van Huyssteen 2003:173). The human mind is not able to envision entities that lie outside of its experience in the material world, lending support to the claim that this religious ability is unique to humans and unlikely to be extrapolated from earlier explanations in biology (Van Huyssteen 2003:175). It is this unique human ability that Van Huyssteen (2003:176) compares to Jenson's earlier claim. Although Van Huysteen (2003:176) links the theological claim of Jenson's to the natural sciences claim of a cognitively based religious ability, he does not single out the ability as that which uniquely defines humans from all other creatures, rather he asserts that "our conception of 'human uniqueness' should be broadened to include the emergence of art, technology, religion, and eventually science, as the products of this cultural evolution."

4.1.3.2 External characteristics unique to humans

The classification of internal and external characteristics was intended to group those traits possessed by humans according to the manner used for their examination i.e. by inference or by observation. Since most, if not all, external evidences of human uniqueness hinge upon some

internal characteristic or power (except those purely physical attributes e.g. posture, opposable thumb, and the dominance of the cerebral cortex by either right or left hemisphere) the reader is encouraged to consider this fact while reviewing the list below.

Tool making: Considering the focus of this paper it seems appropriate that tool making should be a distinguishing feature of humans. Some have remarked that rather than referring to humans as *homo sapiens* (man the rational/wise) they should be called *homo faber* (man the maker). Humans of all the creatures in the world are unique in their ability to craft artificial objects. One does not have to venture very far in this age to observe objects that carry the unique stamp of human craftsmanship. No reasonable person would look at their watch and wonder how a bonobo was able to produce such goods. The offspring of famed bonobo Kanzi, is reported to be able to "craft stone tools – altering his technique depending on the stone's hardness," but these primitive skills pale in comparison to those possessed by humans (National Geographic 2008:57). Granted one could argue that human ability has evolved in degrees to the point they are today, but in arguably the same (some would say more) period of time no observed advancements in this area of ability have been noted in any other creature. To this idea of tool making one could add that humans alone are technological creatures. The complexity evident in technological innovations in the past century alone attests to the remarkable and unique tool making ability of humans. The ability to make tools is a manifestation of the unique internal powers of human reason (Swearengen 2007:7).

Social and Environmental organization: In the category of social organization Davies (2009:13) lists several characteristics deemed unique to humans e.g. civil society, friendship, and voluntary associations. In regard to civil society, Adler (1993:91) concurs that only humans are a political, not just a gregarious, animal. While it is evident that there is organization among other creatures e.g. bee and ant colonies, their organization is only instinctive. The development of human organizations, as Davies (2009:15) notes, is learned and, therefore, has attributes e.g. variety, flexibility, advancement/progress, and complexity, not found among other animals. The animal kingdom is not without examples of friendship; from playful lion cubs in a pride and a protective mother bear of her cubs, to domesticated dogs befriending domesticated cats, animals have friendships. Davies (2009:18) distinguishes human from animal friendships by the way in which they are freely chosen, varied according to purpose and interest, and by the way they can confide in one another. Regarding voluntary associations a list capable of occupying a volume equal in size to an encyclopedia could be compiled. The broad range of associations – religious, academic, sports and entertainment – all bear witness to the social nature of humans. The variety

and voluntary nature of these associations also testifies to the uniqueness of human associations. Humor, while not strictly social (although sharing in humor is more satisfying), is unique to humans. While animals may indulge in playful, physical gestures, humans participate in calculated humor which depends on both language and intelligence. In arguing against the notion of animal rights, Smith (2010:235) insightfully claims that "it is an exclusively human debate about the nature and scope of our responsibilities toward animals – responsibilities that are *predicated solely on our being human*." This indeed raises another important characteristic of humans, namely, their *response*-ability for their environment. Regardless of one's estimation of their success or failure with this responsibility, the fact that humans alone are turned to for its betterment speaks volumes. Prior portions of this study provided a glimpse of the vast array of instruments created and employed by humans alone in their effort to rule over nature.

Human language: All the unique characteristics listed above are disputed by some as to their validity in showing a difference in kind; however, the one exception is that of human language (sentence-making behavior) (Adler 1993:90). The force of Adler's assertion and what he calls the 'pivotal fact' in the difference between humans and animals is evident in the focus of the tests (e.g. Turing test mentioned in chapter 1) used for computer intelligence on natural language processing and in the affirmations of many in the scientific community of its absence in other animals. Since its inception in 1991, The Loebner Prize for artificial intelligence (Online 24) is an ongoing affirmation of the inability of computer developers (and their tenacity) to meet the criteria for the creation of a machine that exhibits a human-like ability to communicate.

Elaborating on the uniqueness of human language, Chomsky (2006:58-9) corrects popularly held assumptions that extensive modern studies of animal communication challenge the classical notion that humans have a capacity for language that "appears to be a unique phenomenon, without significant analogue in the animal world." He also presents as a false dilemma the inability to adequately account for the evolution of human language from simpler, more primitive systems, claiming that such a transition (from lower stages e.g. where vocal gestures are used to express emotions, to higher stages e.g. where articulated sounds express thoughts[26]) contains unbridgeable gaps without a mechanism to connect them (Chomsky 2006:59). He contrasts animal and human communication systems by noting the differences between them. First, animal communication systems use one of two basic principles: (a) "a fixed finite number of signals, each associated with a specific range of behavior or emotional state," or (b) "a fixed,

[26] Chomsky is responding to Karl Popper's argument that human language evolved from lower stages to higher stages suggesting a kind of continuity in its evolution.

finite number of linguistic dimensions, each of which is associated with a particular nonlinguistic dimension." Second, a human communication system "has an indefinitely large range of potential signals . . . [used] to express indefinitely many new thoughts, intentions, feelings, and so on" (Chomsky 2006:61).

Commenting further on the capacity for language as a uniqueness known only to humans, Chomsky (2006:99) argues that studies of both a wide range of languages and a single language provide good evidence for the presence of a 'universal grammar,' discovered through an unbiased study of the intrinsic structure of the language-acquisition device (the mental capacities that make language possible). Children are noted for their ability to assimilate a small amount of data in a short period of time and yet be able to immediately understand and produce a larger range of sentences derived from it (Chomsky 2006:100). This leads Chomsky (2006:100) to claim that a fairly strong empirical hypotheses can be formulated, showing that "humans are endowed with a very rich and explicit set of mental attributes that determine a specific form of language on the basis of very slight and rather degenerate data."

Finally, Chomsky (2006:183) mentions that "an elementary fact about the language faculty is that it is a system of discrete infinity, rare in the organic world. Any such system is based on a primitive operation that takes objects already constructed, and constructs from them a new object: in the simplest case, the set containing them." In the evolution of humans a 'Great Leap Forward' is necessary to account for the emergence of this kind of operation in the human brain (evidencing further the uniqueness of human language). Chomsky (2006:184) suggests that rather than postulating a complex process and mutations as the cause, perhaps "a more parsimonious speculation is . . . that the Great Leap was effectively instantaneous, in a single individual, who was instantly endowed with intellectual capacities far superior to those of others, transmitted to offspring and coming to predominate." Clearly, human language is a unique capacity requiring a unique explanation.

The examination of human beings via the sciences has uncovered numerous truly remarkable and sometimes unexplainable facts regarding human composition and behavior. However, it is often argued that in each of these respects humans are not really unique, they merely differ in degree from other creatures who exhibit similar traits. One human capacity seems without correspondence among all other creatures, language. As Chomsky indicated, this power evidences mental capacities (conceptual thought) unknown in any of the other creatures. The question that remains unanswered and debated is the nature of this power. Some argue that it is a

purely biological/material power, and others claim it demonstrates a non-physical/immaterial aspect of human beings. If the latter, then a radical difference in kind seems the only explanation, since naturalistic evolution could not account for an immaterial mind. The former has not been conclusively demonstrated either, so animal research in this area continues to hold promise but not as much promise as technology.

4.1.4 Does technology hold the key?

The comparison of humans to other animals as briefly conducted above should bring most to reasonably conclude that humans are unique among all other creatures in the world and that they stand above them as superior in intellect and over them as superior in power as evidenced in human governance over animals and other aspects of nature in general. Whether one claims that this difference between humans and other creatures is one of degree or kind (superficial or radical), the uniqueness of humans seems irrefutable. Given the absence of evidence that would lend credence to the claim that a present species might in the future evolve into a form that would afford characteristics equal to or better than a human's, it seems the remaining avenue for a development that would challenge human uniqueness most likely may come from their own efforts to create something equal to or better than themselves (as was evident in the assertions of futurists and computer scientists in chapter 2). Adler confirms this assumption near the conclusion of his work that compares humans and animals in a section in which he concurs that a future technological creation may challenge the claim of human's to uniqueness. His reasons for drawing that conclusion are informative and worthy of a brief overview.

Referring to it as the 'Cartesian challenge,' Adler takes Descartes' assertions that human power of reason (or conceptual thought) is an immaterial power not present in other animals or in machines (Descartes viewed animals as automatons) and translates it into terms that apply to present areas of investigation. This modified challenge consists of three prongs: (1) the neurologist must provide an explanation for conceptual thought sufficient to reduce it to mere brain activity; (2) the zoologist must discover a non-human species that converses within its species, or that can be taught to converse with humans (after finding a way to translate their propositional language into ours) – this excludes animals trained to respond to human words, or that imitate sounds or verbal sequences of human speech; (3) the technologist must produce a machine that without being programmed to do so, can converse with humans in a natural language such as English (Adler 1993:234). He proceeds to argue that the first two prongs of

Descartes' challenge even if met would not exclude the possibility that an immaterial power lies beneath the power of conceptual thought be it in a human or a dolphin. The third prong, however, leaves no room for positing an immaterial power and would, therefore, be a decisive refutation of any such claim (Adler 1993:234-35).

The precise nature of the challenge posed by the third prong listed above is outlined by Adler in four distinct clarifications: (1) the machine could not be one that is completely programmed e.g. all devices today referred to as computers. It must be a machine that functions not on the basis of predetermined pathways i.e. programming, but "operates through flexible and random connections . . . simulating human intelligence in its higher reaches . . . able to learn from its own experience and must be teachable, as the human being is . . . capable of making errors that are not wholly explicable by mechanical defects" (Adler 1993:241); (2) the machine does not need to 'replicate' human conceptual thought (operate in the same way as the human brain), it can 'simulate' it i.e. produce the same result (converse in the unpredictable give-and-take manner with humans using a natural language) in a different way (Adler 1993:241-42); (3) the machine must be an actual working device, not a theoretical promise or prototype; (4) the machine needs only to use propositional language conversationally, it need not measure up to human thinking in all its variety since the former is sufficient to show the presence of the power of conceptual thought (Adler 1993:243).

The attempts to construct a machine that would pass the Cartesian or Turing test continue into the present with no serious contender to be found. Whereas the immaterialist position would be falsified were such a machine to be developed, the repeated failure of the attempts to do so cannot falsify the naturalist or materialist position; however, they will gradually reduce the credibility of their claim and conversely increase the strength of the immaterialist's claim. *Given the acceleration and near exponential growth in computing power the prospects seem favorable that within the next decade the technology will exist to bring the hopes of a machine passing such a test to ultimate fruition*, or either the failure to do so should add sufficient weight to the argument that such hopes ought to be put to rest.

4.1.5 Location, location, location! Putting humans in their place

The most memorable mantra of those in the real estate business and of those entrepreneurs seeking to establish a place of business is simply stated as, location, location, location. This

mantra holds by analogy a great truth relevant to many other aspects of life and one's examination of things. Consider the correlation to the exegetical principle that emphasizes the relevance of context to the interpretation of a portion of a text, or the sociological principle that calls us to consider the relevance of one's culture to their life and its formation, or the psychological principle that reminds us of the role one's birth order in a family can play in one's behavioral formation. Each of these principles pertains to location in one sense or another. In this examination of what it means to be human considerable insight can be gained by contrasting humans to other beings around them (as has been done above) in order to grasp the significance of his location and why it matters if he concedes his place by admitting other beings into it by either the reduction of humanity or the elevation of other creatures (the next section examines the consequences of doing so).

A concept referred to as the 'Great Chain of Being,' that has its roots in the ideas of Plato and Aristotle, depicts a metaphysical hierarchy of being in the universe with the most perfect being atop and the least of the imperfect beings at bottom (Online 31). While a defense of this concept will not be forthcoming, it should be recognized by materialist and immaterialist alike that it seems implicit in common human perception and the ordering of life by us that an *order of being* is recognized by all. For example, although having a 'pet rock' was once a fad in the 70's (the originator intentionally and creatively capitalized on the humor in the absurdity of the concept) (Online 38), no reasonable person has risen to the defense of rock rights (not to say it is impossible). Even the legendary founder of Jainism, Mahavira, with his radical commitment to do no harm to a living being (animal or plant), who even swept the path before him so as not to crush any living thing underfoot, nonetheless 'crushed' other 'non-living' things with his feet evidencing a distinction and hierarchy of things (Corduan 1998:253). Suffice it to say that the notion of hierarchy among beings in the universe is, at a minimum, implicit in the thoughts and practices of most, if not all, of humanity. Several notable thinkers e.g. Aquinas, Dante, and Locke, recognized a fourfold order in the universe consisting of: (1) things that are inanimate and mindless; (2) living/animate beings without minds; (3) minds associated with living/animate bodies; and (4) spiritual beings i.e. minds without bodies (Adler 1993:929-37). The very ordering of beings implies purpose, and the unique position of each being implies relational harmony in the order of creation. Considering the apparent uniqueness and power held by humans in the created order, noticeable consequences would be expected to follow were they to either alter their own location or that of other creatures in the created order. A consideration of those consequences is to be found in the next section.

4.1.5.1 What happens if humans lose their place?

Should humans be classified with apes or automatons? It would appear at first glance that it would be advantageous to the well-being of animals to elevate them to the level of human beings, but what consequences follow from doing so? *What is being considered here are the ideas held by humanity of themselves in relation to these other beings and what the consequences may be were they to be considered as equal to them*. A brief review of the consequences for humans in relationship to animals will be conducted, and an examination of the relationship of humans and automatons (specifically robots) will follow.

At first glance, considering humans and beasts as equals seems to grant a better, more 'humane' status to animals. Animal rights advocates would rejoice to see that day. However, what is the difference between treating an animal humanely and treating it as a human? Smith (2010:15) claims that "perhaps the most important difference between the two belief systems is that unlike animal rights advocates, proponents of animal welfare do not seek to create a *moral equivalence* between human beings and animals" (emphasis mine). Adler's (1993:263) comments also illuminate the perils of blurring this distinction in his remark that "if in the future . . . the line that divides the realm of persons from the realm of things would be dubbed out . . . with its disappearance would go *the basis in fact for a principled policy of treating men differently from the way in which we now treat other animals or machines*" (emphasis mine).

Why this emphasis on morality when contrasting man and animals? The reason is that the focus of any examination of the differences between them inevitably leads to what 'ought' to be 'done' in light of the knowledge gained by it, and ought and doing are fundamental to morality. If one deems humans and animals as equals the discussion quickly, and rightfully so, turns to what ought to be done in terms of their relationship one to the other. However, as this study and the research of all honest scientists to date reveal, humans are alone in their use of propositional language among the known species in the world. And, as others have attested, it is this unique ability that lays at the root of many of the other contingent uniquenesses e.g. complex social organizations. This is not an insignificant difference, as upon it hinge the establishment of moral conduct and systems of justice. As long as other animals are unable to comprehend and adhere to such standards of conduct (even a rather minimal code such as the prohibition of maleficence or admission of property rights), then in order to remain consistent with regard to equality a standard applicable to both humans and animals appears to be the logical outcome.

What standard would follow from such an outcome? The standard already practiced by the other animals, namely, a brutish standard where individual instinct and desire prevail over the rights and respect granted to others simply for what they are rather than for the brute power they possess to resist such infringements upon their liberties. *The code of conduct would degenerate into one of* '*might makes right,'* and history is replete with horrific examples of the devastating results such a rule has wrought upon humanity subject to it. As Adler (1993:280) said, "so long as man is governed by his animal instincts, his behavior cannot be altered in its broad outlines and in its basic tendencies," and that as any parent, principal, or potentate would attest, would render the one so *self*-governed ungovernable and unteachable, and would render a society so comprised anarchical in its state of affairs. *The bottom line seems to be that when animals are 'treated' as human, humans tend to treat one another as animals*.

The preceding paragraphs have identified some of the consequences to humanity when other creatures are considered as equals to humans. Some of the points made above apply when equating humans and robots, but are there any unique consequences? Foerst, brings out numerous beneficial things humans can draw from their development of and interaction with robots. In the closing sentence of a chapter entitled, *Embodied Community*, she states, "people often don't want to bond with Kismet because 'it's just a robot'," and then she proceeds to declare that "the humanoid robot project reveals what makes humans so good at denying value and dignity to some of their fellow human beings" (Foerst 2005:152). Her point is legitimate (although I think a study of strictly human prejudices could reveal it too), much can be learned about human behavior by observing human interaction with any and all things in one's environment.

What is in question here though is what happens to humans if they are equated to a machine/robot. To reiterate and restate, what is being considered is not merely what happens if humans are compared to a robot, but what happens if humans are declared to be the same as a robot. It is this point that Foerst and others seem to gloss over. In a section dealing with human limitations in relationships e.g. a person is only capable of bonding with 150 people, Foerst (2005:177) asserts that "we have created threat narratives about robots: that humanoids with human capabilities will *reduce us to mere machines* or that robots will surpass us and make us superfluous" (emphasis mine). She does not treat the reasons for these threat narratives and quickly moves on to note that robots can serve to make us think about our communal limitations. It has been noted (see section 1.5.1) that the meme toward robots reflected in the majority of Hollywood's productions does indeed reveal a 'threat narrative,' but why is it so prevalent? In

order to confine the present discussion to the matter of the equality of humans and machines, the threats (and arguably the vast majority of the popular notions of the threat) that pertain to machines that are superior to humans will be dismissed.

Foerst's remark that people are threatened by humanoid robots because they will 'reduce us to mere machines,' deserves a more careful consideration. The notion that the mere presence of such machines will reduce us by some form of mysterious biological metamorphosis is absurd and easily discarded, but what has been in view in the prior sections is primarily *what change in perception (ideology or worldview) occurs on the part of humanity when they equate themselves with another being (in this section a machine), and what follows from such thinking*. It is readily apparent from prior observations that were humans and machines to be equated significant assertions about humans are conceded, as was poignantly stated by Adler – his contention was that the strongest argument against the immaterialist's notion of being human, and one that would shut the door on the claims that there is a radical difference in kind between humans and all else, would result from the creation of a human-like robot.

So, is there a real threat posed by man being equated with machine? It is worthwhile to restate what Adler (1993:263) claimed would disappear if this 'line' was erased, namely, "the basis in fact for a principled policy of treating men differently from the way in which we now treat other animals or machines." Now, does it necessarily follow that such treatment of humans will ensue when equated with machines? No, but *sufficient conditions* will attain that render it possible that the absence of such conditions did not. Just as a tornado does not necessarily attain in the presence of a severe thunderstorm, it is the sufficient condition for one to attain, and *serves as the ground for a legitimate 'threat narrative'* for those who live under its clouds. Even in the absence of a human-like machine, a materialistic and mechanistic perception of humanity is prevalent, and it is evident in the treatment of humans (see section 2.1) in a rather utilitarian manner *as commodities for manufacture, manipulation, and distribution; for that is how machines are treated*.

To argue that we ought to treat machines like people is to imply a difference (and one of superiority on the part of people), which fails to consider them as equals and simply appeals to people to be more accepting and 'humane' in their treatment of machines. This is something Foerst (2005:190) essentially argues but she reaches too far when she calls for us "all to commit ourselves to creating narratives of universal acceptance and the value of each person . . . [in order to] create a world in which peaceful coexistence of all different forms of culture and creed, and

of all different humans – *and our robotic children* – becomes possible," (emphasis mine) for in seeking to achieve moral equivalence for robots she fails to perceive and/or acknowledge the legitimacy of the basis for that which she referred to as the 'threat narrative.'

4.1.6 A summary of the philosophical and scientific inquiry

The foregoing discussion revealed that humans are indeed different from other beings, animal or automaton, and that the mode of difference cannot be satisfactorily answered by a strictly philosophical or scientific inquiry alone, both methods of inquiry must be employed. However, even after conducting a 'mixed' study of this question no decisive answer is forthcoming. A philosophical inquiry reveals noteworthy differences between humans and other beings, and in so doing, casts in vivid relief the characteristics that are prominent and highly developed, if not unique, in human beings. Yet the realm of philosophy reaches an impasse when confronted with the scientific data, particularly the underlying difference in the corporeal constitution of humans and other beings. Given the limitations of science in terms of the corporeal realm as its sole domain, even science comes up short in the project whose end is to reveal the 'true' nature of human begins. Were animals to use propositional language to converse with each other or with humans or were neurologists to demonstrate that mental states can be reduced to brain states, these characteristics of humans and animals could still be posited as having an incorporeal power as their underlying cause. The most significant challenge would come from the creation of a being that could converse with people and whose composition was demonstrably taken from matter alone i.e. a robot. Although someone could insist that an immaterial cause i.e. God, infused the robot with incorporeal powers, it would show such an advocate to have been deceived when the entire process of manufacturing the robot clearly demonstrated the exclusive use of material components. One would be in essence claiming that a 'god' is in the machine.

The prior sections have endeavored to examine the question of what it means to be human from a strictly philosophical and scientific approach. It is evident that from both perspectives the case is not closed, and the robotics laboratory continues to forge the forms of mechanical humans while all humanity waits to see if their match has been produced with humans alone as the maker. While humanity waits for the scientist to yank the veil from the laboratory window, an examination of what has been revealed to them from a divine source regarding the matter of being human follows in the next section.

4.2 A THEOLOGICAL EXAMINATION OF WHAT IT MEANS TO BE HUMAN

"That we are to love God and our neighbor, can be viewed as a clarification of the phrase 'image of God' in Genesis 1. The 'image' loves because love is of God (1 Jn 4:7). And the image's purpose is to love. Here is a definition of what it is to be human" (Macaulay & Barrs 1978:14-15).

The prior section in this chapter intentionally omitted a theological examination of what is means to be human. Even in so doing, it was evident that sound arguments can be made for the uniqueness and apparently immaterial powers of humans in contrast to other corporeal beings. What follows in this section is a strictly theological examination of this question. The Bible will be the primary source with the positions of other theologians included and examined. The contour that this study will follow will be the rise, fall, redemption, and the eventual destiny of the embodied human in a chronological sequence. It will also include an introductory treatment of the 'image of God' as it pertains to humanity and is intended to inform the remainder of the examination. The first appearance of the human body in the Bible marks the origins of humanity and reveals distinctive facts that hold timeless relevance to the embodied life. The creation of the human body is quickly followed by an event that dramatically alters the course of the embodied life for all subsequent generations. This event is commonly referred to as the 'Fall.' Clearly, this event introduces complexity and difficulty to the embodied life, but hope for a remedy is promised soon after the event itself with persistent declarations and demonstrations affirming it. The remedy i.e. redemption, arrives in the form of the embodied God-man, Jesus of Nazareth. His birth, life, death and resurrection provide remarkable truths that are applicable to all of humanity in both their present and future existence. The writings of the N.T. authors will also be examined to determine the substance of what was said concerning human existence, embodied or disembodied.

4.2.1 The human in the mirror – A body from eternity

Theological treatments of what a human being is frequently draw upon the biblical references to the 'image of God,' and this study will not be the exception. The concept, indeed, carries much weight in most theological discussions of humans and is often expressed in an ontological manner that endeavors to derive the 'essence' of being human, which can then be universally applied to all humanity. Indeed, in an effort to establish the 'being' of humans as contrasted to

machines for the purpose of this study, it appears necessary to construct a definition of human beings that is to a large extent ontological. Most theological attempts to accomplish this goal include, if not begin with, the accounts in Genesis of God's creative act to fashion a man from the ground (Gen 2:7) and a woman from man's rib (Gen 2:21-22). Initially, this study was to begin there, too, until informed by the work, *Eccentric Existence*, of Kelsey. What follows is a brief interaction with Kelsey's explanation of the concept of the 'image of God' as it applies to the question of what is unique about human beings.

Beginning with the account in Genesis 1:26-28, Kelsey (2009:922) notes that the 'image of God' referenced there is not being applied to a specific human being, but "rather it is humankind as some sort of corporate whole." Affirming that claim, Grenz (2005:89) notes that the text portrays humankind as representing God i.e. as His image, on earth. The details of what that means, according to Kelsey (2009:932), is unclear, and in light of the rather meager supporting texts and accompanying exegetical difficulties, it "ought to give the theologian pause." This pause is indeed warranted, and a closer examination of the Genesis text reveals strong support for a corporate aspect as Kelsey and Grenz claim.

However, while broad and ambiguous in the text under consideration (connotes nothing more than similarity) and in other O.T. texts (Gen 5:1-3; 9:5-6), the concept most assuredly finds great depth and specificity in the mind of God who is the One ascribing 'likeness' to His creation of humanity. Granted, our perspective will never be so informed, but thanks to God's later revelation a better understanding is available to us, most notably in Jesus Christ. Referring to the N.T. texts that reference the 'image of God' (2 Cor 4:4b; Col 1:15; Heb 1:3) in relation to Jesus, Kelsey (2009:1002) asserts that the "image of God is said to be the *concrete, particular being* of Jesus Christ" (emphasis mine). Kelsey (2009:1008-09) clarifies that he is not proposing that "Jesus is ontologically paradigmatic in the sense of being the (Platonic?) 'Idea' of human being in which all other genuine instances of human being participate," rather that "Jesus as imager of God precisely in his humanity gives him the status of 'grammatical paradigm' of human being," and that human beings while "not bearing the image of God themselves, nonetheless image the image of God."

Kelsey suggests three aspects to the way in which human beings do so, but a few comments on prior points are in order. If Jesus 'is' the 'image of God' as Kelsey asserts, then given the agency of the Son of God in the creation of humans, He was literally creating them according to 'His' image. And, prior to the creation of the first man, God had in mind the creaturely form in which

He would manifest the concrete particularity of His image and presence,[27] so the first man was made after a God-*kind* of 'image' (the other animals were made after *their kind*). That human beings alone image the image of God is itself a significant fact for humanity and carries considerable import in their role and relationship to God and all that is not God. Since the resurrected Christ is the image of God, believers as new creations in Christ not only image His image, they are being transformed into the same image (2 Cor 3:18). A look into what Jesus is as the image of God will be beneficial to this study.

In summarizing the characterization of what Jesus is as the image of God and what human beings are to be as imagers of that image, Kelsey (2009:1009) declares that both are "finite living mysteries that image the triune living mystery." He bases this proposal on the claims: (*a*) that God relates to create, to draw into eschatological consummation, and to reconcile[28]; and (*b*) that Jesus as an actual living human personal body is the glory of God, and that as paradigmatic of what all human creatures are, human creatures are also the glory of God in their imaging of the image of God (Kelsey 2009:1010).

The three aspects that treat the question of what a human being is as the image of God (as applied to Jesus) are as follows: (1) he lives on borrowed breath – by being a human creature that is creatively related to by God. This consists in the way in which he bodily acts and interacts with other creatures, and simply by being a human creature (Kelsey 2009:1010). In regard to the former, Jesus undergoes much in his humanity to reconcile and draw into eschatological consummation all of humanity. In simply being human he is radically dependent on God and evidences finite human powers and freedom. He also relates intimately with God in his human existence. Kelsey (2009:1015) claims that Jesus as an actual living human personal body is mysterious epistemically (cannot be exhaustively known in his humanity, or his humanity expressed in one coherent and comprehensive set of propositions) and ontologically (the contingent fact of his particular concrete actuality is finally inexplicable); (2) he lives on borrowed time – by being drawn to an eschatological consummation in a glorified human body. In the case of Jesus he suffered the estrangement from God and the judgment of God, and he experienced the intimacy of a restored communion with God at the inauguration of the eschatological reign of God (for Jesus this is fully actualized). Jesus' bodily existence, while continuous, is now glorified, so it is experientially discontinuous with his pre-resurrection body

[27] In Colossians 1:15, the Greek word 'image' *eikon* carries with it the Hellenistic notion of an *eikon* as the concrete place where invisible divinity makes itself manifest (Kelsey 2009:1005).
[28] Webster (2003:224-5) shares these motifs referring to them as movements that characterize the economy of grace directed toward humankind by the triune God.

(more on this later) (Kelsey 2009:1016-23); (3) by all (from birth onward) that Jesus freely does and undergoes, in love he reconciles estranged humanity to God.

Kelsey lists four types of freedom evidenced in what Jesus does and undergoes: (*a*) he has freedom of choice i.e. he could have done otherwise; (*b*) he is capable of self-transcendence in a multitude of ways e.g. seeing things from another's perspective; (*c*) he loves others and God non-self-dividedly and wholeheartedly as a human being who is purely for others; (*d*) he is able to be tempted (Kelsey 2009:1024-25). Kelsey (2009:1026) sees all other human beings as epistemically and ontologically mysterious in the same way that Jesus in his humanity is and that what constitutes them as finite mysteries is "the way the rich complexity of what they are by virtue of God relating to them in creative blessing, what they are in both modes of their bodied humanity by virtue of God relating to them in creative blessing and in eschatological blessing, and the several senses in which what they are is free."

How can Kelsey's perspective inform a theological answer to the question of what is unique about human beings? The ground Kelsey (2009:1008) proposes for human existence serves as a foundation for the answer – their reality is "grounded outside themselves in the concrete ways in which the triune God relates to all that is not God, including humankind." Grenz (2005:97-8), in seeing the very personhood of the three members in the Godhead as relationally determined i.e. *perichoresis*, also affirms an ultimately Trinitarian ground for human relationality to God, one that is drawn into an ecclesial union in Christ, "participating in the very *perichoretic* dynamic that characterizes the eternal divine life."

That our existence is grounded in God's relating to us creatively i.e. created as human beings by God, does establish our humanity, but it is lacking in details. More detail can be found in the way God relates to human beings in drawing them to eschatological consummation and in reconciling them from their estrangements. However, to be related to by God as a human being in all three ways depends on the creature being human. So what is a human? Jesus, as humanity's 'human in the mirror' gives a more concrete answer. His bodily human form and the full range of experiences unique to humanity create a clearer image of what it means to be human. Unquestionably certain human traits e.g. language and free will, are unique to humans and represent aspects that are superior to all other corporeal beings, yet the human embodiment, too, is unique in form and function, continuous through all the ways of God's relating to it and that through which all of its powers are exercised. The nature of the first human's bodily existence follows in the next section.

4.2.2 The first Adam – A body created for us

In the book of beginnings, Genesis, a concise depiction of God's creative activity is provided. The order in which God creates the corporeal world and all within it is logical and affirming of each creature. The environment is made ready first, the inorganic followed by the organic – earth and water, a light/heat source(s), the separation of bodies (land from water) for land and water dwelling creatures, the creation of plants capable of bearing fruit for reproducing and consumption, and the creation of water and air creatures which are directed by God to multiply (Gen 1:1-23). The sixth day (not important here whether a twenty-four hour period or not) is very noteworthy because it is the last day of God's creative acts, and in it He creates out of the ground living, land-dwelling creatures. The last creative act on this sixth day was to make a man (Adam) out of the ground too (Gen 1:26-27). All else had been made ready (fine-tuning of the universe[29]) and then a man is formed from as base a corporeal material as one could find, the ground itself. God did not take another living organism and so fashion a hybrid; He took of the base inorganic materials and formed a man. In the prior creative acts God is said to make them 'after their kind' (Gen 1:25). However, while the man was also made from the ground, God declares that the man is to be made in "Our image, *according to* Our likeness" (emphasis mine) (Gen 1:26).

This self-referential declaration by God indicates a radical departure in the creation of a man from all other living creatures. The uniqueness of the event is even evident in the text itself in its difference to what came before e.g. its length and solemn introduction (Westermann 1994:143). If orthodox assertions of God's immateriality are correct, in what possible way could an entirely corporeal creature bear the 'image' of God? He was made to image the image of God in Jesus Christ. The man, from the very first moment of creation, is drawn into a comparison with God rather than to his own kind or any other kind among corporeal creatures. Man and woman's identity is drawn by comparison i.e. in relationship to God (no indication of intimate fellowship at this point in the narrative), and they alone reflect God's likeness[30]. Humans are not God and differ greatly from Him, but "it is humanity as a whole created as the counterpart of God" that renders a comparison intelligible, and more importantly a relationship possible (Westermann 1994:158); they are like Christ who as the image of God is in *perichoresis* with Him. The

[29] See this concise article by Hugh Ross containing arguments for the fine-tuning of the universe that made life on earth possible - http://www.leaderu.com/science/ross-justright.html .

[30] The word 'likeness' in Genesis 1:26 is "often used to create a simile by comparing two unlike things" (Baker & Carpenter 2003:241). The implications for this as a possible use in this context illustrates the essential 'otherness' of God in comparison to man, yet demonstrates a sufficiency of 'similarity' to render a comparison possible and reasonable even from God's perspective since the declaration of 'likeness' and 'image' is here attributed to God.

declaration by God of the human likeness to Him is immediately followed by the delegation of authority over all living and non-living things i.e. over all the earth and everything in it to them (Gen 1:26, 28). Verse 28 extends this authority to 'them,' both male and female. So, in terms of their standing with God and to all that God created, humans hold a unique position among and above all else that He created (Vanhoozer 1997:166).

Considering the place and responsibility given to humans by God in the earth, it seems to follow that God would equip them in their embodied existence with that which is necessary to execute the charge. While humans are given authority by God over all the earth the intent and limitations are evident. God initially (after the Noahic covenant it changes) *gave* for food only the green plants to the humans and all the other living creatures (Gen 1:30) – implying that humans did not have the liberty to take a living creature for food. Man and woman are also placed by God in a garden planted by God to 'cultivate' and 'keep' it (Gen 2:8, 15). Their responsibility was to work in the garden and to watchfully care for it. Distinct from possible cultivation issues that follow Adam's transgression, nourished vegetation naturally grows, and both their nourishment and growth need to be managed by someone who is wise in such matters for both the well-being of the garden and for those who are sustained by the garden. Referring to 'Woman Wisdom' in Proverbs, Kelsey (2009:194) notes that it is "God's call coming to humankind through creation to be wise in each of three types of human practices[31] . . . both for their own well-being and for that of the quotidian."

The extent of human governance and unique ability to do so is revealed in the undertaking by both God and the man to make 'a helper suitable for him' (Gen 2:18b). The need for a complementary human partner is evident in that after each creative act God 'saw that it was good,' yet He deems it not good for the man to be alone (Gen 2:18a). The presentation of the birds and beasts to Adam reveals both the ability he possessed to identify, and therefore, distinguish each kind (naming in this context and in early cultures closely correspond to the essence of the one named), demonstrating his unique ability to be over them (and their inability to assist him in the oversight of the earth), although it is not clear that it "should result in a rule of power rather than a rule of peace" (Vanhoozer 1997:166). Since Adam understands what these creatures are i.e. not human, it also reveals the incompatibility of all living things as suitable companions for him.

[31] Practices of securing justice and correcting injustice; of borrowing, lending, and managing money; and above all, practices of using language either truthfully or deceptively (Kelsey 2009:194).

While companionship for the purpose of satisfying either emotional or sexual need is not excluded (in Gen 1:28a God charges both the man and the woman to 'fill the earth') in this account of the creation of the woman, it seems the explicit purpose was to provide *a helper* compatible for the man in order to fulfill the charge to oversee the earth. The nature of the compatibility seems evident in the derivation of the woman from the material of the man. She was not taken from the ground in a separate species specific creative act as with other kinds, rather she was derived from the existing material of the man emphasizing the degree of compatibility and unity of the two. Having a complementary (not identical) companion capable of oversight and reproduction, they are in a better position to assume responsibility over the earth given to them by God.

There is additional significance to sexual differentiation than mere biology or responsibility (as imperative as it is); there is a marked social aspect to it as well (Vanhoozer 1997:165). Grenz (2005:94) comments that this creation story reveals the incompleteness of an individual embodied existence and positively points "to the potential for wholeness in relationship with others." He also posits that the *imago Dei* is encapsulated in human sexual differentiation as it reflects divine relationality (Grenz 2005:94). Grenz (2005:95) accepts Barth's emphasis on sameness and difference as a reflection of the mutuality within a plurality in the triune God, but he rejects Barth's departure from it for the I-Thou paradigm of relationality. Grenz (2005:95) holds that sexuality is not left behind (Christ's gender continued after the resurrection) and that "even though genital sexual expression is left behind, the dynamic of bonding continues to be operative beyond the eschatological culmination, for this dynamic is at work in constituting humans as the community of the new humanity within the new creation in relationship with the triune God."

The creation account quickly takes a turn from a paradasical everything-is-good in and with the world happenings to events that stand in stark contrast to them. The vulnerabilities of human embodiment become readily apparent and are first manifest in an act that transgressed the only negative command (with accompanying life negating consequences) God had given to Adam and Eve. The greatest point of vulnerability in humanity's position in the world and before God lies in possibly their greatest ability, that of choice i.e. libertarian free will (implicit in God's act of commanding is the notion of free will in the agent being so commanded). As is evident in the initial creation narrative the corporeal nature of humans affords them the unique and wonderful privilege of participating in and enjoying the goodness of God's creation. They find their purpose and sustenance in the midst of it and possess the intellectual and appetitive powers well

suited to it. However, in the account of the Fall, the vulnerability of these powers is evident. The intellect is appealed to first as the serpent calls into question the prohibition and the rationale behind it. Once the intellect had been drawn to the object (the tree of the knowledge of good and evil) the appetitive powers 'saw' the goodness of the tree (its food and beauty) and the will moved the agent (Eve) to possess and consume it. The immediate consequence for both was a sense of shame, "a reaction to being discovered unmasked," something that occurs only in relationship with others (Westermann 1994:236). This is a new experience for them, a consciousness of something different, of something being wrong, and it caused them to conceal a part of themselves from the other. It also produced a fear of God that caused them to attempt to hide their entire self from Him.

The consequences that followed the transgression of God's command[32] serve to illustrate further areas of vulnerability now to be experienced by humans – a summary is as follows: (1) God cursing His creation for the first and only time (Westermann 1994:236) – the serpent specifically and to a greater degree (Gen 3:14); (2) the introduction of enmity by God between creatures – the seed[33] of the serpent and the seed of the woman (Gen 3:15a); (3) the magnification of pain in childbirth[34] (Gen 3:16a); (4) a shift from mutuality in husband and wife relationship to a deeper longing of the wife for her husband and a position of subordination of the wife to her husband (Gen 3:16b) (Westermann 1994:261); (5) God cursing the ground - from which humans and beasts were made (Gen 3:17b); (6) great effort required to cultivate and keep the plants necessary for human sustenance and the addition of encumbrances e.g. thorns and thistles, to that task (Westermann 1994:265); (7) the promise of death i.e. the eventual return of humans to the ground, and the reduction of the body to that from which God initially made it (Gen 3:19); and finally, (8) while not in the consequences declared by God directly to the serpent, or Eve, or Adam (and implied in the last point), God, in view of their acquired knowledge of good and evil, blocks their access to the means of extending their lives – possibly forever (Gen 3:22 – 24). The continuance of the biblical narrative is rife with examples that attest to the marred, but not without occasional marvels, existence of all things, especially humans.

A summary of the consequences listed above will serve to guide a brief consideration of these consequences for humans today. First, considering the place given to humans (one of

[32] "The original and the only punishment was the expulsion from the garden and alienation from God . . .The pronouncements of punishment have been added as a further elaboration" (Westermann 1994:257).
[33] 'Seed' in this text refers to the biological descendants of both parties, and provides no support for some Christian tradition that sees it as a prophecy concerning Christ (and Mary) and Satan (Westermann 1994:259-60).
[34] Westermann (1994:262) astutely points out that the pains of pregnancy in no way diminish the dignity of womanhood and motherhood, as Gen 3:20 confirms.

prominence and responsibility over all creatures and over the earth) and their proximity and connectedness to all of creation, it follows that a detrimental shift (estrangement to God and others) in their state will affect those that share their context i.e. the earth and all in it, too. And, since both Adam and Eve sinned and it is their progeny that would fill the earth, it follows that their state will affect all of their descendants e.g. the unavoidability of sin and death.

The first consequence is an unfavorable change of relationship between God and creation as seen in His curse of the ground (since all, beasts and humans, at that time ate plants, all would be affected) and the serpent. Second, as a consequence of the first, is the entrance of struggle for the sustenance of life among living creatures – it is most notably the man, whose task is to cultivate and work in the earth, who faces this struggle. Third, is the entrance of strife into creation. Fourth, there is a change in relationship among human beings from one of equality to one assuming authority over another e.g. Adam will 'rule' Eve. Lastly, in stark contrast to life that characterizes so much of creation, now death and the certainty of it for humans is declared. In fact, as the biblical narrative unfolds God continues to shorten the lifespan of humans after significant moral failures evidencing the continued concern (as implied in Gen 3:22) that the extension of human life in its present state brings with it the certainty of greater evil rather than a return to the goodness characteristic of all God had made.

The consequences of the Fall for human life today will be made apparent. While few today ascribe the origin of the affects to God's response to Adam's sin, few deny the presence of a struggle in creaturely existence on earth, or the occurrence of death among all living things, or the presence of strife among humans and the apparent necessity of humans-ruling-humans whether by force or free election. If the creation account is accepted as true, it is evident that to be human prior to the Fall did not entail the present state of human existence. The persistence of our present state through history gives the appearance that it is impossible to eradicate. Some seek to escape it by means of disembodiment e.g. some transhumanists and some Christians, and some by biological or technological innovations. Arguably, much is learned and a greater appreciation gained for what is obtained from the struggle to live. Even in our leisure when the presence of life's struggles abate, many take up activities e.g. sports and hobbies that involve a struggle. So, it seems certain struggles increase the enjoyment of the end finally obtained.

Prior to the first recorded murder in the Bible God admonishes Cain (after God's disregard for his offering he became very angry) saying, "If you do well, will not your countenance be lifted up? And if you do not do well, sin is crouching at your door; and its desire is for you, but *you*

must master it" (emphasis mine) (Gen 4:7). It seems inevitable from this and other passages throughout Scripture that humans will always contend with strife as long as sin is present; however, there are numerous biblical admonishments to 'master' sin and so live at peace with others and to be in good standing with God (Westermann 1994:242). Much effort has been invested in humans striving for peace – psychiatrists, counselors, and religious teachers have labored to bring peace in 'self,' and armies, policeman, and neighborhood watch groups have struggled to bring peace to nations, cities, and neighborhoods. All this effort and still strife has not been eradicated. Strife seems rooted in the *self*-ish desire to usurp any authority other than self – James says, "for where jealousy and selfish ambition exist, there is disorder and every evil thing" (Jas 3:16). This usurping of authority by self is clearly manifest in the willful disregard of God's only command by Adam and Eve. And so underlying the nature of our present struggles, strife, and death is a principle of death present in all of creation that affirms the penalty God promised would follow from the transgression of His command (Gen 2:17).

In summary, human existence entails embodiment which finds its origin in the creative act of God. This embodiment was made for an earthly existence and equipped to not merely survive, but to thrive and revel in the goodness of all that was created. The ordination of humans by God to a position of supremacy over all of creation, yet their subordination to God in the execution and limitations of it, established them as the benevolent vice regent of God over all things. The usurpation of God's authority by humans, while not resulting in their dismissal as vice regent, brought with it consequences that introduced death into a corporeal world that previously had only known life. The embodied existence of all living creatures and even inorganic material was affected. A world that only knew good and God's blessing now experienced evil and God's cursing. So, *to be human entails a corporeal 'human' existence* within a world of other humans and creatures over which mutual responsibility is held for the well-being of all, but the state of our corporeal existence is determined by our response to the God who gave and sustains our body as well as all of creation.

A pertinent closing quote on well-being and the necessity of wisdom for upholding one's responsibility for creation's well-being comes from Kelsey (2009:240):

> What makes an action wise is insight into how to act in the particularities of a given concrete situation so as to establish and maintain there that socially teleological order that makes for the well-being of human lives. . . . acquiring capacities for the insightfulness that makes human agency wise is inseparable from learning to relate each concrete situation to God.

4.2.3 The human in the middle – A body broken for us

The prior section presented the human body as created by God and confirmed by God to be very good. It was also evident that unlike all else God created, humans were made according to the image of God, suited for communing with God and for oversight of all that God had created. Yet, as a result of their sin, death entered the order of God's good creation at the pinnacle i.e. humans, and like a rust, sin began its corrosive work from the top to the bottom of the goodness that was in all of creation. Yet, God did not divorce Himself from His creation but continued to sustain its existence and interact with humans on the earth. His specific relationship with Israel clearly evidences His continued dealings with humans and the extent of His mercy and grace, given their state of being post-Fall. Significant to this study is the manifestation of God in human form i.e. the incarnation of Christ. The implications of this divine embodiment are profound and not only affirm the nature of human existence but portend the destiny of it, too. While concise, the following review is intended to reveal a correlation between Jesus' human existence and the matter at hand i.e. what is unique about being human.

To monotheistic religions e.g. Judaism and Islam the notion of God becoming a human or attributing corporeality to God is offensive, to put it mildly. However, orthodox Christianity does not declare that God put off His deity and became a human but rather that the Son of God (the third person of the triune God) took on a human body without subtraction from His deity. A defense of the triune nature of God or of the intricacies of the nature of the incarnation is beyond the scope and purpose of this study and will be presumed as valid.

The first observation pertinent to this study is the simple fact of the nature of the embodiment God elected to take on. As already mentioned it was corporeal. That an immaterial God possessing all the perfections attributed to a Being such as He would be found in the likeness of humanity (Phil 2:6-8) is blasphemy to the monotheist, yet it is amazingly affirmative of the significance of the corporeal to God. Also affirming the primacy of humans in God's created order is the form He takes on. He does not come into the corporeal realm as a cricket or a cocker spaniel; He comes in human form. The manner in which He comes is not as the result of a separate creative act of God akin to Adam's but by human conception brought about in Mary's womb by the Holy Spirit. In so doing (not necessarily the express purpose) He affirms the continuity of biological human life, the manner of that continuity i.e. procreation, the development/maturation of human life over time, and the necessity of suffering and death in this present existence. In short, Jesus from conception experiences human life as all humans

experience it. The confirmation of the human nature of those experiences is listed in the chart below.

Body	**Mind**	**Will**	**Emotions**
Conceived (Mt 1:20) Born (Lk 2:7) Grew physically (Lk 2:40, 52)	Grew in wisdom (Lk 2:52)	Submits His will to the Father's (Mt 26:39)	Great sorrow (Mt 26:38) Wept (Jn 11:35) Marveled (Mt 8:10)
Body became tired (Jn 4:6); thirsty (Jn 19:28); hungry (Mt 4:2); weak (Mt 4:11); died (Lk 23:46)	Does not know the predetermined time of His second coming (Mk 13:32)	Wills the healing of a leper (Mt 8:3) Him will I confess before my Father (Mt 10:32)	Deeply moved (Jn 11:33) Prayed with loud crying and tears (Heb 5:7)

Jesus' humanity has been denied by some i.e. Docetism, but most, including other world religions, readily acknowledge it and affirm His status as a moral teacher. His humanity is given by the writer of Hebrews as a motivating reason for the approachability of Christ as high priest (Heb 4:15-16). If Jesus' life evidences His humanity, what does the death of Jesus reveal about His and our humanity?

Christ's death certainly attests to the mortality of His pre-resurrection body and to the fact that He, too, shared in this inevitable and common human experience (albeit His was more brutal than most). In the events that surrounded Jesus' death a few other observations pertaining to being human are evident. While on the cross, Jesus assures the thief beside Him on a cross that "today you shall be with Me in Paradise," and then with His last breath utters "Father, into your hands I commit my spirit" (Lk 23:43, 46). In both statements Jesus is clearly referring to a state of existence that continues after death which is not His exclusive experience as is apparent in the promise to the repentant thief. Other passages in the Gospels also state that Jesus gave up His spirit when He died (Mt 27:50; Jn 19:30). This is not the first mention of the notion of some other dimension to humans that persists after death; other references can be found in the following texts – Gen 35:18; Acts 2:27, 31; 1 Pet 1:9; and Rev 20:4 (Beck & Demarest 2005:131).

The notion that humans have a soul/spirit is, and has been, held in at least three different ways. Platonic thought held to the preexistence (of corporeal form) and transmigration of the soul.

Influenced by Aristotelian thought Creationism holds that God creates each soul directly and instantaneously, infusing it into the body at conception. Supporters of these views do advance biblical texts in support of their positions, but for the sake of brevity they will be omitted. A third view, Traducianism holds that while the first man's (Adam) soul was created as the Creationists describe it happening for all, his progeny (all subsequent humanity) derive their soul by natural generation from their biological parents (since Eve was created from Adam she received her entire human constitution from Adam) (Beck & Demarest 2005:155-161). The positive points to this view are as follows: (1) it holds a view of continuity and unity in the human race that accords with Scripture (Acts 17:26); (2) it accounts for the continuity of humanity's sinful state from Adam (Rom 5:12), the presence of sin from conception (Psalm 51:5), and the justice of humanity's condemnation for sin i.e. death (1 Cor 15:22); and (3) in light of 2, it vindicates God of creating sinful humans (Beck & Demarest 2005:161). There is greater theological significance to the death of Jesus, but for the purpose of this study no further observations will be presented. Also, significant to this study is the nature of Jesus' existence after His death on the cross, an examination of which follows in the next section.

The fact that Jesus had a human form after His death on the cross has even supplied the skeptic with a body of evidence on which to base claims of swooning or resuscitation rather than believing in His resurrection. While strong apologetic arguments can be offered in defense of Jesus' bodily resurrection, this study will focus on the biblically given fact of it and the apparent nature of it. As with Jesus' birth, life, and death, His post-death appearances and His ascension had human bodily form. An expert in the historicity of Jesus, Habermas (2000:68-69), provides a concise review of the human form of Jesus after He was resurrected; the salient points are as follows: (*a*) the synoptic Gospels attest to the fact that the *same* Jesus who was crucified is the one who rose from the dead (Mt 28:5-6; Mk 16:6-7; Lk 24:4-7). Acts 2:23-32 clearly affirms that Christ's body did not 'suffer decay' and was raised from the dead (v. 31); (*b*) the physical likeness of His body is evident in His disciples' recognition of Him (Mt 28:9; Jn 20:20, 26-28), and its corporeality when Jesus showed His wounds to His disciples on at least two occasions (Jn 20:19-20, 24-29). Jesus also ate with His disciples (Lk 24:28-31), specifically doing so on one occasion to demonstrate to them that He was not a spirit (Lk 24:41-43), and declaring, "touch Me and see, for a spirit does not have flesh and bones as you see that I have" (Lk 24:39b). The demonstrations of Jesus' corporeality after His resurrection led Habermas (2000:70) to conclude that "there was *continuity* with Jesus' body before and after the cross." This also emphatically affirms the persistent (not uninterrupted) corporeal state of human existence. After Jesus' ascension the account of His subsequent appearance to Paul testifies to a glorified state (Phil

3:21) and the continued bodily existence. Referring to the accounts of Jesus' appearance to Paul in Acts, Habermas (2000:71) notes that "Luke was unaware of any discrepancy whatsoever between Jesus' bodily appearances to the disciples in Luke 24 and the later appearance to Paul, which he detailed three times."

In this rather brief review of Jesus' incarnation and resurrection it is readily apparent that a human body and human nature were fully taken on by the Son of God, affirming the worth and dignity of humans as God's creation. Also affirmed is the continuity of human embodied existence. While accusations of holding to a Platonic dualism are raised against those who hold to substance dualism i.e. body and soul as distinct substances, only those who divorce the two and hold a position that elevates the soul to the detriment of the body are guilty of that charge. Those who uphold the necessity of both for the unity of 'human' existence will not succumb to the Platonic error. The nature and implications of a body regenerated are the subjects of the next section.

Prior to entering the discussion of the body of the future a brief excurses on the significance of the body is deemed appropriate for the purpose of reinforcing the assertion of the prior paragraph. The importance of a theology of the body has received recent emphasis due to the rise of feminism. Clearly, sexual differentiation is first and foremost a distinction of the body. Sadly, this distinction alone has resulted in the abuse of a large portion of humanity throughout history. Many women have been held in disdain, treated as lepers in society, oppressed and abused predominantly by men, and often 'religious' men (Isherwood & Stuart 1998:64-70).

This troubled history based on a distinction of bodies is traced by many to the early history of Western anthropology (Moltmann 1985:244). The primacy of the soul is evident in the following noted philosophers and theologian. First, it is seen in Plato's identification of it with that which corresponds to the divine i.e. is immortal, then in Descartes' dichotomy of subject-object (seeing the subject i.e. the thinking mind, as without extension – in contrast the extended body – and therefore able to exist without it). Second, a blend of both is seen in Barth's view that the soul is primary (Plato) and that the body is 'dominated' by it (Moltmann 1985:253). Moltmann (1985:245) asserts, and rightfully so, that "according to biblical traditions, embodiment is the end of God's works in creation." The conclusion derived from this understanding is forcefully expressed in the logic of Moltmann's claim (1985:245) that "if 'embodiment' is the end of all God's works, then the human body cannot be viewed as a lower form of life, or as a means to an end – and certainly not as something that has to be overcome." He then transfers the

responsibility to human beings to see embodiment as their supreme goal and the end of all their works (Moltmann 1985:245).

The exhortations of Moltmann are a much needed corrective to the continued disdain for the human body evident in the research at hand that reveals a persistent Platonic or Cartesian influence in Western philosophy and theology. The practical outcome is becoming even more pronounced and perilous as modern technological possibilities render the body an object (distinct and separable from the subject) for commodification or eventual elimination.

4.2.4 The human of the future – A body resurrected

Several notable futurists already named in this paper anticipate with great eagerness the transcendence of the limitations of the human bodily existence. Granted, similar expectations are extolled by some in Christendom (and some other religions too), confirming the skeptics suspicions of the primacy of the 'spiritual' on the part of Christians and their tendency to neglect 'earthly' responsibilities and duties. However, as has been developed in preceding sections, a complete biblical perspective shows God's profound affirmation of humanity's embodied existence and their place in the corporeal world created by God. Given the goodness of God's creation and humans as the apparent pinnacle of such, rather than humans being imprisoned in their body (as Plato portrayed) they are in the most unique and enviable of positions being set so high by God in the corporeal world to fully enjoy its goodness in a manner no other creature has evidenced. And, while some would point to the lower state of humans in relation to incorporeal beings i.e. angels (Ps 8 and Heb 2:6-10), God has given humans the unique and privileged position of being drawn into eschatological communion in Christ that angels assist in and desire to know (1 Pet 1:11-12). So, although humans are firmly set in the midst of a corporeal existence, nonetheless, they have open to them the possibility of enjoying communion with the highest of all incorporeal beings, God Himself. Truly the best of both worlds! The future for the believer holds the promise of an eschatological existence that is truly glorious. What does the eschatological existence in a regenerated body look like? The treatment of that subject will follow a brief excurses dealing with the in-between state of human existence after death but before resurrection.

Troubling to scientist, philosopher, and theologian alike is the notion that the soul can exist (for many even the notion of the soul is an issue) apart from a corporeal biological substrate. The separation of the soul and body is not a natural state since humans are an inseparable composite

of body and soul (Kreeft 1990:262). Perhaps at root of this unnatural state is the unnatural presence of death. The inevitability of death entered the corporeal realm after the Fall (Heb 9:27). Without death there would be no intermediate state for humans. Would there be a glorified state without death? Is the only way to receive a glorified body by death? Yes and no respectively, according to 1 Thessalonians 4:17. Until this time (the Lord's return) death befalls us all, and while the intermediate state is unnatural, it, as are all things finite, is sustained by the supernatural power of God. Evident thus far is the continuity of bodily human existence both before death and after bodily resurrection. Given the unity of personal existence which is predicated on continuity of existence, it is rather suspect that a God who maintains such physical continuity for humans would permit such a great lapse in conscious existence between death and resurrection. This continuity seems confirmed in God's declaration and Christ's affirmation of it, that "I AM THE GOD OF ABRAHAM, AND THE GOD OF ISAAC, AND THE GOD OF JACOB" (Ex 3:6; Mt 22:32), to which Jesus added, "He is not the God of the dead but of the living" (Mt 22:32). After all, it is God who resurrects and reunites body and soul, so it is God who could sustain the soul's existence in the interim.

To support the intermediate state, scriptures in the O.T. such as those prohibiting necromancy (Lev 19:31; Deut 18:10-11) and one mentioning the appearance of Samuel's spirit to Saul (1 Sam 28:3-19) seem to lend credence to the claim. The writer in Ecclesiastes 12:7, reports that "The dust returns to the ground it came from, and the spirit returns to God who gave it." In the N.T. Moses and Ellijah appear and talk with Jesus on the Mount of Transfiguration (Lk 9:30-31). Already mentioned are Jesus words to the thief on the cross. Luke writes that after Steven's death by stoning his 'spirit' was received into heaven (Acts 7:59-60). The apostle Paul mentions his uncertainty of a bodied or disembodied journey into the 'third heaven' (2 Cor 12:1-4), and mentions his struggle over remaining in the flesh or departing to be with Christ (Phil 1:22-24) (Beck & Demarest 2005:59-61). It seems the Bible supports the necessity of death and the continuance of the soul by God through to the resurrection of the body. What is the nature of human existence in this regenerated body? Do all humans receive it?

In the prior section the biological continuity of Jesus' body was evident in the fact that during the three days of being dead it did not decay. What of subsequent people who died? Everyday experience affirms the persistence of death and the decaying of the biological body, even of those who were the disciples of Jesus Himself. This difference could be explained as the necessary fulfillment of the scripture that claimed Jesus' body would not be left in the grave nor would it suffer decay. So, apart from those who according to Scripture will be caught up to meet

Jesus in the air without having experienced death, death will be the experience for all and our bodies will decay. The resurrection of the dead was taught by the disciples after Jesus' resurrection (Jesus also taught the fact of the resurrection of the dead to the Sadducees). They used Jesus' resurrection as a ground for their assertions concerning the resurrection of the dead in Jesus (Acts 4:1-2). Paul in 1 Corinthians 15:20-23, explains that Jesus was the first to be resurrected, and by Him (2 Cor 4:14) come all other resurrections. The ambiguity surrounding the exact nature of the resurrected state is affirmed by John (1 Jn 3:2a), but he does claim that we will be like Jesus (v. 3:2b). Paul echoes this in his assertion that Jesus will "transform the body of our humble state into conformity with the body of His glory" (Phil 3:21).

The Bible gives some glimpses into the nature of the glorified human body. Geisler lists some of the notable characteristics, summarized here as follows: (1) numerical identity – the resurrection body will be indistinguishably identical to the pre-resurrection body. This does not entail the body being constituted of the same cells as even now many of our cells are replaced yet they comprise the same body (Online 1). Geisler (2005:269) notes that "if what died [Jesus' body] had not risen again, God would have lost the battle over death to Satan;" (2) materiality – affirmed in a prior section (also see 1 Cor 15:42); (3) immortality – while still material it is an imperishable one, one that is Spirit-dominated (1 Cor 15:44); (4) glory and agility – a glorious body (Phil 3:21) "assumes that a kind of radiance comes from it, perhaps like Jesus' body on the Mount of Transfiguration" (Geisler 2005:271). Its agility might include the ability to go through other material things (Jn 20:19), and to appear and disappear (Lk 24:31). Also, while the resurrected body is not in need of nourishment (1 Cor 15:44), eating and drinking may still be done for pleasure and celebration (Mt 26:29) (Geisler 2005:269-71).

Worth noting, too, is the corporate aspect of the resurrection. Habermas (2000:78) notes that Jewish theology emphasizes this fact with O.T. texts affirming it (Dan 12:2; Isa 26:19) and that Paul, too, affirms this whenever he mentions the resurrection. Our resurrection also entails the transformation of fallen creation too (Rom 8:18-23). Kelsey (2009:536) notes, "Eschatological consummation may recreate and transform all that is constituted by God relating creatively, but what is eschatologically consummate is identical with what is constituted by God relating creatively." What of the unbeliever? All are resurrected (Dan 12:2; Jn 5:28b-29), so all persist in a bodily existence, however, those who names are not in the book of life will experience the second death i.e. the lake of fire (20:15).

The physical embodied, albeit it 'glorified,' existence of resurrected humans has now been established. A concise examination of the believer's future i.e. post-resurrection location (whether one holds it to be heaven, or a renewed or new earth) will also reveal more about the 'final' state of humanity. Frequently recited to encourage and comfort suffering congregants or grieving graveside attendees are statements or scriptures pertaining to man's future state. The location and/or state is most certainly depicted as one that is far better than our present one. The apostle Paul says it is much better (2 Cor 5:8). Many of the things recited pertain to those things that will be absent – no crying in sorrow, pain, darkness, sickness, curse (in Genesis 3), death, and sin. Also recited are those things that are present – a dwelling prepared by God, eternal worship and service to God, abundant life, overflowing joy, reunion with others, a new beautiful Jerusalem, moral perfection, rest, reward, perfect knowledge, and indescribable glory (Geisler 2005:298-304). The fundamental reason for the absence and presence of these things is due to the work of God in transforming the state of humans and their proximate context and the new aspect of God's presence in that proximate context. It is worth reiterating that this future existence is a bodily one, and so the absence of the things presently suffered in a pre-death existence are not attributable to the absence of a body but arguably are due to the absence of sin and evil[35]. Still present in this future embodied state (consisting of a body and soul) are aspects of humanity common to our current state e.g. our intellectual powers (mind, will, emotions) and our sensitive powers (sight, hearing, taste, touch, and smell), and our radical dependence on God as finite creatures. Are we any less or any more human in either the pre-death or post-resurrection state?

4.2.5 Human uniqueness as embodiment in a persistent relational context

Thus far in this chapter much has been stated about the nature of human existence. Characteristics have been identified, described, and claimed to be constitutive of one's being human. The anthropomorphisms abound in our descriptions of animal behavior and the actions of machines, and conversely, attributions that often are intended to evidence a lack in a human characteristic e.g. she performed her duty unemotionally and mechanically like a robot, or he ate his food like a pig, are used too. Does each of these characteristics determine the nature and/or degree of our humanity? If one is lacking are we subhuman or non-human? What if a new or greater state is attained, are we then transhuman or posthuman? If another creature or thing evidences some or all human characteristics would they become human? Before attempting to

[35] Evil - properly defined, and seen now for what it is, a parasite that is present only as a deprivation of that which is good.

answer these questions let us take a look at the statements made by some as to what it means to be human:

- Moral value should not be based on the *capacities of each individual*, since that standard would obliterate universal human rights, but upon the *intrinsic natures* of species (Smith 2010:241).
- For to argue that human life would be better without death is, I submit, to argue that human life would be better being something other than human (Kass 2002:265).
- The severing of procreation from sex [speaking of cloning], love and intimacy is inherently dehumanizing (Kass 2002:157).
- To be human means not only to have human form and powers; it means also to have a human context and to be humanly connected (Kass 2002:95).
- Humans, as we will see, differ in kind from animals by having a free will (and other *traits* too) which animals do not have (emphasis mine) (Davies 2009:8).
- To me, the essence of being human is not our limitations – although we do have many – it's our ability to reach beyond our limitations (Kurzweil 2005:311).
- That we are to love God and our neighbor, can be viewed as a clarification of the phrase 'image of God' in Genesis 1. The 'image' loves because love is of God (1 Jn 4:7). And the image's purpose is to love. Here is a definition of what it is to be human (Macaulay & Barrs 1978:14-15).

It is apparent even from this small sampling that the notions of what human uniqueness means are diverse. Those endeavoring to construct a definition apart from theology typically highlight those characteristics that humans possess and other creatures either do not or do but in inferior manifestations. Even if it is conceded that human beings are unique and superior to other creatures the question remains why that is so. The answer to that question will influence one's understanding of their nature and their decision to alter it or not. Holding that human beings have an intrinsic human nature does not define the boundaries of humanity in such a way as to delimit alteration; at best, it can be raised as evidence for a difference but not sufficient grounds for deference. In order to distinguish the unique characteristics of human existence a comparison between past, present, and future states of humanity would be of great benefit. *A biblically based perspective on human origin, present state, and destiny, affords a comparison unavailable to the scientist or the philosopher who only examines that which presently is*. The theologian is in a

unique position to examine the states of humanity and endeavor to derive an understanding of being human from a holistic view. Doing so in a thorough manner would be a significant undertaking, but a modest proposal follows.

Repetitively emphasized has been the bodily existence of humans in all their states. The nature of their body has been demonstrated to be the same from the moment of creation, continued through the genetic progeny that followed through time and history (including the incarnation of Christ in the same manner and form), and into his future, post-resurrection existence, which is held to be everlasting. *This alone should be sufficient to argue that human existence is essentially a biologically based one initially created by God and generated by biological procreation with regeneration post-death to be performed by God alone*. While the human body is remarkable in its construction and potential it alone does not constitute our humanity. *The other persistent aspect (preserved by God for reunification with the body) of a human being is the soul*. However, even with this depiction of an enduring embodied humanity a completed picture of them as the *imago Dei,* and thus as unique among all creatures, is still lacking.

A complete portrait of Adam's humanity is not provided by merely describing the breath of life given to him by God. Meilaender (2009:2) says, "Abstracted from that relation [human beings from their relation to God], they are simply abstract – *not really what human beings are*" (emphasis mine). A picture that leaves Adam simply breathing in the garden leaves him standing naked in the midst of a void, so to speak. In such isolation and abstraction he is also lacking in distinction (nothing to compare to), correlation (nothing to relate to), and meaning (nothing by which to explain existence). As the camera zooms out from this solitary human being we see he stands beside one like him (a woman) and they are among other creatures. What they are, is distinct from all else, yet they are curiously like the One who created them, a remarkable resemblance to Jesus Christ, *the image* of God. In a realm of living creatures, being is inherently active (God as a God of the living is also active), and the nature (kind of) of the creature (as given by God) determines the place (in relation to the quotidian and God) and powers of the creature.

Given the likeness of humans to God's image and having the advantage of knowing the three states of humanity, it becomes evident that a human being's powers not only equip them for the tasks assigned to them by God (Holmes claimed humans are over-endowed as creatures of this

earth[36]), they are also properly suited for fellowship with other humans, and more significantly for fellowship with God in Christ. *So, added to the persistence of the body and soul in human existence, it is clear that the Giver of both is even more prominent than humans in a completed portrait of humanity*. Grenz (2005:96,98) captures the correct picture of humanity in his declaration that, "the image of God does not lie in the individual per se, but *in the relationality of persons in community* . . . [and] the *fullness* of relationality lies ultimately in *relationship with the Triune God*" (emphasis mine).

In treating the difference between structures of a substance and a property-thing[37], Moreland and Rae (2000:82) argue that the parts of a substance "are what they are by virtue of the relations they sustain to other parts or, perhaps, to the substance as a whole. If the parts drop out of those relations, the parts lose their identity." The example Moreland and Rae (2000:82) gave was that of a severed hand. They claim it ceases to be a human hand because "it loses its principle of unity (which will become evident over time as it decays), and it becomes a property-thing." By analogy, and perhaps exercising greater liberty with their concept than it allows, the entire human being is not a 'human being' if not seen (arguably 'is' whether seen as such or not) in *her ultimate context as internal to God* – "for in Him we live and move and exist" (Acts 17:28). The consequence of human beings not being construed as such could possibly be said to result in their relegation to a property-thing (as defined by Moreland and Rae), *fostering the kind of treatment often given to parts removed from a whole* (see for example the issues listed in 2.1).

A brief note of clarification: the prior analogy is not intended to convey the idea that God is a substance constituted of parts or that humans are one of those parts but rather to express the idea that since humans subsist in God and participate in a likeness of God given to them by God, their identity can only properly be understood contextually in God. Given the human likeness to and location in God, they have dignity and are to be respected and loved as such; this perspective provides a solid and enduring ground on which to base human nature and worth. While it is impossible for humans to dislocate themselves from their context in God (in Him we live and move and exist (Acts 17:28)), they can ideologically 'remove' themselves from such a context and thereby imperil their existence and that of others.

[36] Affirming immortality – "The outfit of man, on the contrary, seems to constitute something like "a vast over-provision" for his necessities. If this life is all, in other words, what need has man for all these mental faculties, moral aspirations, spiritual ideals, which make him distinctly a man as contrasted with the animal?" (Holmes cited in Davies 2009:128).

[37] "The internal structure of a substance is a set of internal relations, and the structure of a property-thing is a set of external relations" (Moreland & Rae 2000:82).

4.3 CONCLUSION OF WHAT IS UNIQUE ABOUT HUMAN BEINGS

A non-theological examination of human beings is capable of producing significant support for the argument that they are indeed unique among all other creatures in the created order. The various characteristics of human beings (excluding the purely instinctual), even if considered in isolation from each other, provide evidence for their uniqueness and superiority among all other creatures. And, if considered as a complex of potencies that are inherently possessed by all humans (whether they are actualized by them or not, which one should), then the argument appears indisputable and bolsters positions such as those of Wesley J. Smith, referred to as 'human exceptionalism,' from which he argues for human rights and against such claims as those of animal rights advocates (the next chapter expands and discusses his view).

So, it would seem one could dispose of theological arguments until a challenge such as the one posed by technology emerges i.e. an artifact capable of conversational speech using a natural language, or a humanoid robot that is indistinguishable from a human being. Although presently purely hypothetical considerations, they, nonetheless, raise the question of the uniqueness of human beings and what it really means to be human. In response to such challenges *the unique nature of a biological human embodiment* e.g. the symbiotic relationship of the body and the mind that is itself dependent for its kind and mode of operation on such an embodiment, *reveals an existence that in total cannot be replicated or simulated in a non-biological substrate i.e. an artificial substrate*. However, even if such a feat were accomplished by technology the theological assertions remain as convincing and enduring counter claims that human beings are more than biological organisms possessing a complex of unique and varied characteristics found in no other known organism. And, as such a complex being, *attempting to enhance any part of her creates an imbalance and/or disharmony among the other parts that are perilous to the whole*. In order to avert such an imbalance humans as a whole would need to be enhanced or transformed. Also, given the relationality (more on this in the next chapter) of nature as a whole, to transform a part e.g. humans even as a whole, would create an imbalance in nature which would be perilous to nature as a whole (arguably some adverse consequences have already been experienced in nature). *Therefore, nature as a whole must be transformed in order to ensure the well-being of all of nature, humans included, and this is a task only possible through the work of God*.

The claims of a biblically informed theology support first the God-given created nature of human beings and their unique relationship to God as such. *The unique composition of human beings is*

evidenced in that they image the image of God. That this entails a biologically embodied existence is clear in science and history; the latter supports its continuity evident in the biological perpetuation and propagation of human beings through procreation. The presence of a soul in human beings, while unclear and rightfully disputable in the initial creation by God (He breathed the breath of life into Adam's nostrils is inconclusive), finds strong support in Scripture, particularly in the sayings, death, and resurrection of Jesus, but not exclusively. The naturally indissoluble nature of the union of body and soul is apparent in the necessity of God to sustain the soul in the interim between death and resurrection at which time a permanent i.e. non-temporal unity will be established by God. It is through Christ that human beings are reconciled to God and drawn into a future consummation of relationship with God.

Given the unique nature of human beings and God's relationship to them, any dislocation of such by either false conception or aberrant construction perverts that relationship and renders it even more vulnerable than it already is in its present estrangement from God. Therefore, by esteeming lower creatures that do not participate in a human relationship with God as equal participants in the human community it debases humanity rather than elevating the lower creatures. In a similar fashion, endeavoring to participate in a 'higher' mode of existence other than the God-given human existence also debases humanity by esteeming it to be of lesser worth and value. Human beings have been properly located in the context of the created order by God and are uniquely and wonderfully placed in the privileged position of enjoying the wonder and beauty of God's creation and of participating in communion with the triune God. In such capable and trustworthy hands the future and our transformation in preparation for it ought to bring hope, joy, and contentment in our present situation. It is from this context that our ethical response to technology ought to emanate, and which the following chapter endeavors to establish.

In closing, earlier questions left unanswered in this chapter will be addressed here:

Q. Does each of these traits determine the nature and/or degree of our humanity? If one is lacking is the person subhuman?
A. As has been argued, being human is not constituted by the actualization of certain traits, or the lack or deficiencies thereof. Our 'in-God' God-given human nature (its actuality and the potentialities inherent to it) are the necessary and sufficient conditions for being human.

Q. What if a new or greater traits are attained, is the person then posthuman?

A. The entirety of the human being and experience is based on the notion of a unified whole. If lacking in any part, the whole remains and is merely unable to actualize a potential that was dependent on the part that is lacking. If a non-biological part or a biological part from another creature is added, as a non-human part, it adds nothing to what is human; however, that which is human will be affected by such alteration and due consideration should be given to the effects on the one being altered and their proximate (other creatures) and ultimate (God) contexts e.g. dislocation from those contexts. If a biological part of a human is added, it becomes human e.g. a transplanted heart of a human. It is the researcher's contention that the soul and its powers as incorporeal cannot be directly altered by humans (changes to the body do affect the soul and so it is 'altered' indirectly), so that matter will go untreated. The ethical treatment of these kinds of issues will be postponed for a later section.

Q. If another creature or thing evidences some or all human characteristics would they become human?
A. Since by definition another creature or thing is differentiated in a way sufficient to identify it as not being of the same constitution as a human being it could merely be said to manifest a trait that resembles the manifestation of a similar human trait.

Q. Is our humanity defined by that state in which it is in presently e.g. is death and procreation necessary to being human?
A. As has been previously discussed, the state of humanity has and will change (the three ways God relates to us), yet the human being as such remains the same (granted though the glorified body will be different there is an underlying continuity). And, it is evident that animals participate in similar experiences e.g. death, procreation, senses etc., yet they are not human.

Q. Is our striving to be more than we are or to better ourselves that which defines us as human?
A. The nature of our strivings manifest aspects of our humanity e.g. striving for justice in our dealings with others, but it does not make us human. It is our God-given humanness that gave rise to these traits.

SECTION C. ETHICS AND TECHNOLOGY

CHAPTER 5: THEOLOGICAL REFLECTIONS ON THE ETHICS OF HUMANS AND MACHINES IN COMMUNION

"By contrast, the human being, as the *imago Dei*, is gifted with this freedom. Unlike the animals or other creatures, therefore, the human being can properly be called a *person*, *as it is endowed with the freedom to reflect divine personhood in creation*. And it is *divine* personhood alone that can be the model of true personhood" (Zizioulas 2006:95).

In the mind of a young boy in a traditional Baptist church in South Africa, the mention of 'communion' conjured up images of well-dressed men inching their way up the aisles of a local church holding golden plates bearing snacks sufficient to stir one's appetite but inadequate to satisfy it. The pastor would give the congregants the sober reminder that they were eating these little pieces of bread and drinking the thimble sized cup of grape juice in remembrance of Christ. This perception matured over time into a better understanding of the nature of the Giver and of me, the recipient of the gifts that all present were being exhorted to remember. However, the understanding of communion as it relates to the 'now' never advanced far beyond these Sunday calls to remember the past acts of Christ and the hope for future realization of some vague consummation of our relationship with Him. Present acts and events intended to develop closer relationships between congregants were typically referred to as fellowship. Many things seemed to bear the name, fellowship. There were fellowship halls and rooms, and fellowship meetings which were often organized around meals. These kinds of congregational gatherings were not associated with communion. Clearly, 'communion' as practiced those Sundays in that Baptist church (also referred to as the Eucharist in some traditions) was a sacrament engaged in between the believing congregants and God. Out of one's relationship with God flowed a richness of fellowship between congregants that was expressed in a variety of ways involving active mutual participation in such corporate acts as prayer, praise, work, recreation, and events such as those delicious potluck dinners. A Greek word used in the New Testament that encapsulates this notion of intimacy among believers, which was also clearly evident in their lives, is *koinonia*. This term draws fellowship and communion together very succinctly and corresponds to the notion of 'communion' as it was lived out in the early Church. The title of the present chapter is intended to convey this idea i.e. a mutual relational intimacy between two or more parties. A group (two or more) living in proximity to one another could properly be called a 'community.'

If the futurists referenced in this paper are correct, in a few short decades the communion in those fellowship halls and rooms will be shared among an assortment of 'persons,' some cyborgs, humanoid robots, and humans. To most readers today this may sound absurd, but it is worth noting that in current day life cyborgs, who by definition are "*a human* who has certain physiological processes *aided or controlled* by *mechanical or electronic devices*" (emphasis mine) (Online 40), are already participating in our times of communion due to the presence of implanted mechanical devices such as pacemakers, artificial joints, and hearing implants. No one has suggested excluding these 'cyborgs' from our times of fellowship due to their human-machine constitution.

In chapter one (see section 1.4) a brief review of the presence of machines in humans was conducted. It is readily apparent that significant technological developments have been and are being made in the areas of human biological replacement, augmentation, and enhancement. Several noteworthy futurists and scientists have remarked that the merging of humans and machines will precede the creation of a humanoid robot. *The drive to both heal our bodies and to transcend our bodily limitations undoubtedly will continue to propel developments in the direction of blending biology and technology*. These developments require the direction and oversight of careful and extensive ethical examination in order to ensure right action in all attendant matters. Also, much can be learned from the issues raised in this area e.g. at what point of replacement or augmentation does a biological human cease to be a human, which raises the more fundamental question, what is a human? Although the scope of this paper is focused on those issues raised by the development of a humanoid robot and AI (AI could be used to augment human intelligence by mind-machine interfacing or by independent operation in a computer, but for the scope of this paper it is confined to its deployment in a humanoid robot), the aspects of human 'enhancement' that share posthuman horizons with the 'humanoid robot project' will also be considered.

In order to discuss the moral issues pertaining to the future of a possible communion between humans and machines it is necessary to examine the nature and basis of communion. The reason for doing so is due to the centrality of relationality to human morality, therefore, a clearer understanding of human communion will serve to identify how machines might integrate or impinge upon it, and guide moral responses to it as well. The first section of this chapter will do just that by defining what communion is and who the potential participants are in it. Subsequent sections will describe the contours of human communion in the light of our 'inherent' limitations

and then proceed to compare and contrast the trajectories of those posthuman and biblical promises for humanity's future. The imperative role of love in all of life's movements and, in particular in the existence of God, will be examined as a ground to guide both the present and the future of all human endeavors. *A final section will be devoted to the proposal of a reasonable and biblical set of moral guidelines* intended to exhibit compassion for the present condition of humanity and the desire for its betterment i.e. reformation, and an attendant caution against the possibility of the reduction of humanity to the point of endangerment if reformation morphs into the transformation of humanity.

5.1 PERSONS ONLY IN COMMUNION?

As already referenced in the introduction, the use and treatment of the term 'communion' in this paper is not to be confused with the ecclesial use of the term as it pertains to the sacrament, albeit a profound aspect of the term as it pertains to humanity's relationship with the triune God. Since the concept of communion will serve a very foundational role in the present discussion, an answer to the question, 'What is communion?' will be presented at the outset of this section. The subsequent subsections proceed in the following order. First, in reviewing the discoveries made in quantum mechanics, the relationality of all things is given new light. A fundamental connectedness is evident at the quantum level with similitude at higher levels too, but with greater spontaneity and freedom. Next, in turning to the highest level of relationality i.e. the triune God, it is clear that they 'exist in relation' as eternal persons demonstrating not only the ultimate in communion, but establishing the ground for a relational ontology. Returning to creaturely relations, the next section examines the bearing one's nature (what one is) has upon who they relate to and how they relate with 'others.' Since the concept of 'person' is used to refer to relational entities, most notably the members of the Trinity, humans, and corporate entities, and it is currently contested that entities such as humanoid robots ought to be deemed persons, a section is devoted to reviewing various understandings of the concept. The last section takes the findings of the previous section and proposes a less malleable concept derived from the relationality of the triune God.

5.1.1 Relationality of all things

For centuries various religions have claimed some form or relationality among all things in existence in the universe. Pantheistic religions hold that all things are united in such a way as to

constitute an ontological ‘oneness’ in being. Judaism and Christianity hold that God created and sustains the existence of the universe i.e. He relates to it and everything in it. Most religions claim some form of interrelatedness among things in the universe and prescribe codes of conduct i.e. morals, to guide these relationships. Most people are members of some form of social group and are aware of the interrelatedness of members in it. The rapid growth of Facebook as an Internet based social network evidences the appetite people possess for connectedness.

Scientific inquiry in modern history, by no means a newcomer to the discussion of relationality in the universe, has continued to unveil in ever increasing detail the depth and complexity constitutive of the relationships among things in the world and in the universe. Recent discoveries in multicellular life evidence the complex relationships between cells causing some to postulate the existence of an intelligent agent as their designer. Physics, in its study of less complex entities, has also uncovered a more holistic and relational dimension at the atomic level, too. Commenting on this ‘new’ dimension in physics, Polkinghorne (2010:2,7) states that “a number of developments have brought about the demise of a merely mechanical atomism. . . . it is clear that atomism has to give way to some intrinsically more relational form of the structure of physical reality.”

In the field of quantum mechanics the connection between quantum systems has been noted for the entanglement evidenced between systems. Schrödinger (1935:555) refers to this manifest relationship, whereby two quantum systems after temporary physical interaction can no longer be described in the same way as prior to the interaction, as not merely one trait of quantum mechanics but “rather *the* characteristic trait of quantum mechanics, the one that enforces its entire departure from classical lines of thought. By the interaction the two representatives [the quantum states] have become entangled.” Expounding on these quantum relations Zeilinger (2010:36) notes something remarkable, “while the properties of the individual system are completely undefined . . . the relation between the two . . . is fully defined. . . . *Therefore, it is impossible to build an ontology of the individuals, but it is possible to build an ontology of relations*.” The assertion just made forms the basic contention of a relational ontology i.e. that relations between entities are ontologically more fundamental than the entities themselves.

This brief glimpse into the discoveries of physics reinforces the relationality in all of nature attested to by other disciplines, leading Nicolaidis (2010:99) to remark that “the whole of nature, therefore, appears *strongly interrelated*, forming a unique and coherent entity, to which we belong and remain in constant interaction.” Relationality does provide strong support, as argued

in the conclusion of the prior chapter, for the necessity of a comprehensive transformation of nature, possible only through the act of a being who possesses both the wisdom and the power to simultaneously transform all of nature. However, is this interrelatedness of all things an adequate description of 'communion'? When in exasperation we seek to escape the 'rat race' and 'commune' with nature, do we really have in mind the same level of relation sought when we endeavor to 'commune' with God or our fellow human being? *This introduces the notion that there are levels of relationality in nature*. Affirming the presence of 'levels' in reality and offering a brief description of them, Nicolaidis (2010:101) affirms that "lower levels of reality are dominated by strict causality, while at the higher levels we encounter the dominance of spontaneity and freedom." In an effort to establish an understanding of communion as it pertains to humans and machines from a theological perspective, the highest level of reality i.e. the triune God appears to be a reasonable starting point.

5.1.2 Communion and the relational triune God

While Judaism and Islam maintain a firm position on the absolute oneness of God, Christianity insists upon the existence of a triune God. Evidence for the triune nature of God is offered from Scripture beginning with the opening chapter in the book of Genesis through to the close of the canon in Revelation. In the beginning God creates the world through the activity of the Word and Spirit. The Father sends the Spirit to Mary, and she conceives the Son of God. Christ attested to His own deity and to the existence of Father and the Holy Spirit, explicitly affirming the triune nature of God. At the baptism of Christ by John, the Father speaks from heaven, bearing witness to the Son while the Spirit descends in the form of a dove. A similar appearance of the Trinity is evident at Christ's transfiguration. Similarly, in Christ's resurrection the Father raises the Son through the power of the Holy Spirit. In Christ's post-resurrection appearance to the disciples, He commissions them to go into all the world and make disciples, baptizing them in the name of the Father, Son, and Holy Spirit. It is evident that the triune God has participated in creation, and in so doing has evidenced a unity in activity that bespeaks an essential relation at the core of their existence. That this relationship precedes creation is explicitly evident in the unity of action to bring about all things created. It is also affirmed in the appeal by Jesus to the Father to glorify Him in the same manner as *before* the world was (Jn 17:5), which is followed by His request that those given to Him might see that glory, "for You loved me *before* the foundation of the world" (Jn 17:24) (emphasis mine).

Now, having briefly portrayed the triune God as in relationship prior to creation, a description of communion as it pertains to the Godhead will be presented. While self-evident, the first and most fundamental aspect of 'communion' is the necessity of two or more entities. Implied in the prior statement is the distinction of entities and a relation between them. Ware (2010:108) describes it as follows: "It has been rightly said that relationship implies both connection and distinction, and that where there is total fusion there is no relationship." However, this matter of distinction is not without its difficulties when applied to God, and an adequate treatment of it lies beyond the scope of this paper, but due to its relevance to the subject of communion a brief analysis follows.

Since the time of the Church Fathers the doctrine of the Trinity of God has been a point of heresy and controversy. The theologians and ecumenical councils of the fourth century sought to avoid the perils of Modalism[38] and Tritheism[39], and together composed a teaching on the Trinity that went unchallenged beyond the great East-West Schism of 1054 A.D. In 381 A.D. the First Council of Constantinople modified the earlier Nicene Creed (which treated the unity of God and diversity of persons in God) to include specific reference to the consubstantiality of the Holy Spirit with the Father and the Son (Hannah 2001:86). The triune nature of God has been explained as "only one 'What' (essence in God), but there are three 'Whos' (persons) in the one What" (Geisler 2003:279). At this point a minimal definition of communion as it relates to the Trinity will be offered: The existence of three distinct entities united in one essence and being so united that they share intimate connections (relationships) with one another (at this point 'entities' is purposefully being used since person has not been defined). An important point to derive from this definition is that the relationships in God are possible because each entity is of the same essence. This point implies a departure from a relational ontology which grants primacy to relation (or in the ontology of Zizioulas, communion). Since a relational ontology is finding greater acceptance, and this point of difference relates to communion and the subsequent section on persons, a defense of the point will be beneficial.

In the introduction to his seminal work, *Being As Communion*, Zizioulas (1985:17) asserts that "the being of God is a relational being: without the concept of communion it would not be possible to speak of the being of God. . . . The substance of God, 'God,' has no ontological content, no true being, apart from communion." In a different work Zizioulas describes an ontology originating in classical Greek thought that gives primacy to substance, and in so doing,

[38] It is a denial of the Trinity which states that God is a single person who, throughout biblical history, has revealed Himself in three modes, or forms (Online 6).
[39] Tritheism is the teaching that the Godhead is really three separate beings forming three separate gods (Online 6).

leaves no room for a relational ontology. He states that this ontology holds that "'to be' is always prior to 'relating' . . . You first *are* and then you *relate*. Whereas being is a necessary condition of ontology, i.e., of any reference to being, relation is not," and "what unites, therefore, the individual beings is substance – not relation" (Zizioulas 2010:146). What appears to be a source of possible confusion in this discussion is the application of an ontology of substance in a manner i.e. of primacy and priority, unequivocally to two different categories of being, created things and God. Let me explain. Zizioulas, in speaking of an ontology of substance emphasizes, and correctly so, the primacy of substance in this ontology and the corresponding necessity of 'being' prior to 'relating.' However, to deny the primacy and priority of substance in the order of created things appears counterintuitive to the way things are. In order to relate one must first exist. Given the nature of God's existence (aseity, eternality, and triune) it is illogical (not to mention unorthodox) to claim that His essence preceded the internal relations of the persons in the Godhead. God has eternally existed as a triune God, so both essence and communion (or relationality) could be affirmed as ontologies that apply simultaneously and with equal weight to God. Following Geisler and House's (2001:168) assertion that an ultimate metaphysical principle is that which applies to all things, relationality could be construed as such a principle given the nature of relationality in God, between God and creation, and among all things in creation. However, in the created order while things initially come into existence through relation i.e. the triune God created all things, and subsequently anything that comes to be does so through some relation e.g. procreation, a thing must exist and exist distinctly in order to be able to relate to an-*other*.

5.1.3 Nature as a common ground of communion

Returning to the important point stated earlier, the entities in the Trinity commune as God because each entity is of the same essence, there appears to be a correspondence between the nature of an entity and the level of intimacy in relationships shared between them, made possible by their participation in the same nature. A cursory examination of the world seems to evidence this, too; from the lower atomic levels of relation to the higher and more complex levels of relation shared by organisms, entities attain the highest levels of relationality with entities that correspond to their mode of being i.e. joint participation in accordance with their kind. Owen (2007:92) affirms this of things and persons, and of humanity; he states, "a common interest in the same *nature* gives all men a fellowship or communion therein." In the prior chapter it was evident that human beings are complex in not only what they are but in how they relate i.e. who

they are. History is a narrative writ large that testifies to this complexity in the development of human relations and the formation of civilizations. The Bible, too, is essentially a narrative of both divine and human relationships, beginning with the creation of a man (God declared it not good that he was alone) to the incarnation of Christ (to redeem creation) and the hoped for eschaton when all of creation will be transformed and in right relationship with God.

In the New Testament the Greek word that expresses the concept of communion to be used for discussion in this section is *koinonia* (found in Acts 2:42; 1 Cor 1:9; 2 Cor 6:14, 8:4; Phil 1:5, 2:1, 3:10; 1 Jn 1:3,6,7). A cursory examination of these passages reveal a local community characterized by mutual participation in life e.g. a sharing in: the teaching of the apostles, corporate prayer, sustenance and suffering, a unity in Christ by the Spirit. Of this particular communion Owen (2007:93) proclaims that "those who enjoy this communion have the most excellent union for the foundation of it; and the issues of that union, which they mutually communicate, are the most precious and eminent." This is not to affirm that *koinonia* is only possible in the Christian community as seen in Owens' (2007:93) definition of communion as "the mutual communication of such things as wherein the persons holding that communion are delighted, bottomed [grounded] upon some union between them." Clearly, such a general definition is applicable to numerous unions, most notably marriage. His mention of 'persons' (of humans) as well as the use of 'persons' in reference to the triune God raises some questions unaddressed to this point, namely, what is a 'person' and does the community of 'persons' by definition admit the possibility of a humanoid robot or an AGI[40] into its membership?

5.1.4 The various definitions of persons

The contemporary use of the word 'person' is still popularly held to be synonymous with human beings. Additionally, theological perspectives assert that non-human beings e.g. angels and the Trinity are also persons. The exclusive application of person to these categories of beings is being challenged as science and technology reveal characteristics of other creatures and machine intelligences that are deemed human-like and therefore like persons. It might appear that being human entails being a person, but this too, has been challenged and a severance of person from humanity has occurred through a functional definition of person i.e. how a thing is presently functioning as the measure. This has led some to argue the non-person status of the human fetus, and in so doing, deny the fetus' right to life. A concise and intentionally selective examination of

[40] AGI (artificial general intelligence) has as its goal the creation of a broad human-like artificial intelligence.

the concept of person follows with an initial survey of the presence and use of it in the Bible, in Greek and Roman thought, in the Middle Ages, and in contemporary thought.

The appearance of person (*prosopon*) as a concept in ancient Greek thought originally was a reference to the part of the head that is below the cranium i.e. the face (Zizioulas 1985:31). Given the influence of the Greek culture and the use of their language in the writings of the New Testament, it should come as no surprise that the same word for person is used there, too. The use of *prosopon* in Greek culture was quickly identified with the mask used by actors in Greek theater, particularly in tragedy. The 'tragedy' stemmed from the ontological monism of Greek philosophy which created an apparent conflict between freedom and rational necessity, producing a sense of bondage to an absolute unity and loss of identity, making the mask a means to temporarily create a free, unique and unrepeatable entity i.e. a person (Zizioulas 1985:29-33). Greek thought also perceived 'person' as something added to a nature or substance.

Ancient Roman thought held a similar position to that of the Greeks seeing *persona* as the roles one plays in social and legal relationships, thus one can and does assume several *persona*. In the Roman context one's identity (who she is) is bound up in the state (social/political) to the extent that she is not a free, unique and unrepeatable entity (Zizioulas 1985:33-34). Zizioulas (1985:35) asserts that it is the biblical teaching of creation *ex nihilo* that freed the world from the necessity imposed by a Greek ontology, and it was the Greek Fathers who united person with the being of a human, with their permanent and enduring existence, with their genuine and absolute identity. Certainly the Greek Fathers elaborated on the teaching of this unity, but a review of the use of *prosopon* in the New Testament reveals that the individual human being is the referent in every instance, demonstrating there, too, that the person and human being is seen as synonymous. It is interesting to note the association of *prosopon* with the face. The face is a unique identifier (and contains additional unique identifiers e.g. the retina) and is the most expressive part of the human body, enabling nonverbal communication (more on this later).

The identification of person with a real subject (human being) is not without its own difficulties, especially for Christology (Balthasar 1986:21). Balthasar (1986:21) notes that the concept's philosophical determination become clear in the implications it held for Tertullian's (c.160-c.225) use of it (the Latin word *persona*) to speak of Jesus. Also, Tertullian used the term 'substance' (not in the corporeal sense) to refer to that which the persons have in common (Hannah 2001:78). The error (inadvertent on the part of Tertullian) rendered the concept of 'person' something not defined by relation (which is the only way the persons of the Godhead

could be distinguished without affirming polytheism) but by individuation in substance. It was not until Boethius (c.480-c.524) and his famous philosophical declaration that "a person is an individual substance of a rational nature," that the effects were felt in both theology and philosophy (Balthasar 1986:22). The importance of Boethius' role for both is apparent in Copleston's (1993:104) claim that by applying philosophy to theology he helped develop a theological science.

This shift in the concept of person was not without rival concepts that centered on God's relationality[41], however, the point is well made by Balthasar (1986:23) that even into the Modern Age Boethius' philosophical notion of 'person' (characterized by 'independence' i.e. autonomy) exerted considerable influence on philosophical, and to a lesser extent theological concepts of person. Balthasar (1986:24) notes that this concept of person was advanced by Descartes's notion of a subjective self-consciousness, and by Kant in anchoring the absoluteness of the person in their ethical freedom. Balthasar (1986:24-5) points to Buber and the beginning of modern personalism as the start of a turn to a 'true image of the Trinity' and a shift from autonomy to relationality as that which defines persons.

After the prior review it is now necessary to expose what it is about being a person that is held in common by others, particularly non-humans, who are deemed persons in contemporary thinking. In seeking to establish a concept of person that is applicable to non-humans too, the obvious concern is that in doing so it might produce a concept of person that is construed as purely functional and therefore capable of being conferred to any 'thing' that qualifies or denied some 'things' that do not qualify. Clearly, the contemporary skirmishes among scholars and professionals and the popular culture wars around the conferral and/or denial of rights to those classified as persons (and/or even denied the very classification as such), emanates from attempts to construct a purely functional definition no matter how basic. Foreman (1999:82), a Christian bioethicist proposes such a minimalistic 'functional' (in the sense of latent capacities) for personhood as consisting of: "the capacity for rational reflection, emotional expression, willful direction, and to be morally conditioned." In a time when an entity is *isolated* in order to precisely measure and to secure the details of its existence down to the atomic level, it is understandable that 'person' would succumb to such efforts to measure it, too. However, the difficulty in doing so is evident not only in the halls of academia but in the courts of moral adjudication; a few examples will suffice to illustrate the point. In a soon to be released book,

[41] The Cappadocians and Richard of St. Victor for example held to a relational understanding of persons in God (Ware 2010:107-29).

Plants as Persons, Hall "challenges readers to reconsider the moral standing of plants, arguing that they are other-than-human persons" (Online 37). Hall is not alone in his pursuits as is evident in the recent (early 2008) consideration under Swiss law of the dignity of plants in governmentally funded research applications (Online 29). While defending the rights of animals but not specifically treating the concept of person, Reagan and Singer (1989:148-162), draw from Bentham's principle of moral equality (the capacity to suffer) a defense for all animals (human and non-human):

> This is why the limit of sentience (using the term as a convenient, if not strictly accurate, shorthand for the capacity to suffer or experience enjoyment or happiness) is the only defensible boundary of concern for the interests of others. To mark this boundary by some characteristic like intelligence or rationality would be to mark it in an arbitrary way.

The efforts to insulate 'person' from a purely quantifiable i.e. functional ascription, by relational connectedness i.e. communion, is a positive move in the right direction. However, this means of conferring 'person' to an entity has its own pitfalls. The foremost question to be answered here is by what authority does one, or a community of many, ascribe 'person' to an entity? It is plainly evident that the only ones in the struggle either for the right to judge who qualifies as a person or for the rights of persons (human and non-human) are human beings, but that begs the question from whence cometh their authority? If the authority is based in the community of human persons i.e. human consensus, the person is partially sheltered within the enclave of the conferring community but is still subject to the whim of the community and any other community that may absorb it and redefine the concept of person. The concept of person could also be broadened by the community to include any and all manner of entities from the organic to the inorganic based on relation, as is also apparent in efforts to construct a more universal functionally based concept. This is clearly evident in the argumentation of some.

In her concept of person, Foerst, seeks to preclude injustices against those considered non-persons for good reasons. She points to the atrocities committed by those who rationalized their actions on the basis their objects were not persons (even though they did not deny their humanness). She contends that the attribution of personhood is not biological but cultural, and it is based on the application of dignity and worth to the other (Foerst 2004:160). Commenting on the failure of a functional (empirical) definition to determine personhood for Kismet (a robot at M.I.T.), she believes not only that technical progress might create a humanoid robot that satisfies the criteria, but more importantly, "every empirical criteria that might exclude Kismet from the

community of persons will also exclude [some] human beings from it" (Foerst 2004:161). For Foerst (2004:177), the role of connectedness i.e. community, plays a significant role in the assignment of personhood, and she sees Christianity, whose myth has at its core a nonjudgmental and unconditional acceptance of all human beings, as capable of creating an all-inclusive community of persons. Furthermore, she states that ultimately, personhood is the participation "in the narrative process of mutual storytelling about who each of us is" (Foerst 2004:186). Continuing, she says that "if someone is not included in some communal narrative structures, she ceases to be a person" (Foerst 2004:189). The broad inclusivity of her definition (the intent of which is to include robots like Kismet) is hinted at in a later comment that since "we are communal and bond with nonhuman entities, these narratives will necessarily include some nonhuman *critters*" (emphasis mine) (Foerst 2004:189). So, if you are a storyteller or a cared for entity that is a part of the storyteller's narrative, you are a person.

Following the inclusion of some of Foerst's writings on persons in his book, Mazis (2008:238) notes that more important than identifying human resemblances to animals or machines and/or their place in our narratives, is the need to recognize "that animals or machines have been and are becoming our *interlocutors*." He agrees with Foerst but thinks a stronger case can be made for considering animals and machines as persons. In their own ways they correct, extend, and even teach us, Mazis claims; we have not always been listening. Mazis (2008:238) believes:

> They deserve to be included in the community of persons not only as a vital part of our story in terms of who we are and what we have accomplished and learned but also as living in their own stories that at times come to challenge ours. *We must recognize them as storytellers as well.*

The ambivalence inherent in a human communal ascription of person is apparent and could lead toward the classification of all things as persons (consider the current battles for animal and plant rights). Yet underlying this means of attaining personhood is the masked authority that is exclusively granting it i.e. human persons. It is apparent that human beings have implicitly laid claim to possibly the highest entitlement of a person, the authority to declare oneself or another entity a person. Most assuredly the difficulty to find consensus on a functional basis is related to the complexity of the cosmos and specifically the complexity of humanity and its relation to all of creation; however, it seems all attempts to define it, even by those people who seek to base it on their relation to an entity (their presumed ability to confer 'person' to another is a 'function' of their being human), turn on a functional uniqueness of humanity. So, it seems we have come

full circle and are back to a functional definition and ascription of person. Is there a way out of this circuitous argumentation?

The weaknesses of 'personhood' theory are of concern to Smith, a strong advocate of what he calls 'human exceptionalism,'[42] and as a current vanguard of human dignity and human rights both his perspective and moral advocacy on behalf of the most vulnerable in humanity is admirable and a welcomed fortress for all of humanity in a time of moral ambiguity and resultant crisis. His position explicitly contains what is implicit in both a functional and relational ascription of personhood i.e. there are certain characteristics, unique if not in kind in degree, possessed by humans alone (a functional aspect), and one of those is our authority to classify those who are persons (implicit in a functional and relational perspective). His perspective holds great currency in the present moral debates, however, in the emerging technological climate the foundation of the fortress cannot be of the same material as the walls i.e. human exceptionalism.

This position will hold as long as humans remain uniquely exceptional, but emerging technologies portend a future in which entities other than humans could not only claim, but evidence, exceptional characteristics, too, and so stand on equal, or of greater concern, higher terms in relation to humans (not to mention the possible existence of other higher order 'extraterrestrial' beings). Understandably, given the pluralistic nature of our culture, Smith endeavors to ground his defense on something that does not necessitate the invocation of God to rescue or protect humanity, however, the time has come to begin to forge (and advocate) a defense that is both theologically and scientifically consistent and robust enough to not merely preserve humanity but to draw it into full participation in God's preparation of creation for the future transformation both in Him and through Him.

Given the growing scientific evidence for the relationality of all things in the cosmos, and the theologically affirmed relationality within the Godhead and of the triune God to the cosmos, to endeavor to achieve a perspective, particularly one seeking to provide moral direction for our relations, that is not at a minimum inclusive of God, seems unwise and perilous for all. In commenting on the inadequacies of the modern concept of person, Schwoebel (1991:143) notes the acceptability of a Christian anthropology which claims "that the relationship of humanity to

[42] It is our unique moral status in the known universe that gives rise to both universal (human) rights. Either we all matter equally, simply and merely because we are human — or our value becomes relative, our rights, and indeed, our continued existence — determined by the reigning power structure of the day. After all, if we are merely another animal in the forest — or worse, the planet's enemies — why should any of us be treated as if we have any special meaning at all? (Online 34).

transcendence is the dominant perspective from which all other relationships should be understood. It claims more specifically that the relationship of God to humanity is the key to the understanding of all relationships in which human beings exist, including humanity's relationship to God." *Could this perspective of divine relationality provide a way out of the circuitous argumentation on persons?*

5.1.5 The triune God as the definition and giver of persons

An appropriate starting point in answering the prior question seems to be to consider what God has revealed about His way of relating (this is not to restrict the persons in the Godhead to only relating with one another in the ways He has revealed or related to us – see Kelsey's remarks[43]).

Brushing aside as inadequate any modern concepts of personhood, Schwoebel holds that human relationality is dependent for both its shape and content on the prior (logical and ontological) relationality among the Father, Son, and Spirit. His supporting argumentation is summarized in the following points: (1) God's relationship to human beings is both the ontological ground and the epistemological key to properly understanding all relationships humans are involved in; (2) God's relationship to human beings is triune; (3) The inherent relationality of the Trinity is the condition for the possibility of God's triune relationship to human beings, and is also; (4) the reality of the relationality that constitutes human being; (5) The concept of person in terms of human relationality does not (without important qualifications) in analogy characterize the relational being of the person in the Trinity (Schwoebel 1991:155). Schwoebel is concerned, and understandably so, that 'analogy' of human and divine concepts of person not be held in the sense of *analogia entis*[44]. He allays this concern by avoiding the material content of the concept of person, and instead, deals with its conceptual status which he holds to be that of a category (an ontologically primitive category) and not one of classification (Schwoebel 1991:156). Kelsey argues that the modern concept[45] of 'person' is so inadequate and unacceptable and so pervasive in modern culture that it is best to avoid its use in a theological anthropology. He prefers to use the phrase 'human creature,' and 'personal' to "underscore the conjointly classificatory and

[43] "The nature of the relations that constitute human person, properly understood in terms of God's relationship to human beings, cannot simply be read off any account of the relations that constitute the triune divine persons" (Kelsey 2009:376).
[44] The belief that there exists an analogy or correspondence between the creation and God that makes theological conversation about God possible.
[45] The Enlightenment's celebrated 'turn to the subject' frames the 'modern' concept of person as: "a morally perfectible, autonomous center of self-aware consciousness, in contradistinction to non-self-aware, nonconscious 'things' that are subject [as an object] to physical determinism" (Kelsey 2009:360).

evaluative character of properly formulated theological claims about human creatures" (Kelsey 2009:377-78). This move is certainly not without warrant, however, and given the consistent use of person in this work, it will continue to be used, but it will become evident that what is defined is a category based on relationality that is noticeably different from the concepts reviewed earlier. A closer examination of the person of the Holy Spirit reveals some features of God's relationality that aid in understanding human relationality; to this we now turn.

In our ascription of 'person' to God the usual relationship that comes to the fore is that of Father to Son. These are referents Jesus used to depict His relationship to God, adding weight to the personal nature of the relations in the Trinity, and by analogy, resembling the personal nature of relationships shared by human beings and their progeny. However, the third person of the Trinity often truly seems to be the most invisible partner. Images such as water, wind, fire, and oil are used in Scripture to depict Him, contributing to some mistakenly referring to Him as an 'it' rather than a 'who.' In addressing the person of the Holy Spirit, Fee (1996a:25) faces this apparent impersonal image of Him, claiming that "Christ has put a human face on the Spirit as well. . . . In dealing with the Spirit, we are dealing with none other than the *personal* presence of God." By examining the 'who' of the Holy Spirit, it is expected that the ways of relating befitting the identifier 'persons' will become apparent as will the ascription of such to others outside the Godhead.

The Holy Spirit is frequently spoken of in terms of agency, and Fee (1996a:26) correctly notes that "such language does not necessarily presume personhood." However, in Paul's writings he clearly depicts the personal expression of the Holy Spirit in the life of the believers e.g. people are: sanctified, prophesy, speak in tongues, serve, love and walk *by* the Spirit. While Paul uses language that appears impersonal e.g. the washing by and pouring out of the Spirit, Fee (1996a:26) responds "that personhood is either implied or presupposed, and that the language . . . is imagery, pure and simple." The personal agency of the Spirit is also confirmed by the large number of verbs that demand it (Fee 1996a:27). It is from these references that a clearer depiction of that which befits the designation of 'person' is apparent. Worth noting before proceeding is that an *a priori* concept of person is not being constructed by the researcher and then compared to God as a means to reinforce the concept, rather the relational activities of the Holy Spirit are being examined in order to cast the concept anew in that light as opposed to retaining the popular conception. The personal nature of the Spirit's actions include: teaching and commanding (Acts 16:6); knowing and searching the mind (1 Cor 2:11); and praying (Rom 8:26). The Spirit is said to have: a mind (Rom 8:27); a will (1 Cor 12:11); and feelings (Eph

4:30) (Geisler 2003:676). These attributes bear a striking resemblance to those capacities cited earlier as essential to being a person (see Foreman's definition), although these attributes are not being derived from an examination of human capacities as was the case with the earlier definition.

The argument might be raised that the Spirit is merely relating to humanity in a manner consistent with and necessitated by human modes of relating. However, in the relationships of the persons of the Godhead it is evident that these same references are applied by God Himself to the persons of the Trinity - the Spirit alone knows the mind of God (1 Cor 2:11) and God knows the mind of the Spirit (Rom 8:27); the Son submits His will to the will of the Father (Mt 26:42); the Father is well-pleased with the Son (Mt 3:17, 17:5); the Son loves the Father (Jn 14:31) and the Father loves the Son (Jn 15:9). It may be further contended that Scripture does use language e.g. anthropomorphisms, to accommodate human understanding, and these accounts of personal modes of relating are such expressions. Yet in such passages as John 15:9, the word 'love' is used univocally to describe the relationship of Father to Son and Son to human beings. The definition of 'person' finds its surest ground in the triune God. Rather than an *a priori* conception of person constructed by human beings which one then attempts to corroborate in the Trinity, God's revelation of Himself and His own relations should be used to cast the concept. The ministry of the Holy Spirit in humanity further evidences the compatibility of modes of relating within the Trinity and between God and humanity (person-to-person) and therefore implied as being true of humanity. The proximity and compatibility of divine-human relations i.e. communion, is also evident in the human participation in the fellowship of the Spirit (2 Cor 13:14; Phil 2:1).

The concept of person and what constitutes being one is clearly a contentious subject with legal, social, and therefore, moral implications that are profound. The category of person as various authors have expounded (Foerst and Singer in this chapter) has been grievously used by some to exclude and abuse, so one must proceed with extreme caution in the description and ascription of person to an entity (interestingly, most do not ascribe 'person' to all things evidencing some line of 'privileged' demarcation be it as broad as organic and inorganic, or as specific as human and non-human). As briefly described in the prior paragraphs, a biblical reflection on the revealed nature of God and His relations (internal and with creation) clearly evidences ways of relating analogous to human ways (albeit God's ways are higher than our human ways – Isa 55:9). Describing these ways of relating and those characteristics of a being capable of them forms the bedrock of the concept of an entity upon 'whom' a term can be applied to identify it i.e. 'person.'

It is clear that by proceeding in this manner one is forming a concept of 'who' (persons) that can be applied to a variety of 'whats' (beings) e.g. God, angels, and humanity. Several authors affirm such a move as is evident in some of their statements: 'person is a species-neutral concept' (Stephens 2006:397); "there are several well-established and venerable precedents for non-human beings 'persons'" (Midgley 2006:315). Some of these same authors refer to God and corporations (legal entities granted the status of 'person') as examples of persons, and others posit the hypothetical existence of extraterrestrial beings as 'persons' (Stephens 2006:404).

When a concept such as 'person' is not grounded in the very being of an entity, it can be applied to other entities that correspond to the concept. This is not necessarily a detrimental move, but it does introduce questions of application and/or correspondence to the concept. If the approach is to derive 'person' from an examination of creation, given the complexity, variety, and relatedness of all things in creation, one would expect to find levels of relationality with varying degrees of relation among and between them and some being analogous to others. Few philosophers and theologians seem to disagree that human beings evidence an array of higher order characteristics that other creatures evidence in part and in a lesser degree e.g. the intelligence of dolphins compared to human intelligence. Human beings as the 'exceptional' possessors of this complex of traits and the degree to which they are manifest stands as a strong argument in favor of granting legal, social, and moral privilege to humans over all other creatures a la Smith. This privileged position implies an authority over all other creatures, which in itself implies the 'right' to grant or deny privileges to them. For those concerned with the exclusion and attendant treatment of other creatures (plants and animals) or created entities (robots), the appropriateness of the exclusion is problematic.

Several thinkers essentially express thoughts similar to Rorty's (2006:349) that while humanity has a "metaphysical longing for one concept [of person]," seeking to unify in one source the various functions the concept holds: "'the' locus of liability; 'the' subject of experience; 'the' autonomous critical reflector or creator," remains unsatisfied. A posture such as Rorty's surrenders the concept and its application back into the hands of humanity, resulting either in arguments of degree in terms of functionality or a societal determination. Those seeking to defend the rights of non-humans by classifying them as persons seem to default to the latter position with such claims as, "acceptance is what matters most not inner processes" (Dolby 2006:352), or "it is emotional fellowship that makes creatures our fellow beings [read, persons]" (Midgley 2006:319). As stated earlier, even these positions privilege human beings with both the

determination and application of person to entities, including being the defenders of the attendant rights if granted to non-humans e.g. it is humans that defend the humane treatment of animals.

At this juncture in the line of reasoning that has been followed it appears that 'human exceptionalism' could win the day for humanity (not that humanity is either God's sole concern or should be ours) and delimit the ascription of 'person' to human beings, however, when 'person' is not deemed exclusive to humanity as most theologians and some philosophers hold, it necessitates a qualification either by function, social acceptance, or both. Even if the derivation of 'person' is limited to human beings and God (angels, too), it is understood that there are traits being claimed that are held in common by each for the concept to apply to both. This leaves room, as Stephens (2006:403) notes, for "the coherence of talking about the personhood of extra-terrestrials" or for a humanoid robot that meets the 'criteria' (I would argue that it does not need to be or resemble the biological organism that is the human being). To be consistent and to ensure justice for all persons, these others 'persons' should be granted the same rights and responsibilities as human beings and should be included in human societies which in themselves are part of a broader society of persons. This declaration appears to be the logical and right conclusion drawn from non-theological argumentation. Is there a line of theological argumentation that draws a different conclusion?

The theological position argued here can be summarized as follows: (1) the triune God and His ways of relating are both necessary and sufficient to cast the concept of person (see Schwoebel's premises above); (2) human beings evidence a unique correspondence among all known existing creatures to God's triune relationality. This is affirmed in at least three ways: (*a*) in the creation of humans by God and the manner of God's relationship with humanity throughout history; (*b*) in the personal ministry of the Holy Spirit – with the believer uniquely, and more broadly, to unregenerate humanity; (*c*) in the incarnation of Christ which also attests to the unique correspondence of the relationship of God to human beings seen in the manner of the Son's incarnate relationship to the other persons in the Godhead.

The conclusions that follow from these arguments are: (*i*) *person is ascribed by God's way of relating* to an entity not by human ascription. We merely recognize 'persons' by God's 'personal' way of relating to an entity; we don't authorize the ascription of 'person' to an entity; (*ii*) humanity may create an artifact[46] that resembles (could even grant 'mirrors') the traits of a

[46] Artifacts are "non-natural objects, of all kinds, manufactured by humans" (Kline 2003:210).

'person,' however, since God ascribes 'person' to an entity by His personal relationship to it, *only God holds the authority to esteem it a person*. It could be further argued that *God historically has only related in a personal way with human beings* (in the corporeal realm), He has never revealed that kind of relationship with any creature let alone artifact, but it must be granted that such an artifact (like a person) has never existed, so God relating to it as a person remains a hypothetical albeit dubious question. Without revelation from God it would be a proud and presumptuous (read, sinful) move by humanity to ascribe personhood to such an artifact; (*iii*) *fellowship with God, in the sense of a mutual sharing in a relationship of 'persons,' is only possible through the Spirit of God*. While persons can be in fellowship with one another they are excluded from the fellowship of the Spirit apart from redemption through Christ and the regeneration of the Spirit. Similar arguments as those in (*ii*) apply to an artifact's fellowship with the Spirit.

The difference between the ground of the theological as compared to the ground of the non-theological conclusion i.e. God ascribing versus humans ascribing, should be apparent. The conclusions themselves differ in that the theological refuses to affirm, apart from God's sanction (by revelation), any entity as a person. Human beings are affirmed as such based on prior argumentation. In the case of an artifact this refusal holds until God reveals otherwise, which is also the case for any other non-human entity, even one that exhibits the traits of a 'person.' However, in regards to the latter case, love guided by wisdom, with due consideration given to the entity's manner of existence, ought to dictate the kind of treatment given. Even though two entities may be 'persons,' if their manner of existence differs (their 'whatness'), their fellowship will differ. For all creatures, 'full' fellowship is only possible between those of like kind, including those who are 'persons.' This is not prejudice or discrimination; it is relationship consistent with one's nature.

Prior to entering the next section it is expedient for the purpose of this research to clarify a concept central to the researcher's hypothesis, namely, communion. The prior subsections have intentionally elaborated the concept of person as it serves to infuse meaning into the researcher's conception of communion and to guide his use of it as it pertains to both the relationship of humans to machines, and humans to God. A concise definition of communion is that it consists in the mutual participation of one in the life of another. Given the prior definition of persons it follows that the communion of persons is ultimately inherent in the triune God and lovingly extended solely to humans. Therefore, communion as it applies to persons (the sense in view in

this research) would not apply to machines (no human-to-machine or God-to-machine communion), unless God chose to do otherwise.

5.2 COMMUNION BY PARTICIPATION IN LIMITATION

Although some maintain that the universe is infinite, most claim that all creatures in existence are finite i.e. limited in/by time and space. The only being claimed by theologians and postulated by philosophers to be infinite is God (or a god-like being). Any honest human being will admit that there are limitations to their existence; it is part and parcel of our nature and our nature determines the kind of limitations. We watch with wonder as an eagle soars effortlessly on the currents of air that provide lift for its wings, perhaps contemplating the experience of such an ability yet realizing that the nature of our existence limits and therefore prevents us from following suit. In our modern times some of these former limitations have been overcome through technological innovations e.g. aircrafts grant us flight although not experienced in the same way as the eagle. Many of the technologies that have enabled humans to transcend former limitations did so apart from personal physical alteration e.g. wings were not surgically attached to enable humans to fly. However, as time and technology advances, humans have undergone physical alteration, too, via some form of artificial replacement, and more controversially, enhancement. In his work, *Radical Evolution*, Garreau examines the current state of and thought behind enhancement technologies (Garreau 2005). It is interesting to note the frequency of his use of the word 'transcend' (or derivatives of it). To Kurweil (2005:311) "the essence of being human is not our limitations – although we do have many – it's our ability to reach beyond our limitations." *Precisely what are the more prominent limitations that those like Kurzweil desire to transcend?*

In the subsections to follow the vision of the transhuman and humanoid robot agendas for the future are examined and responded to by presenting as theologically and morally warranted, the necessity of locating the embodied human person in a presently limited (finite and therefore contingent) existence. The transhumanist's goal to transcend this present existence by a technological work of self-re-creation repudiates their absolute derivation from God and His reconciling work of re-creation, jeopardizing their participation in a re-ordered and renewed fellowship with Him (Webster 2003:225). For as Webster (2003:225) claims, "self-making is precisely self-unmaking," and "this self-destruction also destroys fellowship between humankind and God [only from the creature's side]." The researcher also contends in the sections to follow

that these goals, if accomplished (possibly even in part), threaten to tear the fabric of human fellowship by the dislocating and/or distorting humanity. Although the present human existence is marred by suffering and death, and it is proper to labor to heal and to hope for the renewal of all things, the power of *agape* is proven in the compassionate abiding together in, and in the eventual liberation by God from these present burdensome limitations.

5.2.1 Transhumanism's quest to transcend embodied limitations

The answer to the prior question could be conducted by constructing an exhaustive list of things about our biologically embodied existence that limits us e.g. eyesight, hearing, motor capabilities, or the brain. The discussion of what parts ought to be enhanced, if any at all, is an important one as the total enhancement (transformation) of humans i.e. posthumans, might be achieved incrementally. That approach, however, is too tedious for the purposes of this study. All of these enhancements taken as a complex share an ultimate end with those (transhumanists and posthumanists) who seek to cast aside humanity's biological existence for something better (Deane-Drummond 2009:259). Waters (2006:50) sums this up well when he says, "if the modern project is to make humans better, then the postmodern goal is to make creatures that are better than human." Although not necessarily seeking to transcend their own biological existence or aid the transhumanists in their goals, engineers seeking to construct a humanoid robot are laboring (probably inadvertently in most cases) on a potential future non-biological substrate for human persons to inhabit. The design of these robots is revealing in that what is included e.g. intelligence, and what is omitted e.g. the capacity to suffer, corresponds in some way to the objectives pursued by those who wish to shed their biological existence.

Transhumanists and roboticists are not alone in their desire to leave the biological body behind; many Christians appear eager to do the same. There are some prominent limitations to being human that are held in common by these groups[47]. The most prominent limitation is human mortality, something that according to Goertzel (2010:216) is 'due to brute biological necessity.' He holds that overcoming this is so important that "helping with life extension research is one of the most important things any person can do today" (Goertzel 2010:216). Labeling their (Minsky, Moravec, and Kurweil) ideas that immortality may be possible via intelligent robots as 'the salvation scenario,' Brooks (2002:208) comments that "much of what they hope for will come to pass, but a lot of what they hope for is driven by fear of death." These thinkers are not

[47] The limitations listed here all stem from the fact of human finitude.

alone in their abhorrence of death, Paul states that the "last enemy that will be *abolished* [by Christ at the end] is death" (emphasis mine) (1 Cor. 15:26). Worth noting is the One who abolishes it and when it will be accomplished. Another limitation is human morbidity, something that causes recurrent suffering, aging, and eventually ending in death for all human beings. Bostrom (2003:37) confidently asserts that "today, we can foresee the possibility of eventually *abolishing* aging and we have the option of taking active measures to stay alive until then, through life extension techniques and, as a last resort, cryonics" (emphasis mine).

Lastly, it is readily apparent that *the mind is highly esteemed* above all of the body's members by transhumanists (who seek to preserve it while discarding the body), AI developers (who by definition focus on intelligence), and roboticists (who primarily focus on simulating its activity in the robots). Waters (2006:50) claims that the two assumptions underlying transhumanism are: first, the mind alone comprises human identity, and second, its evolution is open-ended and malleable. It is the mind as autonomous and free that is severely limited by its biological embodiment. This perspective on the mind not only adds the death of one's mind to the tragedy of death, it is the greatest tragedy of death – "Clearly the death of *brilliant*, productive individuals with *brains full of knowledge* and experience is a waste" (emphasis mine) (Goertzel 2010:216). Peering into the future Goertzel (2010:235) foresees a possible harmonious human and AI relationship and the merging "together [of humans, narrow AIs and AGIs] into a collective intelligence – an emergent 'global brain' . . . people could quite directly partake of it, perhaps sacrificing much of the individuality we currently associate with being human, but gaining a feeling of oneness with a greater mind." Goertzel is not alone in his hopes for the mind. Bostrom (2003:6) thinks that "posthumans may have experiences and concerns that we cannot fathom, thoughts that cannot fit into the three-pound lumps of neural tissue that we use for thinking. Some posthumans may find it advantageous to jettison their bodies altogether and live as information patterns on vast super-fast computer networks."

Others including Kurzweil depict scenarios where intelligence defines the future. For Kurzweil (2005:30) the saturation of the universe with our intelligence (mostly nonbiological), called the Singularity, is the next step in our evolution and the destiny of the universe. The Bible too, evidences an emphasis on mind. For example Jesus said, "you shall love the Lord your God with all your heart, and with all your soul, and with all your strength, and with all your *mind*" (emphasis mine) (Lk 10:27), and the apostle Paul wrote that "now we see in a mirror dimly, but then face to face; now I *know in part*, but then I will *know fully* just as I also have been fully known" (emphasis mine) (1 Cor 13:12). However, none of these entail either the merging of

human minds with or without a global mind or the emergence of a mindplex or a universal mind. Additionally, biblical thought supports the permanence of biologically embodied human minds, and it does not exclude or devalue other aspects of human persons (heart and soul – non-physical, and strength – physical) from a complete depiction of being human in the past, present, or future. Before embarking on an examination of these limitations as they relate to human communion, it is worth considering the underlying differences between the transhumanist and a biblically based hope and means for transcending these limitations.

5.2.2 A biblical response to the transhumanist's vision

The most obvious difference between transhumanism and a biblical perspective is, of course, the exclusion of God in the former. This exclusion is evident in the writings or speeches of almost all proponents, and sometimes it reaches the point of animosity. For example, at a recent Humanity+ conference a speaker remarked that religious objections to transhumanist goals should be dismissed out-of-hand since they 'don't really involve thinking' (RU Sirius 2010). In addition to excluding God most hold to some form of naturalistic evolutionary theory, seeing the "universe as devoid of any inherent purpose or governing force" (Waters 2006:81). While nature is sometimes admired for its efforts and its production of 'mind' it is also ridiculed for taking so long to produce what is, and how humans are not only able but responsible to take the next evolutionary step. During a panel discussion at an Humanity+ conference, Tercek (2010) goaded the listening audience by asking, "Are we going to passively accept our current condition, or are we going to become the masters of our future?" This is not an isolated incident, rather it is the transhumanist's heart cry. The future for the transhumanist promises liberation from the shackles of finitude, yet their content is very ambiguous. *None of the writings or speeches of transhumanists that have been reviewed during this research have proposed a future where the individual reaches personal infinity*. The closest most come is the depiction of merging minds or the emergence of a super-intelligence of which one is a part yet finitude remains.

The clearest vision of the transhumanists consists of what they abhor about their present existence, and as stated earlier, a biological embodiment is expunged and the mind expelled to a home where it can explode in new found freedom. Interestingly, their self-absorption (in their humanity) is explicit in part of their name i.e. humanist[48], and it is more readily apparent in that 'trans' and 'post' humanists are remarkably silent concerning the future of the rest (non-human)

[48] Waters (2006:74-75) comments that humanist is not a fitting designation since "no humanist would willingly consent to transforming humankind to the extent that it ceases to be human . . ."

of nature. This is not to say that transhumanists are not concerned about nature, however, their silence regarding its future should cause concern. Deane-Drummond (2009:264-65) comments that a presupposition that appears in the reasoning of transhumanists is that natural and technological evolution form a seamless web from which the more aggressive advocates seek, to disentangle themselves (specifically from the natural since the technological purportedly enables the furtherance of human evolution). Commenting on the future vision of transhumanists, Deane-Drummond (2009:279-81) holds no punches, accusing them of self-absorption, lusting for power and defiant of mortality, and inadequately identifying with our responsibilities for earth and each other. This neglect of nature's future evidences a critical oversight of the complexity and relationality of creation, for to radically alter the existence of humanity holds the potential to cause very unpredictable and possibly catastrophic consequences. Deane-Drummond (2009:282) concurs, warning that it "would contain too many variants in order to be fully anticipated in terms of risk and benefit . . .and by then [an explanation after the event], it may be too late, as humanity has itself changed and subverted itself through such tinkering."

This emphasis on the mind certainly plays a significant part in explaining the neglect of nature, in particular biological existence. Since mind is all that remains and it is most free in a non-biological existence, the existence that remains is akin to today's conception of Virtual Reality. The mind holds either in 'memory' or by active creation that which it desires to 'behold,' so the mind could create its own worlds independent of 'nature.' In fact, one might ask why retain it at all considering it is finite and subject to limitation; a state from which the mind sought/ought to escape. Consider one thinker's vision of the future when advanced intelligences have made labor for sustenance unnecessary: "what will be left for *minds* to do is primarily to create and appreciate art," which he defines as, "the creation and sharing of new patterns purely for the sake of having these patterns appreciated by one's *mind* and others' *minds*" (emphasis mine) (Goetzel 2010:265).

Based on the foregoing discussion it is evident that transhumanists seek to transcend their biologically embodied finitude, and ultimately all of nature, too, via exportation of their mind into an environment affording it greater freedom and indefinite longevity. Technology, initially made by humans, is the means to achieve that end, and it simply remains for greater insights to be obtained into the workings of the mind such that it can be exported to another substrate. Any human being, particularly Christians, should be able to relate to the desire to be free from the limits of our existence and should compassionately respond to the transhumanist. As we turn to a

biblically based response to our embodied finitude consider the correlation and the response to the yearnings of the transhumanist in the following text:

> For the creation was *subjected to futility*, not willingly, but because of *Him who subjected it*, in *hope* that the creation itself also will be *set free* from its *slavery to corruption* into the *freedom* of the glory of the children of God. For we know that the *whole* creation *groans and suffers* the *pains* of childbirth *together* until now. And not only this, but also we ourselves, having the first fruits of the Spirit, even we ourselves *groan* within ourselves, *waiting* eagerly for our adoption as sons, the *redemption of our body*. For in *hope* we have been saved, but hope that is seen is not hope; for who hopes for what he already sees? But if we hope for what we *do not see*, *with perseverance* we *wait* eagerly for it (emphasis mine) (Rom 8:20-25).

Beginning with the obvious it is clearly evident that a biblical perspective not only includes, but is founded upon the existence of God. A cursory review of contemporary theological works will reveal that it is not necessarily the case that a biblical perspective will reject evolutionary theory; in fact, it is rather prevalent. Most theologians posit some form of divine involvement in evolution. At a minimum positing divine involvement seems necessary to account for the sheer existence of the universe. The extent to which God is involved subsequent to the initial creation is where divergent notions arise. Some forms of Deism and Panentheism provide room for nature to unfold (evolve) and for humans to master or co-create their domain, and in so doing, such a perspective affords space for transhumanist means and ends.

The position affirmed here without elaboration (evident elsewhere in this paper) holds that: (*a*) God created the universe *ex nihilo* (He is the Giver and Maker of its origin); (*b*) God presides over His creation i.e. sustains regularities and performs miracles in it (He is unfolding its history); (*c*) God has and is drawing creation to its destiny (He is in control of its future). He has and is doing so (transforming it) through Christ and the Spirit. As Waters (2006:98) notes, "Christianity and posthumanism share certain affinities because they are both transformative religions."[49] However, the differences in the ends and the means to reaching them stand in stark contrast. The scripture cited above will guide the contrasts listed in the table below.

[49] I would add that posthumanism is only concerned with transforming humanity, but in regard to the remainder of the created order they are better described as transcendental in their approach to it.

Biblical position	Transhuman position
The created order is fundamentally good	Nature is flawed/corrupted
The created order's present 'corrupted' state is due to God's subjection of it in response to sin	Naturalistic evolution is the cause for the present condition of nature
The suffering in this present state evidences God's early work of bringing about a better finite, but eternal future state for the entire created order	The suffering in this present state is inherent to its finitude and must be transcended by the mind i.e. only humanity is transformed
Hope in God's coming redemption for all of the created order gives perseverance as we wait eagerly for it to take place	Hope in human ability to transform (technology the current object of hope) humanity gives impetus to work feverishly and eagerly toward that end
In the end the entire created order is set free and transformed by God, and will stand in a restored, distinct relationship to Him and one another	In the end mind is free from biological constraints and fills the universe

In commenting on postmodernists, Waters, who holds that their thought corresponds to posthuman thought, notes that their fear of finitude is "especially manifest in the inherent limits of being embodied creatures. The body symbolizes the enemy of the will, for its finite and temporal necessity resists all attempts at mastery or negation . . . Hence finitude can only be encountered as an adversary that can only be overcome, or at least kept at bay, by either mastering or transcending it" (Waters 2006:118). The biblical posture toward the temporal and finite that is transformed as a result of Christ's exaltation is to "consent to finite and temporal necessity, and affirm a vindicated created order, [and] also to embrace an eschatological hope" (Waters 2006:133). Waters (2006:120) goes so far as to connect salvation to 'flesh and blood' as its object, meaning redemption is possible only for embodied creatures. If one's embodiment is necessary for future redemption, what current benefits are found in the consent to our limitations, in particular morbidity and mortality? Is it possible that human beings experience profound fellowship with one another, God, and creation through the participation in limitation as suffering?

5.2.3 Greater communion in suffering and greater estrangement in transcendence?

The experience of suffering is so common that moral philosophers such as Bentham (Singer agrees – see 5.1.4) have asserted that the capacity to suffer is an adequate ground to establish moral equality among creatures. Humanitarians such as Mother Teresa note that suffering will always be present in our lives (Moore 1989:136). The Scripture text cited earlier provides theological attestation to the suffering of the entire created order, leading to the reasonable conclusion that all of creation is relationally bound together in a 'fellowship of suffering.' Is this suffering something to be embraced, a common bond that somehow binds us all together for the good, or should we seek to correct or escape from it as an unwelcomed evil?

Transhumanism, while perhaps not seeing the created order as evil, seeks to expunge an embodied existence with its attendant limitations and/or corruptions (morbidity and mortality) in order to reach a better (perfect) state, and in so doing would ultimately transcend its former existence. The end result would be an estrangement between posthumans and humans that would render fellowship improbable if not impossible. Is the rejection of their apparent escapism simply the emotional reaction of an embittered embodied human who is left behind to face the harsh reality of suffering? One's position on the presence and purpose of suffering will determine one's response to it and the results that follow from that response. The thesis that follows holds that all suffer, and that although suffering is not good it can bring about some good, arguably, the ultimate good, namely, a deeper love for and communion with God, humanity, and the created order.

The presence of suffering, as stated earlier, is attested to in one way or another by all that are a part of the created order. While some claim it as a good, most would agree with Feinberg (2004:461) that while God can use it to bring about good things, "the suffering isn't good. It is still evil." The origin of the evil (evil held here as the corruption of good) is a disputed matter, however, few postulate God as the author and biblical accounts depict the rebellion of Satan as the entrance of evil into the created order (Habermas & Thomas 2008:541-44). The entrance of evil into the world is depicted as the result of Adam's sin (Rom 5:14), the consequence being the bondage of all of creation to corruption, and therefore all suffer. That everyone will suffer is a truth that Habermas and Thomas (2008:538-40) claim as their first precept in a theology of suffering. Although suffering entered the world through Adam's sin it does not follow that all suffering is attributable to it. While our propensity toward morbidity and our mortality is attributable to it, both physical and psychological pain and suffering can often arise as

consequences of our own acts. Physical pain and resultant suffering, while not trivial, is but one aspect of suffering. Psychological suffering such as phobias, loneliness, bereavement, rejection, and depression can "grip us more inwardly and encroach more inexorably upon the center of our *personal* being, and be therefore less endurable, than physical pain" (emphasis mine) (Hick 1977:293). While the estrangement of creation from God entails significant physical consequences, from the perspective of humanity, arguably, the greatest consequence is the loss of God's presence in *personal* fellowship (though to restore the latter God necessarily restores the former since both are indissolubly united). If our present situation is only righted and made whole by God, how are we to deal with our suffering?

Our response to suffering will be guided by our perception of its purpose in our lives. We are faced with some somber considerations as we approach the matter of purpose, for it implies intention, thus a moral agent. If suffering is merely the result of chance it has no moral meaning, and the rational response would be to seek to escape or eradicate it entirely (the aspiration of those on the leading edge of technology). As stated earlier, suffering has entered the world due to sin, however, whether we claim God actively brings suffering to bear either as punishment for sin or as a means of our perfection or if He passively permits it to occur, the problem remains for the Christian that a good, loving God has not eradicated it; why not? After observing his wife's slow and painful death and experiencing that suffering, C.S. Lewis (1961:55) expresses this matter very succinctly. He reasons as follows: (*a*) if suffering is unnecessary, then there is no God or there is a bad one. Even a cruel person might relent on occasion by bribe or in a fit of mercy; (*b*) even a moderately good God would not inflict or permit suffering if they were not necessary; (*c*) if there is a good God, then the sufferings are necessary, and like a kind and conscientious surgeon He sees the procedure through to completion despite our entreaties to halt along the way. Habermas and Thomas (2008:563-69) in a similar vein assert that, "it [suffering] is allowed by God because suffering is purposeful. Thus, our responses to it are very important," and like physical exercise whose process includes pain, the strengthening of our mental, emotional, spiritual, and theological muscles is the result of their being exercised in suffering. Commenting further they note that often the real anguish of suffering is due to its perceived meaningless (Habermas & Thomas 2008:563-69). Other theologians concur with the position expressed by Lewis and Habermas. Hick (1977:308,339) follows Irenaeus in his notion that the suffering experienced in this world is necessary for 'soul-making,' the result being the gradual perfection of a person i.e. bringing a person into Christlikeness.

Several theologians hold that Christ Himself epitomizes this purpose of suffering in order to be perfected; in fact, Christ is referred to by them as the 'Suffering Servant.' Consider the incarnation (assuming the form of a human being) of the transcendent Son as a very significant step in subjecting Himself to the limitations and associated suffering experienced in that form[50]. Then consider the scriptures that attest to this:

> For it was fitting for Him, for whom are all things, and through whom are all things, in bringing many sons to glory, to *perfect* the author of their salvation *through sufferings* (emphasis mine) (Heb 2:10).
>
> Although He was a Son, He learned obedience from the things which He *suffered*. And having been *made perfect*, He became to all those who obey Him the source of eternal salvation (emphasis mine) (Heb 5:8-9).

Referring to the above text in his response to the 'over-realized' eschatology of the 'perfect health' evangelists, Fee (1985b:30) comments that in this present age, "even some of God's choicest servants continue to be perfected through suffering, as was the Son of God Himself."

None of the aforementioned comments regarding suffering are intended to imply that all of life is suffering or that we are to seek it out in order to bring about these good ends. On the contrary, all things are good, and as gifts from an omnibenevolent God are to be enjoyed as such. Christ came to redeem all from the effects of the Fall, so that *all may have life in abundance* (John 10:10). Regarding the presence of suffering, Hick (1977:322) has astutely commented that were the sum of misery greater than the sum of contentment and happiness, humans would have destroyed themselves long ago. And regarding the latter, since suffering is inherent in this present age it need not be sought. Also, if God is, in fact, the omniscient, good, and conscientious surgeon as suggested by Lewis, our chief concern is merely to submit to His hand, seeing our trials (surgical procedures) as exercises of our faith that produce endurance, "its *perfect* result [being], so that you may be *perfect and complete*, lacking in nothing" (emphasis mine) (Jas 1:4).

If the response to suffering is as asserted above, what results might be expected to follow? One might note the order followed to this point e.g. presence, purpose, response and now finally results, is intentional and conveys a non-consequentialist approach. The results that will be affirmed below do not serve as the basis for determining the morality of the acts that produce the results. The first result pertains to the most fundamental aspect of the believer, faith. Peter like James sees trials as "the proof of your *faith*, being more precious than gold which is perishable,

[50] Bauckham (1998:58) comments that Christ "renounced the splendor of the heavenly court for the life of a human being on earth, one who lived his obedience to God in self-humiliation, even to the point of the particularly shameful death by crucifixion, the death of a slave."

even though tested by fire, [our faith] may be found to *result* in praise and glory and honor at the revelation of Jesus Christ" (1 Pet 1:7). The Bible's 'Hall of Faith' (Hebrews 11) contains a concise list of those persons in biblical history noted for their faith. An overview of this list reveals some who failed to receive what was promised, some who left 'good' circumstances for something better but did not reach it, some who overcame adversity, and some who suffered to the point of death in hope of something better. The chapter itself concludes with this summary, "And all these, having gained approval through their *faith*, did not receive what was promised, because God had provided something *better* for us, so that apart from us they would not be made *perfect*" (emphasis mine) (Heb 11:39-40).

Two contemporary theologians (Lewis and Feinberg), both of whom experienced the loss of their wives, affirm the pain and evil of their suffering yet attest to the good result. Lewis candidly writes of his knowledge of suffering prior to the death of his wife as a part of life from witnessing it around him and being taught about it in Scripture, yet it was different when it happened to him. He said that had his faith been real and his concern for the sorrows of others real also, it would not have been that different, but his house collapsed because it was a house of cards (Lewis 1961:48). He writes that "the faith which 'took these things into account' was not faith but imagination. . . . If I had really cared, as I thought I did, about the sorrows of the world, I should not have been so overwhelmed when my own sorrow came" (Lewis 1961:49). Later, Lewis (1961:65) remarks that though these sufferings are sent to try us, we "must take 'sent to try us' the right way. God has not been trying an experiment on my faith and love in order to find their quality. He knew it already. It was I who didn't."

Feinberg also struggled with his faith in God following the painful death of his wife, yet in his chapter on the uses of suffering he writes that he saw in a whole new light the important things, which helped put certain things, things that tempted him to sin in their proper perspective i.e. he began to see things more like Christ. This affliction drew him closer to Christ and promoted his sanctification by refining his faith. Commenting on 1 Peter 1:6-7, Feinberg (2004:481-82) notes that rather than emphasizing the test itself, this passage is focusing on the outcome of the test, namely, the residual of faith that remains after the test. Much more could be and has been claimed as a beneficial outcome to a proper response to suffering e.g. humility, endurance, courage, honesty, and other moral excellences, however, it is imperative that the aspect of fellowship be treated next.

While it has been noted that *suffering is experienced by all*, and so broadly speaking all are *united* in a 'fellowship of suffering,' the experience of suffering itself is a private i.e. subjective matter. In the case of non-human organisms that are unable to verbally express their response to suffering, physical responses alone provide evidence of suffering. In the case of human beings, both physical and verbal responses evidence the experience of suffering, however given the complexity and variety of human persons and the varying types and degrees of suffering, the experience and response to it (internal and external expressions) vary greatly, too. While unable to conduct a thorough psychological study of suffering[51] some common reflections will suffice to establish some relevant points.

From birth human beings appear inclined to express their physical suffering clearly to others in hopes of obtaining relief or rescue from their suffering e.g. babies crying when hungry or thirsty, toddlers cry out upon falling and hurting themselves, and adults complain and/or cry with toothaches and many other aches as aging takes hold. These experiences of suffering appear to *compel us to 'reach out'* for a remedy. Certainly, some due to higher tolerances, bravado, bashfulness, or budget constraints might shrink from outward expressions, the point is that typically most people appear likely to turn to others in their times of physical suffering, especially as it becomes experientially more intense. In response to this kind of suffering we find people from parents to medical practitioners coming alongside to assist and comfort those who are suffering. The kind of fellowship experienced during these times varies, nonetheless, fellowship is experienced by those who *share similar suffering in proximity* to one another e.g. two patients in the same hospital room.

Fellowship is also shared by those who provide the care and comfort in the treatment of those suffering e.g. the nurturing mother who cleans the wound, applies the Band-Aid, and then holds the child close to her, or the nurse applying a cool cloth to the head of a feverish patient. In our time of suffering the care and comfort of others is especially meaningful because our inability to reciprocate discloses the gift-giving nature of their acts. Also, when care and comfort is provided by more than one individual, fellowship is also experienced among the care-givers themselves.

In a similar fashion, but on a somewhat grander scale, disasters have often drawn many people together in the efforts to provide care and comfort. In treating the occurrence of excessive

[51] A working definition of (human) suffering for the purpose of this study is as follows - it is characterized by two things: 1. the *persistence* through time of a cause; 2. whose effect is harmful to the well-being of a *person* (physical or psychological).

suffering (natural disasters), Hick (1977:334) comments that it evokes deep personal sympathy resulting in organized relief and sacrificial help and service. Recent events such as the devastating earthquakes in Japan (2011) and in Haiti (2010), and the tsunami in South Asia (2004), attest to the global outpouring of care and comfort, from small church groups to the militaries of nations, people came together in a 'fellowship of suffering.'

The human being as a unity of body and soul (mind, will, and emotions) experiences suffering in a complex way. Division between body and soul cannot be surgically performed, and the experience of suffering in one is not separable from the other. Our physical pain is relayed to our brain and therefore affects our mind (the mind at a minimum is very distracted by the pain), and although it may seem emotional pain could be purely non-physical e.g. verbal insults, the effects are evidenced in physical ways e.g. blood pressure and heart rate increases, not to mention the fact that our embodied existence is necessary to experience the non-physical suffering. That being said, it was noted earlier (Hick's quote) that internal suffering often is more persistent and less endurable. Also, it rests entirely on the person's willingness to express it in order for it to be evident to others (granted 'body' language can reveal it too), and it rests entirely on the person experiencing the pain to relieve it (the words and actions of others may and often do help but the responsibility rests on the subject to apply it). Unlike physical suffering, it appears that non-physical suffering more frequently goes unexpressed. Many factors could be attributed to this tendency but it seems evident that the nature of these experiences of suffering i.e. internal/private and the fact that they are ultimately treated by the subject themselves, lies at root of this tendency. However, given the significance of the subjectivity in the experience of one's suffering, it is not surprising that while it lends itself to concealment *the greatest fellowship can be found in its exposure*. The treatment of this kind of suffering often requires more time and involves dealing with intangibles and unknown's (often the sufferer does not how to express themselves), and in this time of accelerated activity and material comforts and remedies the sufferer is usually even more reticent to 'impose' on others for his care and comfort, especially when he knows that he is ultimately the only one who can apply the remedy.

The remedy to the apparent 'internal' dilemma of the sufferer is twofold: first, the sufferer has to acknowledge the nature of the suffering i.e. private, and realize that care and comfort will not be forthcoming unless some expression of it is made to others (discriminately), and second, those who know someone that is suffering or who are approached by one who is should 'reach out' to them to care and comfort them (discreetly, apt to listen, slow to offer advise). It is in these moments that fellowship can truly be experienced. Feinberg, reflecting on his own suffering,

notes that while he had spent much time and effort studying the problem of evil, when tragedy befell him his problem was not primarily an intellectual one, it was an emotional one. In his hopelessness he felt there was no one who could provide an answer or help him; also others had their own lives and responsibilities, so he felt abandoned by God and others. He points out that people often stay away not knowing how to deal with such suffering furthering the sense of isolation and abandonment by the sufferer. He "longed to have someone to talk to about how I [he] felt," and found one of the most helpful things was a visit from his pastor who expressed his sympathy, offered his and the church's assistance, and was willing to be there and listen (Feinberg 2004:450-63).

It is true that life is not filled with suffering; joy is also part of life's experience and celebrating it with others constitutes fellowship, too. However, it is certainly easier and somewhat self-satisfying to do so. How often has the new 'friend' one acquired at a party quickly abandoned the friendship when what he really wanted is gone? Habermas and Thomas (2008:1478-82) note that "affliction provides fertile ground for establishing friendships," and that providing practical help to those who are hurting is the "type of help Paul had in mind when he spoke of bearing the burdens of others." Those times are also opportunities for the Body of Christ to jointly care and comfort those who are suffering. Often the needs are too great for an individual to carry the burden of another, but many more not only make it lighter for all, but also their participation strengthens the bond between more people. It is interesting to note that one of the phases in life when people suffer the most and therefore need care and comfort the most (are a burden) e.g. the elderly, is a focal group for the deployment of service robots (Online 36). What does the present use of robots in the care of the elderly portend for human estrangement in the future? Robots could be used for certain chores, but as Davies (2007:7) exhorts, "we ought to intentionally find opportunities to cultivate personal relationships" because there are "so many forces of depersonalization in the world." Consider also the words in the N.T. book of James that exhort us to *visit* widows and orphans in their distress (1:27). The visiting James refers to *requires the actual presence of the one visiting*, not an act relegated to a robot or mediated via some other technological device.

The role suffering can play in drawing others together in fellowship is evident, and the experience of both in the lives of believer and unbeliever alike has been attested to throughout the ages[52]. The transhumanist is not exempt from suffering or the fellowship it can bring;

[52] Arguably, one of the most significant places for a believer to establish a strong relationship with an unbeliever is while sharing in the suffering of the other, and giving comfort and care i.e. love, too.

arguably, their collaborative efforts to transcend their present existence has drawn them into fellowship with one another. However, in the absence of a perspective that locates the meaning/purpose in our present suffering they seek to abolish it by way of *abandonment*; lacking the *faith* in the One who alone can bring an end to it, without *hope* that a better existence is coming, and therefore without *perseverance* in/for the created order as a whole. Even in their ambitious goal for longevity and/or ending mortality they fail to "understand that the project for the conquest of death leads only to dehumanization" (Kass 2002:255). Not only does this project require the transcendence of the biological human, and therefore creating something other than human, thus ultimately dehumanizing humanity, in removing the limit of mortality imposed by nature (biblical arguments support God as the One imposing those limits) on human life, it now renders death the only choice available to a moral agent regarding their life, thus giving death a morbid preeminence over life[53]. In fact Bostrom (2003:37) asserts that, "the transhumanist position on the ethics of death is crystal clear: death should be voluntary."

Another concern regarding this move away from the finitude and frailty of humanity is expressed by Waters (2006:57); he sees as possible the emergence of cyber-nature beings who loathe the body construing it as 'rancid meat to be discarded,' but that "its disposal will entail the loss of the defining human capacity of care." He views it as "difficult, if not impossible, to imagine what a transformed understanding of caring might mean in a realm dedicated to relieving, if not eliminating, the heavy burdens of finitude and temporality. The goal is not to enhance care, but to eliminate the conditions that make is necessary" (Waters 2006:57).

It is our (Christian and transhumanist) common desire to be in a better, perfect existence, one where death and suffering are removed. We both reach out in an effort to transcend this present existence, one upward in prayer and petition to the transcendent One, the other outward in an exercise of will and power by the many to transcend. In response to our plight the Son of God entered the realm of the suffering and fellowshipped with us, submitting to all manner of suffering, even death on the cross. His death and resurrection bring the promise of salvation but not an escape from the sufferings in this present world. In fact He enjoins us in Scripture to "know Him and the power of His resurrection and the *fellowship of* His sufferings, being conformed to His death; in order that I may attain to the resurrection from the dead" (emphasis mine) (Phil 3:10-11). He has risen and we are left behind . . . but we are not as orphans in this

[53] The distinction between the quality of 'eternal' life perceived by Christians as theirs after the resurrection is evident in the incomprehensibility of any desire for death (or the existence of it at all) in that life, versus the transhumanist who grants the continuance of the desirability and possibility (albeit on the part of some and not all) of death in an extended existence.

world, for, speaking of the Spirit of God, He said, “I will not leave you as orphans; I will come to you” (Jn 14:18). The Holy Spirit is referred to in Scripture in a variety of ways, but it is interesting to note for the purpose of this study that He is referred to as the Comforter/Helper[54] (Jn 14:16) and as affording us ‘the fellowship of the Holy Spirit’ (2 Cor 13:14). For the believer the internal suffering is not ours alone to remedy or apply the cure, the Spirit of God is there to care and comfort. God came and met us in the midst of a created order that is frustrated, in bondage to sin and suffering, and He subjected Himself to it. Then He redeemed and vindicated it, all of it, and now He labors to bring it into a completed state of existence in the future. In this time of waiting He continues to fellowship with us and us with Him and one another, and it is the manner in which we wait with Him and with one another that illuminates the world – it is His love.

In summary, this section is not arguing that suffering ought to be perceived as a good, or to be sought out or inflicted, or that all of life is suffering. On the contrary, what is being stated is the obvious, the universal experience of suffering; and what is being argued is that since this is a mutual experience that draws both the sufferer and the healer into close proximity to one another, relationships are formed, meaningful fellowship is shared that often endures after the suffering has abated, and human virtues are often demonstrated or developed. Additionally, a second argument is being made that unless one can eliminate all suffering, seeking to transcend it is to seek to abandon (break fellowship with) those still under it who need compassionate care. Finally, the ultimate remedy, the removal of all suffering, is promised by God the Father, attested to by the incarnate Son who also suffered, and sealed by the Holy Spirit.

5.2.4 Love as the substance of communion

In pop singer Tina Turner’s hit song of the early 80s, titled, *What’s Love Got to Do with It*, she exclaims, “What's love but a second hand emotion,” and “What's love but a sweet old fashioned notion” (Online 25). In the song Turner describes her feelings for someone, but she denies that they evidence more than a mere physical attraction. Her heart has been broken before, and fearing a reoccurrence she is going to protect it by trying to deny its existence. Turner was most likely inspired to write this song as a result of the abusive relationship with her husband, Ike Turner, which ended in divorce in 1978 (Online 17). It might appear as an unusual reference in an academic paper, but it brings out in a popular, yet profound way, the notion of love in our

[54] Greek *paracletos*, one called alongside to help.

culture, and provides a poignant contrast to the love of God. We might ask, what is love? Is love an emotion? Does love require vulnerability as Turner painfully discovered? *In the following paragraphs love will be examined in terms of derivation, direction, doings, and duration*.

As with any internal characteristic how it is manifest informs our identification of it. For example, how is anger identified? In a facial expression, a noise, a physical act, a verbal exclamation or a combination of some, or all of these, confirm the mental state of the person. Jesus, in speaking of false prophets who outwardly appear innocent (as sheep) but inwardly are ravenous wolves, provided a principle of identification – He said, "you will know them by their fruits" (Mt 7:16). Following that principle, love would also be known by what the 'lover' *does*. However, following a chapter (1 Cor 12) in which Paul speaks favorably of various gifts of the Spirit, and giving certainly implies action, he introduces a 'more excellent way' in an oft cited passage about love (1 Cor 13). In this passage it is clear that words and deeds of the noblest kind in themselves i.e. apart from love, lose both their meaning and value. If love is not known by words and deeds, expressions that are most evident to others, then how is love known?

The first epistle of John contains forty-three occurrences of some form of the word love, and in one passage he exhorts believers to "not love with word or with tongue, but in deed and truth" (1 Jn 3:18). It seems this text confirms deeds as a test of love, however, it stands joined with another, and what follows the conjunction i.e. truth, perhaps points to the answer to these and other questions about love. The key to the *derivation* of love appears several verses later when John makes a brief but profound statement, 'God *is* love' (1 Jn 4:8b). Commenting on this, Kreeft (2004:1048-54) notes that this is the only text that expresses God's essence is this manner, "everything else is a manifestation of this essence to us, a relationship between this essence and us. This is the absolute; everything else is relative to it." In the context of the triune God, it is clearly evident that love implies more than one entity, the subject – the lover and the object – the beloved, and the spirit of love that is the bond that unites them. Grenz (1997:284) notes that "the essence of God does indeed lie in the relationship between Father and the Son (love), a relationship concretized as the personal Holy Spirit, who is the essence of the one God." The triune God in an act of love brought into existence an-*other* i.e. all of creation, and as a community of love, "the God who is love cannot but respond to the world in accordance with God's own eternal essence – love" (Grenz 1997:285). Love is not a characteristic or an attribute of God, it is God's essence. Often out of both a misunderstanding of God's love and a concern for the implications that a distorted response to God's love may produce (a perception of liberty to sin), Christians and theologians alike seem in a hurry to 'balance' God's love with another

attribute e.g. justice, however, we ought to linger in our examination of God's love and long for a deeper understanding and personal exercise of God's love.

In an effort to solve a variety of crimes, criminologists have often said one simply needs to 'follow the money.' While speaking about how to avoid material loss as a result of crime, Jesus recommended investing in heaven as a way to avoid such loss, "for where your treasure is, there your heart will be also" (Mt 6:21). Both of these exhortations pertain to *direction*, and one's direction is determined by what one values. To find the elusive criminal, follow the money, to find one's heart find what they treasure. Continuing to look at the triune God, by following the love, it is apparent that the Father in His eternal generation of the Son, loves Him – "the Son has being only because the Father loves Him and wills Him" (Kreeft 2004:1068-74). The procession of their mutual love "is so real that it is a distinctly real person, the Spirit" (Kreeft 2004:1081-88). The triune God is the source of love and the nature of their loving communion is revealed to us most vividly when the course their love takes is manifest in human flesh, the incarnation of the Son. Certainly, God's love is evident in all of creation, but His love was perceived with greater clarity when He could be seen, heard, and touched by us (1 Jn 1:1-3).

There is much that could be said concerning Christ's life and the evidence it holds of the Father's love for Him, the Son's love for the Father, and the love of both for human beings. However, particular attention will be given to Christ's crucifixion, for as the Scripture declares, "greater love has no one than this, that one lay down his life for his friends" (Jn 15:13), so it is on this epitome of love the focus of this study will rest. While the surrender of one's body to the point of death for another is a great and noble act, Paul casts a shadow of doubt on the act alone as a demonstration of love in 1 Cor 13:3. Perhaps one's underlying motive is a selfish act. What evidence is there that Christ's death on the cross is love? The answer interestingly, lies in Jesus' response to His Father in a garden (Gethsemane). Jesus realizing the imminence of his death prays, "Abba! Father! All things are possible for You; remove this cup from Me; yet not what I will, but *what You will*" (emphasis mine) (Mk 14:36). Jesus' response stands in stark contrast to Adam and Eve's response in the garden. If in fact, God is love, then all of His activities (what He wills) are acts of love. Our best act is to (freely) will what He (freely) wills, for it will be an act of love, like God's. It is in this 'more excellent way' that one's *doings* are inseparably united to truth. Concerning our future Kreeft (2004:1856-62) remarks that "our ultimate bliss in Heaven comes not, as the pantheist mystics think, from a confusion of substances but from a *harmony of wills*" (emphasis mine). If Jesus lived in such submission to His Father's will, then the acts of Jesus evidence the loving will of God.

The Greek's had several precisely defined words for various aspects of love; one of those words, *agape*, was used in a general sense and subsequently fell into disuse in classical Greek. The Christians adopted it and associated it with the love seen in Christ and Christians (Kreeft 2004:484-490). A cursory examination of the use of this word reveals that which characterizes the actions of love. First, love freely wills e.g. God freely creating and Jesus freely coming and giving His life. Love freely gives i.e. actively wills the good of another – rather than being based on 'preexisting' value in the object, the object acquires value by being loved by God e.g. Jesus offering His life for the good of sinful humanity. Since freedom is a good, the (free) beloved can will to not love the lover. However, since God is the Supreme Good and the ultimate end of all others, it is the beloved who, estranged from their ultimate good, is vulnerable and alienated from their lover i.e. suffers. Love includes but goes beyond kindness and compassion in that while desiring to relieve and prevent suffering, love does not immediately put an end to it all because a greater end i.e. the good of the sufferer, is in view – the sufferer out of love endures with this end in view, too. Love is active and can be commanded i.e. willed, and so is not a feeling – "we fall in love, be we do not fall in *agape*. We rise in *agape*" (Kreeft 2004:524). Love's actions have a specific focus and is personal, namely, the beloved, not an abstract concept i.e. humanity e.g. love *your* neighbor as *your*self and love one another as Christ loved *you*. Love establishes communion with others – Jesus sought out opportunities to be with His Father and to fellowship with others in homes, the marketplace, and places of worship. The Christians were known for their love for one another evidenced in their sharing of life together e.g. sharing their food, shelter, and worship. Grenz (1997:295) stated this aspect succinctly when he said, "as we share together in the Holy Spirit, we truly are the community of love, a people bound together by the love present among us through the power of God's Spirit."

To summarize the aforementioned view of love, love's derivation is from God; love's direction is outward first among the persons of the Trinity and then into all of creation; love's doings are manifest clearly in the life of Christ; and finally, love's *duration* follows from its ultimate destination which is the return of love to God; therefore, love's end is eternal as is the origin. The eternal nature of love is implied in Paul's closing comments on love in 1 Corinthians 13, declaring that *now* faith, hope, and love abide, but the *greatest* is love. He is referring to a future age when in God's presence faith and hope will no longer exist, and all that will endure forever will be love. Rather than being circular a biblical depiction of love confirms the nature and unity of the triune God and affirms the meaning, value, and destination of all of creation connected by eternal bonds of love to its Creator. Love as God's essence considered together with His eternality and infinity and coupled with the view of our destiny as in eternal communion in love

with Him, it rings true that being made for such fellowship with the infinite, finite things will not satiate. However, estranged from God and/or unwilling to submit to His love (His will) one would grasp the finite in hopes of relief. It has been said that boredom is the mother of invention, and given the dramatic increase of inventions, novelties, and forms of entertainment in the past century there might be some truth in this statement. Kreeft, in speaking of love, astutely draws a correspondence between boredom and our longing for the infinite. He claims that "boredom is modern man's deepest fear" and that it "is at the root of the widespread unconscious drive to destroy all forms, limits, order, law, and reason" (Kreeft 2004:965-79). He goes on to claim that God designed finite things to eventually become boring to us because our hearts are fashioned to be in an eternal relationship with the Infinite, not the finite alone. C.S. Lewis is known for basing an argument for God's existence on the presence of this desire in human beings. These assertions reinforce the eternality of a God who is love and the eternality of His loving communion with all whom He loves.

A summary of the 'substance' of love and how it is known to us is as follows: by origin – the one in whom love resides and out of whom love proceeds (God), by the procession of love – by whom love flows (the Spirit of God), by the activities in the procession of love (the effects of love in the beloved), by the destination of love – to whom love returns (God), by the persistence of love – eternal in essence and activity.

One thing remains in this study of love, the response to and place of humanoid robots in a community of love. Although the prior discussion of love was brief, the centrality of *agape* to what Grenz calls 'comprehensive love' brings to light its necessity in all other expressions of love[55]. This point is important because the prevailing contemporary conceptions of love rarely consider this fact. For example, Levy argues for the possibility of people falling in love with humanoid robots by progressively building a case that demonstrates human love for people, pets, electronic objects, and finally, hypothetically, by way of extension, humanoid robots. How he characterizes human love in each category is illustrative of the prior point. In human-to-human relationships his position could be termed attachment by attraction, summarized as follows: attachment is emotional, the experience of which is governed by the existing desirability of the object to the subject. The ten causes he lists to *falling* in love will expound upon this attachment by attraction. They are: similarity; desirable characteristics of the other; reciprocal liking; social influences e.g. age; filling needs; arousal/unusualness e.g. danger; specific cues e.g. voice, face,

[55] Comprehensive love consists of all four loves: agape – a self-giving love; storge – familial affection; philia – friendship; eros – desiring another (sexual in its present form) (Grenz 1997:291).

eyes etc.; readiness for entering a relationship; solitude with the love object, or exclusiveness; and mystery (Levy (1) 2007:37). It is apparent that according to Levy, love is contingent on the value of the object to the subject rather than value being imparted to the object by the love of the subject i.e. agape.

After discussing the tendency of people to anthropomorphize their pets and the pervasiveness of people projecting their thoughts and feelings onto their pets, Levy asks why people love their pets. His answer is that "reciprocity is one of the most significant factors in prompting feelings of romantic love" (Levy (1) 2007:62). Having defined love as he has, and now correlating this attachment and affection of humans for humans to that held by humans for pets, the move to electronic objects is not that difficult; all he has to demonstrate is people's attachment to and affection for them, and he can conclude that love is possible, if not actual. At times referring to Turkle's studies that show human attachment to such objects, Levy ((1) 2007:104) concludes that "those who will adapt best to the era of life with robot friends, companions, and lovers, will most likely be those who grew up surrounded by other forms of robot, including possibly a robot nanny."

Dealing with the hypothetical existence and benefits to humanoid robots Levy's thoughts are revealing. A short list of benefits should suffice: (1) assisting people in the recovery process after a relationship breakup; (2) helping to fulfill the natural desire to have more close friends, to experience more affection, more love; (3) demonstrating their ability to take care of the security of our little ones better than we can; and (4) causing people to be more willing to be open and honest with them than other people (Levy (1) 2007:105-112). In a later section he lists ten love *needs* people have and argues a robots ability to *satisfy* them, and concludes the chapter by making a case for the licensure of human-robot marriages. Possibly the most significant demonstration of Levy's misconception of love in relationships is the devotion of the second *half* of his book to a defense of sex with robots, an art and practice which is already underway (see example three in section 1.5).

The response to Levy based on *agape* as central to and guiding all expressions of love reveals the incompatibility of it to Levy's (rather popular) conception of love. The observations he makes concerning human attachment and affection for people, pets, electronic objects, and humanoid robots are not disputed here; common and personal experience attest to its occurrence. However, *a partial conception* of love, in particular one that omits *agape*, is a *misconception* that results in *misguided and distorted expressions* of even the non-agapic aspects of love. So, how does *agape*

relate to pets, electronic objects, and humanoid robots? It has already been established that God's creation of all things is attributed to His love, therefore, *all things are loved by Him*. A simple statement of Jesus brings to the fore a possible qualification to this assertion. He points to the minuscule value of five sparrows in the eyes of people and contrasts it to God's remembrance of each individual sparrow, then He points to God's accounting of each hair on their head and declares that they (not their hairs) 'are *more valuable* than *many* sparrows' (emphasis mine) (Lk 12:7). Should it be said that all things are loved by God, but not all things are of equal good or end in the activities of God? Love wills the good of the beloved, but not all 'beloveds' have the same good or end.

The incarnation, the impartation of the Holy Spirit, and the promised consummation of human communion with God provides sufficient attestation to the *higher good and end of humanity*. Regrettably, humans out of pride (not in love and submission before God i.e. humility) have suppressed God's love and in the process have drawn all things into bondage with themselves, bringing death not life to all. In an effort to regain what was lost and in a prideful attempt to attain what has yet to be given to him by God, humanity abuses creation and further disfigures themselves. However, taking hold by faith of the One who gave His life to liberate all in love, humanity is created anew, and eternal love and life are restored to them in Him, and eventually both they and the created order will be given a transformed existence by God who is love.

Since *humans have a unique destiny* in God, and God manifested *agape* in His Son and gives *agape* through the Holy Spirit to those who by faith believe in His Son, the believing human community participates in an eternal community characterized by the *agape* of God. Humanoid robots, having been created by human hands (as with other human creations), are not included in the biblical account of present or future participation in communion with God. Levy, in the conclusion of his book, *Love and Sex with Robots*, makes a revealing statement about the status of such creations. He said, "although humanoid robots are *artificial* people, will the humans who *fall in love* with robots somehow reduce the degree of artificiality, *by endowing* their humanoids with a measure of moral standing?" (emphasis mine) (Levy (1) 2007:305).

Metzler (2007:20) recommends caution in attributing moral status to machines, anticipating that some people in the presence of advanced humanoid robots could be encouraged to "*view themselves* as machines, eroding their self-perceptions as moral agents ("Don't blame me – I'm just a robot")." Given the tendency to attach to such objects, such cautions are warranted, yet more to the point is the matter of *agape*, and Metzler (2007:20) refers to this in his statement that

"'programming,' 'training,' or 'evolving' *unlimited* love into a machine could prove to be a formidable functional requirement.[56]" Metzler (2007:20) undoubtedly understands Tillich's notion of *agape*, for in the paragraph following the one just cited he says, "*if* Tillich is right – it should seem that the real success of any robotic device *as* a genuine moral agent could critically depend upon the provision of divine *grace!*" However, Metzler does not appear to be convinced that this is necessarily the correct biblical notion of love, for given the prior discussion concerning Tillich's understanding of *agape*, it is apparent that such love is God's and is only given by God. Therefore, *it would not merely be formidable, it would be impossible for a machine to love*. All of the other forms of love hold the prospect of being mimicked in a machine, not *agape*.

In light of the propensity to attach to *artificial* things it is unwise to put such human creations in positions where they are increasingly able to substitute human beings. Their difference in existence renders them incapable of relating fully to a biological human existence e.g. in experiencing the world, its pleasures and its pains, and they distract humans from human fellowship. God's command is to love one another, human history testifies to the deficiency in obedience yet again, so rather than pondering the possibility of love in or for a machine, love for God and one another ought to remain central as it not only portends our future, it is the only hope for our present – for us and all of creation. The circle of love has its origin in the triune God. The circle is enlarged by God to include humans, and so by the Spirit of God love flows uniquely in the communion of God and now humans too. Since God is the source and ultimate end of love, love is rightly returned to Him, however, since redeemed humans are a part of the body of Christ, love can be returned to God through the body of Christ i.e. in our loving of one another we are loving God (this is not to exclude the possibility or necessity of the extension of love by the redeemed to those who are not). Since God is the sole possessor and giver of His love, human beings while in a position given to them by God to participate in His love are not granted the authority to determine who else is worthy to participate. God determines persons, and it is uniquely persons who are in communion with Him.

Finally, given the eternality of God's love and the eternal life given to those who participate with Him in love, the end of all else i.e. a temporal existence, ought to be considered in the way with which we 'love' all else. Regrettably, some Christian have taken this unique and privileged position of human beings and their future as an excuse to mistreat this present creation. Such

[56] Metzler is referring to Tillich's account of ethics that holds agape as central and necessary to a moral agent.

actions evidence an inadequate understanding of God's love for what now is. On the other hand, given the present propensity to liberally grant equal status to non-persons a healthy balance is necessary, and a proper understanding of God's love and the future affords that to us. The former has already been treated, so a brief mention of the latter is in order.

Several scriptures attest to the temporal nature of God's present creation, let alone *those things made by human hands*. In Hebrews (1:10-12) the writer affirms (referring to O.T. texts) the eternal existence of God by way of contrast to the temporal nature of the heavens and earth (as God's creations). In other passages (2 Pet 2:12; 3:7-13, and Rev 21) it is evident that God's *handiwork* (heaven and earth) is made new. These accounts also clearly evidence a permanence of persons i.e. God and human beings (the latter being redeemed by the former). Granted such a cursory review is far from being conclusive (more in a later section), however, even a tentative position provides reason to pause when endeavoring to draw that which is made by human hands into a communion of beings who clearly are uniquely in a position to be drawn into an eternal existence by God's grace. *The distortion and misappropriation of love in a human community that transgresses these inherent God-given parameters subjects the entire community (and creation itself) to deformity*, the precise nature of which is not known, but in light of the consequences that followed from a prior transgression that disfigured humanity and their community, this ought to remain forever a matter of conjecture.

To summarize, at the very core of communion involving both God and humanity is God's love. While suffering in this present life may foster deeper human communion, it is God's love that undergirds and upholds the fabric of humanity (and all of creation) and the fellowship of the triune God in an eternal union. Humanity alone is lovingly wooed by God to participate in the communion of His triune love. Human beings, however, may freely reject their lover's advances and turn their affections toward another. In turning away from God's love the gift of *agape* fails to flow through them and they no longer will what God wills for themselves or the other i.e. the true good of the other. The result is a groping among the finite for satiation that only comes from the infinite. The introduction of objects for affection other than human beings further deteriorates the fabric of humanity, and the introduction of an object like a human e.g. a humanoid robot, holds the greatest potential for greatest dislocation and distortion of humanity.

5.3 MORAL PERSPECTIVES FOR A POSSIBLE POSTHUMAN FUTURE

The prior conversation in this chapter exposed a stream of thought that underlies the intent of some (transhumanists) to sequester the next step in human evolution from natural evolution and to do so by way of advancements in technology. While this paper also intends to treat the areas of AI and robotics over that of transhumanism, that which is common to all three, namely, the hypothetical existence of 'persons' in a posthuman existence and in other 'intelligent' artifacts, will be the collective foci of this section. The particulars regarding the issues in each of these areas are voluminous, and while important, would encumber a response intended to guide the conversation. Instead, *the approach taken here will be to locate the subject in its proper context rather than endeavoring to draw specific ethical lines of demarcation pertinent to each area which the advent of new technology or discovery might render superfluous*.

The advantage of such an approach is that it puts humanity in a position to carefully determine in advance the wisdom of appropriating a technology, and the researcher will prepare *a framework* essential for locating the direction and motivation of present and future developments in these areas. The imperative to establish a framework that could provide both the meaning of and the responsibility to the created order is evident in the resultant moral ambiguity and susceptibility of creation when severed from secure ontological anchors. This truth is attested to in the postmodern milieu with its moral ambiguity evident in several areas including those under review in this work. In particular, the denial of God's existence and the ensuing denial of His governance and guidance places the created order into the often notorious and morally capricious hands of humanity. Commenting on the "impossible position of man in general" and "in particular for contemporary man," Jonas (1984:21) astutely observes that what is now needed most i.e. supreme wisdom, requires "objective value and truth," but its very existence is denied. This kind of wisdom based on a reliable understanding of value and truth requires a framework in which to ground value and truth, and God's theodrama[57] affords such a ground.

The anxieties held by Jonas' (1984:201) during the time of writing the work cited above stemmed from both the nuclear threat (still present today) and more disconcertingly to him from the peril to the integrity of humanity and the natural environment made imminent by the 'headlong race of progress.' The latter concern finds continued and current expression in the remarks of others cited prior concerning the potential for rampant genetics, nanotechnology, and

[57] Vanhoozer (2005:101) defines theodrama as "the words and deeds of God on the stage of world history that climax in Jesus Christ." This he claims is what the Bible as a whole is literally about.

robotics (GNR). Although few of the advocates or proponents of these technological advances present a comprehensive framework (context) for their positions, their assertions often reveal the presuppositions that are held in support of them, and these loosely assembled, serve as a framework. The framework constructed in the sections that follow will provide a contrast to those held by others who are in favor of the headlong race of progress. The framework will be constructed by examining three contexts for the created order: the context of nature (God's creation – the place of moral action); the context of nurture (God's love for creation – the heart of moral action); and the context of the future (God's will for creation – the end of moral action).

5.3.1 The context of nature

The importance of a comprehensive framework i.e. worldview, for Christian ethics is alluded to by Houston (1998:91) when he stated that ethics "flows from a concern that people should learn to live with as full and integrated an awareness as possible of every aspect of reality." Sire's (2004:17) definition is illustrative of the fundamental nature of such an awareness:

> A worldview is a commitment, a fundamental orientation of the heart, that can be expressed as a story or in a set of presuppositions (assumptions which may be true, partially true or entirely false) which we hold (consciously or subconsciously, consistently or inconsistently) about the basic constitution of reality, and that provides the foundation on which we live and move and have our being.

Such a view of reality should account for the origin, present existence, and future of all that exists. The discussion in this section will treat the first two aspects (origin and present) of human existence. The treatment of those two aspects will proceeds as follows: first, various views concerning humanity's origin i.e. how they arrived in their present context, will demonstrate that how one answers that question strongly influences how one is willing to treat humanity; second, one's view of what a human being is (coupled with the position taken concerning the first aspect) informs their perspective on whether humans can be enhanced, for example, and whether they have the inherent moral integrity to be completely trusted to make such decisions; and third, drawing from the examinations of the first two aspects, a consideration of the possible outcomes, were it concluded that humans can be enhanced, are presented.

How one accounts for the origin of all things weighs heavily upon moral action. If the triune God is postulated as the Creator of all, then it follows that all was willed into existence by Him and is therefore contingent upon Him for its existence (initial and continued). On the other hand

if all things have either existed eternally or emerged from previously eternally existing matter, then one's account for what is can omit God as the cause and deny ultimate contingency upon God. Doing so also implies a cause that is not personal, thus a relational connection to a moral agent beyond the created order is absent, and as a result, ultimate sovereignty and responsibility are confined within the 'physical' universe. The origin of the universe appears to be such a remote and seemingly irrelevant concern, it is an ancient historic event that is both an unrepeatable and unalterable occurrence as contrasted to our present and ever changing reality. A more proximate concern to this study, the origin of human beings, however, further reveals the importance of origins.

If a naturalistic account of origins is held, then the existence of human beings is the result of natural causes e.g. a part of an extended line of evolving things from preexisting matter. Human beings are thus a byproduct of the processes of nature and ultimately subject to the forces of nature and those present in nature. It is difficult to sustain a position of responsibility (a moral ought) and to argue for the continued existence of human beings when they stand alone in the world. In the present postmodern climate an ethic that seeks to achieve such ends is difficult. Smith argues for human exceptionalism as the philosophical basis for granting rights only to humans (see section 5.1.4), and Jonas (1984:33) points to the "essential [innate] sufficiency of human nature as it has evolved within this world" as the authority upon which to base an ethic of responsibility. Jonas (1984:49, 78) argues further that existence is to be preferred to non-existence (grounds the 'good' in being) and that the answer to why there *ought* to be a world is found in the concept of value (nature harbors values because it harbors ends) as standing in things, not merely thought. Upon this ground Jonas stakes his claim for not only humanity's but creation's continued existence. He holds that humanity is at the summit of creation and that they are therefore responsible for the continued existence of both (humans and creation), especially in light of the broad range of powers now at humanity's disposal to affect not only their own existence but that of their progeny and the biosphere. There is much to commend in Jonas' (1984:202) proposal for an ethic of responsibility, and although he does not specifically address the issues under review in this paper, he mentions a mandate for humanity that bears consideration, namely, "to preserve the integrity of his essence, implying that of his natural environment . . . [this is a] not so very modest a task of responsibility for the future of man on earth."

Turning now to a perspective that God is the cause (origin) of human beings, the strength of this position is evident in that it answers not only the question of why their ought to be a world (why

it should continue to exist) but the question Jonas did not answer, why there is a world. The existence of a Being who is pure existence (the 'I AM' of Ex 3:14) alone can be posited to inherently possess existence and value and who alone is capable of giving both existence and value to all in His creation of them (He spoke it into existence and said it was good). In Jonas' view the question remains, from whence cometh existence and value or the capacity for value (which Jonas calls the value of all values)? This question is especially pronounced if one holds that human beings are an evolved species, for what gave rise to their value as opposed to the value of that which preceded them? Was it during emergence that nature conferred greater value? At what point? By what authority? In which case one might ask upon whose scale is this value weighed? Does nature 'know' distinctions of worth, or does it simply and purposelessly only bestow existence during generation? In his reference to the cultural mandate in Scripture, Wauzzinski (2001:34-35) lists three elements that are pertinent to cite here: (1) Creation as God's *handiwork* is *intrinsically valuable*; (2) Development is a necessary and essentially good part of human activity, as long as; (3) 'subduing' also entails "keeping or maintaining and preserving the creation." This list corresponds to Jonas' perspective in holding value and the need to keep integrity of essence in nature as an imperative, yet ascribes value to an ultimate value giver to *whom* the recipient is both thankful and accountable i.e. responsible.

As one reflects upon one's own worldview it is worth considering the predominant worldviews of the day. Swearengen agrees that the scientific-technological worldview (or 'spirit of the age' as he also referred to it) is predominant in the Western World. He lists five essential characteristics of this worldview: (1) The mission of science is to free mankind from superstition in all its forms; (2) Science alone can render truth about the world and reality; (3) Science and technology are the sources of progress; (4) Science and technology must be free to go wherever they will; and (5) The marketplace is the best guide (Swearengen 2007:225). Privileged with the ability to review history since Jonas' work was written, it is apparent that authority and the accompanying ethic of responsibility based on human nature has continued to succumb to the unabated *will* (and authority) of science and technology over nature. This is not to imply disproof of Jonas' ethic, rather it reveals something else innate in humans that cannot be driven out by fear of non-existence or the future consequences of irresponsible behavior, namely, the corruption of the heart of a person and the tendency towards an elevation of self over all else i.e. a Nietzschean 'will to power' of sorts.

In addition to locating the origin of human beings *what they are in terms of their nature should be examined* since the state of one's existence plays a very important role in one's relational

context. In the biblical account of human origin their creation (that they are) and nature (what they are) was deemed to be good by God, and Adam and Eve are said to have been made in the *image of God*. The explanation one offers for the image is significant to the position one takes on the nature of humans. Although this matter has been treated earlier (see section 4.2) the question of its malleability will be examined. In addressing the question, "Can we enhance the imago Dei?" and responding to the issues raised by transhumanists, Peters, endeavors to establish a theological baseline for it by using the Bible's mention of the image of God and a recent document published by the Vatican (Communion and Stewardship). It is interesting to note that in his introduction he states that for transhumanists, "the key is to *recontextualize* humanity in terms of technology" (emphasis mine) (Peters 2010:216). It is evident that context is crucial and one must proceed with care in establishing humanity's context, for some contexts can render humanity as an object for *homo faber* (man the maker).

The essential elements in Peter's rendering of the image are as follows: (*a*) The O.T. affirms the image as relational in nature i.e. humanity as God's counterpart in communion with Him; (*b*) In the N.T. the risen Christ is *the* image of God and provides the definition of what is truly human – it redefines Adam's image. Citing Barth, he agrees that Adam's humanity is a provisional copy of the real humanity in Christ. Peters (2010:221) proceeds to comment that "human reality is still one of becoming. Our nature was not fixed at creation . . . Between now and God's final future, we can experience growth in Christlikeness;" (*c*) The Vatican document is claimed to assert that in "the evolution of *human culture*, the *imago Dei* can in a real sense be said to be still in the process of becoming," which Peters (2010:223) notes means we "need to be stewards of this process of becoming" (emphasis mine). Peters then proceeds to respond to the concerns of 'playing God' by way of refuting three arguments against the genetic enhancement of our future children. He concludes his refutations by concurring with those he cites that "those who see humans as co-creators [with God] generally see creation as continuously evolving and therefore do not see genetic intervention as an inappropriate use of human power" (Peters 2010:229). In the closing sections of Peters' (2010:237) article, he contrasts the aims of enhancement and cybernetic immortality with those of daily Christian piety and eschatological perfection, and he sees them as pointed at divergent ends, and that the former "would have no obvious impact on the Christian concepts of resurrection, salvation, or even daily piety, enhancement would still be a marvelous achievement . . . no, genetic or bionanotech enhancement will not affect the *imago dei*."

The response to Peters' arguments is intended to challenge perceived weaknesses and to establish by way of rebuttal an opposing position. Peters' position creates a divide in humanity's participation in the image by claiming two images i.e. the earthly and the spiritual. This affords a subsequent disassociation of one from the other with regard to enhancement i.e. the enhancement of the earthly has no obvious impact on the other as the nature of both are distinct – one is provisional, the other permanent. It is obvious that the resultant context of the earthly image is the same as the one sought by transhumanists i.e. subject to human 'stewards' of its becoming.

In his conclusion, Peters (2010:238) does suggest discernment and wisdom in approaching the ethical issues that will arise, and he admits that the "champions of enhancement we see today" do not hold growing in Christlikeness and the accompanying virtues as an end of their efforts. If this is the case, and I have no reason to doubt it, what parameters has Peters' position placed around the earthly image? It appears that the provisional image is subject to any justification science and/or technology can forcefully present.

A convincing response to Peters' arguments cannot be given simply from an unjustifiable move to safeguard humanity, so the following points are intended to offer a reasonable response: (*i*) while communion with God is a wonderful aspect of the image, it is not the only one. When God made Adam and Eve in His image they consisted of flesh and blood, too. There was no division or distinction, it was a *holistic concept*; (*ii*) the risen Christ is *the* image of God, however, in His incarnation He subjected Himself to human natality and mortality, and He was the subject of God's resurrection into a body resembling the former. Yes, we should experience growth in *Christlikeness*, but as Peters attests, it has nothing to do with the physical body (although I would disagree here, too, since there are enduring non-physical benefits to physical suffering); (*iii*) in Peters' own account of the Vatican's statement he mentions that they declared that human *culture* as the image of God was still in the process of becoming.

Since it is possible to grow in Christlikeness it seems to follow that as communities comport to such a way of living, so too will culture grow, and it is our responsibility to do so in response to Christ's mandate (Mt 28:18-20). It is in this sense that the image of God as that communal expression of God's likeness is in the process of becoming, and as faithful disciples we are Christ's co-laborers in our stewardship of creation and as disciple makers. Neither the Bible nor the cited text in the Vatican document endorses a 'becoming' in terms of the physical aspect of the image. Even Christ as our exemplar lived embodied as we do, and as we look to Him in our aim for Christlikeness it is a whole human being who is in view (we don't have access to enough

of His life post-resurrection to serve as an exemplar, so it is His life up to crucifixion that primarily serves as such).

Waters (2006:142-43) addresses this matter of physical alteration noting that "there is no mandate to exercise dominion over oneself or other humans," and, "although God's command to subdue the earth is sweeping, there is no mention of including humans in this decree." In sum, we have been *given* what Christ was given, an earthly body, and at the resurrection we will be *given* what Christ was *given*, a resurrected 'spiritual' body that is also physical.

In view of the response to Peters it may appear that humanity's context is akin to a natural prison cell for solitary confinement until death brings something better, however, Waters' (2010:206) response to such a view is apropos: "First and foremost, consent [to temporal and finite limits] is not the same as sullen resignation to a cruel fate. If this were the case, then there would be little motivation in attempting to alleviate or prevent suffering and death." In fact, Peters (2010:235) briefly points to a possible biblical context for such efforts when he refers to the fact that Christ healed and restored in His ministry but never enhanced. The Scripture is replete with instances of Jesus' works to restore people to a 'normal' human condition be it physical healing, including resuscitation, or spiritual e.g. casting out demons, but in all these exercises of power, Christ did not alter the nature of humans, even Lazarus succumbed to the finality of mortality. This position does not close the door to medical advancements that will alleviate suffering, promote well-being, or perhaps even bring one back to life whose life ended prematurely, but it does not open the door for those who seek to alter the nature of humanity.

The nature of our bodily existence determines fundamental things such as how we experience the world and how we interact with it, and the more dramatically we change the nature of that existence the less such an altered being experiences the world as we do (Herzfeld 2010:120). As Hertzfeld (2010:122-25) points out our biologically embodied existence affects relational intelligence (how we learn by how we relate), and the inclusion of emotions in moral decision making stems from the nature of our embodiment, too (lack of emotions can cause dangerous behavior). Her conclusion is informative; she asserts that "our current understanding of intelligence, both human and artificial, tells us that intelligence, consciousness, and yes, probably the soul as well, are meaningless outside of the *context* of the human organism as a whole [human nature as context] *within its environment* [nature as a broader context]. Intelligence requires a being with both a body and brain, in a web of relationship with other beings"

(emphasis mine) (Herzfeld 2010:129). Clearly, one's nature corresponds to the nature of one's communion with other beings.

The moral integrity of humanity is another relevant and important topic concerning the nature of humans as it pertains to their present context. This is evident in the matter of self-authority mentioned earlier that the Bible attributes to the Fall of mankind. The biblical account is clear; humanity as created by God *is* good. Where confusion sets in is the understanding of the post-Fall human predicament. Some (Christians and non-Christians) continue to hold to a position that humans are inherently good. This position often optimistically looks to education and behavior modification as a means to correct deviant behavior. This optimism is evident in Vita-More's (2010) explanation of her statement that transhumanism must not leave humanity or the human behind as they advance forward:

> It is our humanity which causes us to be conscious and conscientious about the feelings of others and an *innate sense to be kind*. This is one of our most valuable traits. This is what I propose must not be left behind as we evolve beyond human biology (emphasis mine).

Kurweil, in a recent interview with *Time Magazine*, acknowledges the possibility of a highly advanced AI *not being kind* to humanity and comments that the Singularity Institute has as one of its goals to ensure that as an AI develops it remains friendly (Grossman 2011:26). A pointed question for Kurzweil and Vita-More might be, "Why would an AI not be friendly if it is created and developed by humans who are innately kind?" Where would this possibility arise for an unfriendly AI? This brings us to a necessary realism when confronting the current condition of *homo faber* as the architect of such creations.

The risk Kurzweil identified can be traced to the capacity for human beings to choose and to choose to act in ways contrary to the good of themselves, all of humanity, or all of creation. Peters (2010:235) comments that "any good theologian working on a Christian anthropology needs to deliberate carefully on the relationship of God's good creation with the human proclivity to sin." He astutely observes that if creation is perceived only as fallen or flawed it will open it up to all sorts of manipulations. Conversely, if perceived only as good, then we will overestimate our own goodness and overlook our need for correction (Peters 2010:235).

A distinction may be useful at this point between the goodness of creation and the corruption of creation. This distinction can be illuminated by looking at the difference between *what* (its

nature/essence) a thing is and *how* (it's present mode of existing) a thing is. All of creation is good in the first sense i.e. existence is a 'good' gift from God. It is interesting to note that while God perceives the wickedness in the human heart and was even sorry at times that He made them and other creatures (Gen 6:6-7), He never rescinds His initial declaration that all of creation is good. Confusion enters here when 'good' in this first sense is either transposed or mistaken to adhere in the second sense with potentially dangerous consequences.

Kurzweil seems to perceive this distinction; Vita-More may not. When potentially catastrophic technological advancements are proposed serious consideration needs to be given to the proven propensity of humanity toward exploitation whether through ignorance or intent, or both. Contrary to Levy's ((2) 2010) remark that "in the hands of good people good things are done and made, but in the hands of bad people, bad things are done and made," a realistic approach would consider that in the hands of people good and bad things can be done and made by the same hands.

Prior to moving into the next section *a consideration of the possible outcomes, were it concluded that humans can be enhanced,* will be presented. A statement made by Peters that enhancement "would have no obvious impact on the Christian concepts of resurrection, salvation, or even daily piety," needs to be addressed and will serve to guide the consideration of outcomes. While he is correct that a transhumanist agenda would not impact these Christian concepts directly, what is omitted and needs to be addressed is the indirect impact for those who hold contrary concepts and for those affected by their pursuits in bringing those concepts to fruition. Granted, as transhumanists pursue their goals some, perhaps many, beneficial outcomes are likely to result, but given the ends (a posthuman existence) this offers little, if any, justification for the means. And, related to the pursuits of erroneous ends it is worth noting the pertinent remarks of Waters (2010:212) concerning the problem of heresy; he says that it "is not that it willfully pursues the erroneous, but that it tries to elevate half-truths into the whole truth; partial goods (such as personal survival) into the Good. . . . it is often thoughtlessness that creates the conditions in which evil is banal instead of malicious." Two possible deleterious effects are the distortion of nature and distraction/diversion from the above Christian concepts.

The *distortion of nature* is addressed by Efron (2010:183), who lucidly describes the recent loss of sense and coherence of the very notions of 'natural' and 'unnatural' due to the loss of a distinction between nature and art (an Aristotelian distinction). He uses doping in sports as his first example and concludes that this remains a problem in sports because "it's prohibition

depends crucially in this nearly ubiquitous folk distinction between what is 'natural' and what is 'art' or 'artificial' or 'artifact,' and that this folk distinction has lately collapsed" (Efron 2010:184). In a time when children and adults alike are medicated to treat behavior and performance, consume genetically enriched foods, and alter their bodies through various means, "the folksy distinction between the individual as agent, setting and navigating the course of his own action and self-perfection, and the individual as object and artifact, directed from without, is implausible and unpersuasive" (Efron 2010:184). Efron (2010:187) claims that seeing nature as God's handiwork dampened the promethean drive to rework and reform it, but it has given way to a view reminiscent of the promethean and mechanist ideals which are now a daily fact of life. He astutely observes that although much of the focus of these changes is on the level of personal choice, identity, and liberation, *larger and more compelling changes are rarely addressed, namely, institutional changes*. He points out that social institutions often embody all sorts of assumptions about nature and what is natural and when these assumptions change these institutions may be destabilized (such as politics, law, or economics). He provides a political example – the founding fathers of the U.S.A. held that certain truths were self-evident, "because they believed that human equality and human dignity were simple and inviolable facts of nature" (Efron 2010:189-90). He supplies another example taken from economics which illustrated the ownership by corporations of 'artfully' manipulated things in nature – the genetic alteration of wheat resulting in a product now claimed as property by a corporation (Efron 2010:189-90). Although Efron did not specifically mention the artful manipulation of human nature, by extension, one can project similar issues of ownership involving persons, if not the whole then significant parts of a human being[58]. It would be naivety on the part of transhumanists or anyone else advocating artificial enhancement to think that significant economic, legal, and social issues will not arise in the wake of such dramatic change.

The second possible deleterious effect concerns the *distraction/diversion* from the Christian concepts cited earlier. While for Christians the potential for distraction from daily piety is the only (not to imply insignificance) consequence of the proliferation of technology, the distraction/diversion from all the concepts (not just in the abstract but in personal belief and practice) is a very likely consequence for those who have embraced the transhumanist agenda. For example, the transhumanist worldview embraces an existence that is not subject to mortality and hopes to develop a 'refined' morality (these goals clearly resemble the Christian concepts).

[58] A current example of human 'ownership' and the complexities it produces are evident in some surrogacy cases in which the woman carrying another person's child is unwilling to surrender the baby at birth (an example of such proceedings is to be found in this article: http://www.dailymail.co.uk/news/article-1375861/Child-custody-Couple-ordered-pay-surrogate-mother-monthly-baby-wont-meet.html).

This worldview rejects the Christian concepts listed earlier, including the notion of God, and several of the notable adherents are often antagonistic toward them. Their sense of hope stems from a faith which is based in both scientific and technological enterprises. While the Christian concepts of resurrection and salvation are untouched by their worldview, the adherents of this worldview are enticed away from a Christian worldview and what it encompasses i.e. salvation, resurrection, and daily piety. And, if one holds the position expressed by Waters (2006:120), namely, that disembodiment precludes the possibility of redemption, then the successful achievement of the transhumanist's end (a posthuman existence) will foreclose their opportunity for salvation and resurrection into the eternal kingdom of God.

What distractions does the proliferation of technology hold for the Christian and non-Christian? In a chapter titled, *The Myth of Morally Neutral Technology*, Swearengen (2007:111) reminds the reader of the repeated warning of Jesus that material prosperity has the propensity to *distract* believers from wholehearted pursuit of God. To this we could add the distraction of unbelievers from the very consideration of God. The point here is not that technology is inherently evil but that one must guard against the diversion of faith and worship from God to man-made objects. Also, man-made objects as creations of humans proceed from their fallen state, and as such discretion is essential in the design and uses (even unintentional) of any artifact. Swearengen lists four categories of impacts of human activity – environmental, aesthetic, social and cultural, and spiritual. He supplies evidence of these impacts in each of these areas, but the last two hold references of greater concern here. He points out how a technological culture in focusing on consumption disengages us from nature, creating a distance between us and nature (fostering a sense of estrangement between humanity and nature). With the introduction of technologies that facilitate (if not cause) the creation of distance between people, one must consider how much greater a distance one could achieve by being in a non-human nature. Even current technologies, according to Borgmann (2003:33), "induce *a life of distraction* that is isolated from the environment and from other people [estrangement]" (emphasis mine).

The importance of context with regard to the nature of humans and humans in nature is evident. *If humans are taken out of context, they are subject to being perceived as yet another object for homo faber to artfully craft into something else*. The results sketched above range from a distortion of human nature to isolation and estrangement between human beings and creation and further estrangement from God by relocating faith and worship in objects made by human hands. Possibly the best way to foster joy and contentment in humanity's current context in nature is to

provide adequate and appropriate care i.e. a context of nurture. The following section will argue that such a context is essential to the well-being of humanity and all of creation.

5.3.2 The context of nurture

It was established earlier (see section 5.2.3) that all of humanity suffers in their present context. The posthuman aspirations endeavor to not merely alleviate the pain of suffering through care but to eradicate it by transcendence. The progression toward the goals of posthuman transcendence and the effect upon human care are revealed in this section. There appears to be a propensity in an age of rapidly advancing technology to turn away from the responsibility of personal care (especially when unrealistic ideals of well-being are held), to the substitution of mechanical presences for human presences in the provision of care. The argument made here is that care is a human responsibility demanding compassionate human presence for its provision, and to neglect it by absence or dismissal to non-humans is to thereby dehumanize humanity. The section begins by providing an example of the casting of care upon technology and the turning away from it by humans. Next, a shift from care to the removal of the need for care by striving for an ideal notion of well-being is seen to engender a turning away by the 'healthy' from the 'unhealthy.' Into this care vacuum a humanoid robot appears to be a perfect replacement and provides a convincing reason for it to closely resemble a human in order to achieve acceptance. The most significant 'social/personal' feature of the human person is the face, and arguments and examples are provided to support that claim. Building upon those arguments, further arguments are offered to reject the notion of a humanoid robot as a human care provider and to support the argument that in person human-to-human care is necessary to sustain the strength, vitality, and humanity of humankind in the presence of a proliferation of mechanical devices. The focus of this research is the impact upon humanity, but the researcher provides a brief argument for the care of all of nature near the conclusion of the section.

For the average human being memories of one's early childhood hold images of a mother's tender care freely given during a time in one's life characterized by pronounced vulnerability and dependency. Ironically, a comparable situation arises for many as their body ages to a similar point of increased vulnerability and dependency, only this time without the promise of being able to develop out of that state of existence. In the current culture where the burden of materialism weighs most able bodied persons down, it is not terribly surprising that the willingness and/or the stamina to care for those, who by definition draw time and energy from the lives of others, is not

proportionately available. In fact, it seems arguably the case that a sullen and dark mood has found crass expression in a cultural tendency that seeks to deny life to those who require the most care. In the epilogue to Turkel's revised work, *The Second Self*, she reflects on the technological advancements since her first edition and notes the improvement in the sophistication of relational artifacts and an increase in people's attachment to them. She then proceeds to comment on the introduction of robotic helpers in nursing homes in Japan, and the consideration to do the same in the U.S.A. (Turkle 2005:295). The reasoning behind this is that the elderly population outnumbers those younger persons who would care for them, *so robotic helpers would fill the void* at a cost lower than hired human help. Turkle (2005:295) notes that most people find the notion of a robot-nanny (for the very young and old alike) or a robot-teacher unproblematic, often only raising the question of whether these robots will be able to perform the work. She later asks two very relevant questions; "What does this deployment of 'nurturant technology' at the two most dependent moments of the human cycle say about us? What will it do to us?" (Turkle 2005:295). In the final sentence of her conclusion she muses, "if our encounters with computers don't help us to deal more compassionately and carefully with one another, then what will our attitudes, formed through our relationships with them, contribute to our fragile and threatened world?" (Turkle 2005:299).

The reinforcement of care (possibly restoration in some cases were care is absent) as a central principle in humanity's context and the kind of caring response given stems from one's perception of the nature of our present existence. The moral aspect of technological activity as involving love and the demands of love is evident in the following assertion: "the normative [moral] principle here is *caring*. Caring goes beyond justice and asks not only if technology embodies what is due persons and other entities, but it reflects a loving care for them" (Responsible Technology 1986:74). Critical to and characteristic of love is an attitude not of mastery but of servitude, and so in our technology "we are to act as servants, to love and care for – to safeguard the well-being of – our neighbors, near and far, and the natural creation" (Responsible Technology 1986:74-75). In seeking to find liberation from our current existence characterized by aging and death, *the primacy of care seems to give way to a new priority*, *curing*. Waters (2006:63) perceptively notes that this shift in emphasis will entail a shift in the practice of medicine from offering care and comfort for one's present state to an elimination of the *organic* causes or sources, which in turn will transform its patients, blurring, if not erasing, the line separating therapy and enhancement – "Medicine is no longer dedicated to relieving the human condition, but radically changing it."

In the closing section of Moltmann's treatment of human embodiment he discusses the importance one's view of health and sickness holds in their affirmation of human life. He claims that what a society counts as 'healthy' "*reflects* the system of received *values* in the society in question, and serves the *adaptation* of the human body to the *demands* of that society" (emphasis mine) (Moltmann 1985:270). He establishes several points that are pertinent to this discussion of care.

First, he cites the expanded definition of 'health' promoted by the World Health Organization[59], and claims this "*ideal* of the undisturbed functioning of the physical organs, an existence free of conflict, and a *state* of general well-being, *is a utopia*, and not a particularly humane utopia at that" (emphasis mine) (Moltmann 1985:271). He compares this to the ancient utopia of the immortal, eternal life, which he claims perceives impairments of the state of general well-being as *impairments of the state of being human*. But, the former state "does not take in the strength to be human itself; it merely ties that strength down to an unattainable condition" (Moltmann 1985:272).

Second, he offers an alternate definition of health, one that does not hold health as an objectively achievable *state*, rather a *subjectively* achievable *attitude* toward one's fluctuating condition. Simply stated, he says that "health is not the absence of malfunctionings. Health is the strength to live with them. In this case, health is not, either, a state of general well-being, it is the strength to be human" (Moltmann 1985:273). It is precisely this kind of ancient utopia and achievement of a state of general well-being (not to mention the utter transformation of it) that finds correlates in the transhumanist strivings for a 'better' existence.

Third, he examines the consequences that follow from these differing views of health. If a state of general well-being is held as a supreme value (in a human life or society), then: it implies a morbid attitude to health; it equates being healthy with being human; this leads to the suppression of illness in the individual life, and the *exclusion of the sick* from society and the public eye; it idolizes health and robs the human being of the true strength of his humanity – any serious illness then plunges a person into a catastrophe, robs him of his confidence in life, and destroys his sense of his own value (Moltmann 1985:273). If, however, health is understood as the strength to be human, being human is then more important than the state of being healthy. Health no longer holds primacy in the meaning of one's life, rather, "a person has to prove the

[59] The W.H.O. defined health as 'a state of complete physical, mental and social well-being, not merely the absence of sickness and handicaps' (Moltmann 1985:271).

meaning he has found in his own life in conditions of health *and* sickness" (Moltmann 1985:273). As Moltmann observes, severe illness often leads to a personal crisis of significance because the basis for confidence in one's life is often eroded during such times causing reactions of aggression toward others and possible self-loathing. Under such circumstances the person either breaks down or finds the strength in locating a more enduring permanent foundation for personal significance (Moltmann 1985:273).

Taking Moltmann's observations a little further it could be argued that those who hold an idealized view of well-being hold such a lofty view that even minor 'threats' (or illnesses) to their sense of well-being, whether they originate in themselves or are imposed upon them from outside e.g. someone who becomes dependent on them for care due to illness, agitate feelings of aggression or rage toward that which impedes the achievement of a state of general well-being. The fear of illness and death seems to pervade the angst of the 'modern cult of health' and immortality, as does their quest for a new state of being whose 'well' is deeper and more satisfying than the present (Moltmann 1985:274). However, "instead of overcoming illness and infirmity [and mortality], it projects a state of well-being which excludes the sick, the handicapped, and the old who are close to death [and the human who opts out of the posthuman]. In *turning away* from these people, the healthy [or posthuman] *condemn* them to *social death*" (emphasis mine) (Moltmann 1985:274).

Prior to moving forward to examine the essential personal and communal aspects of care and the relationship of technology to them, the following minimum definitions of human life offered by Moltmann (1985:275) are worthy of complete quotation due to their relevance:

> Human life is *accepted*, *affirmed* and *loved* life. The strength to be a human person lies in the acceptance, the affirmation and the love *of frail and mortal life*. Seen in the light of this strength for living, *dying is not an end*, and death is not the 'separation of the soul form the body', or the ultimate 'lack of relationship'. It is the transportation to a different kind of being, and a metamorphosis into a different *Gestalt*. The human being in his embodiment is not created to end in death; he is made for transformation *through and beyond death*. Hope for the resurrection of the body and a life everlasting in redemption corresponds to the bodily creation of the human being *by God*, and perfects that. The hope of resurrection is belief in creation that *gazes forward* to what is ahead (emphasis mine).

Rather than turning away from those who are in need of care and condemning them to 'social death,' we must not neglect the importance being present – *face to face* with them, those with who we are in communion. It is interesting to note that many who are working on the creation of

humanoid robots recognize the significance of the human face. The head of Kitano Symbiotic Systems[60], Hiroaki Kitano, asserts that the physical characteristics of a robot strongly influence people's behavior toward it, causing them to project animal or human conceptions onto it. This understanding led him to exercise care in the design of the shape and behavior of robots, "so people will not expect too much from it" (Benford & Malartre 2007:184). Even in the design of the upper torso, Kitano fashions it after an industrial product rather than a humanlike appearance, and instead of silicon skin or some other soft material he uses material that will not cause people to think he is trying to copy animals or human beings (Benford & Malartre 2007:185). When pressed with the question, why not? Kitano offers two reasons: (*a*) he is creating engineering artifacts intended to help human beings, not take over civilization; (*b*) through his robotic creations he wants people to understand the wonderful mechanics of human beings and animals, rather than trigger robot-phobia (Benford & Malartre 2007:185).

While Kitano does not mention the face specifically, it is clear that he is averse to designing robots that proximate human or animal appearance. In her experiments with Kismet[61], Foerst (2004:133) notes that Kismet's ability to react via facial expressions engenders a more intense level of bonding with human beings, claiming that it reveals "how much we are willing to project onto beings that are seemingly like us." She continues to discuss the interchangeable relationship between emotion and facial expressions in people (you smile when you are happy and forcing yourself to smile when down sometimes makes you feel better), noting that facial expression, muscle movement, and emotion are linked and interact, demonstrating the power of this social mechanism. She believes it [facial expressions] to be "one of the mechanisms for the most complex and mysterious of our social senses: *our capacity for empathy*" (emphasis mine) (Foerst 2004:135).

This link between *emotional attachment* to (and/or interaction with) a *humanlike resemblance* appears to be the cause of McCarthy's[62] concern expressed in his comment that "robots need to be designed so that they will be regarded as appliances rather than as people. We don't want robots that people will hate or fall in love with or anything like that. We have enough trouble treating other people decently without inventing a new oppressed minority" (Online 14).

[60] Kitano Symbiotic Systems is a private, nonprofit robotics firm in Tokyo that runs a robo-soccer team (Benford & Malartre 2007:184).
[61] Kismet is a robot in the MIT AI Lab that has a very mechanical appearance. Kismet has no skin, so the metal frame is exposed. The eyes are round disks, the ears resemble a dog's ear, and the mouth is comprised of upper and lower metal plates. All these parts have degrees of motion sufficient to form recognizable 'facial' expressions.
[62] John McCarthy is Professor of computer science at Stanford University. He coined the term artificial intelligence in 1955 and cofounded MIT's Artificial Intelligence Laboratory (Online 13).

What is it about the appearance of human beings, in particular the face, that lies behind the concerns and observations of those in the AI and robotics communities mentioned prior? Is Kitano's comment about robots 'taking over civilization' merely akin to the robot-phobia portrayed so well in Hollywood's dramatic renditions of future doomsday scenarios where human existence is either subject to or in peril of being subject to the domination or annihilation by 'evil' robots? And, is McCarthy's concern of humans having the same level of emotional response to robots as to other people limited to mere skepticism that humanity is incapable of properly caring for them? A common ground for both comments can be found in Foerst's observation concerning the *communal* aspect of appearance (specifically facial) and empathy. She asserts that "our capacity to read faces is another sign of our communal nature. The understanding of facial expressions is crucial for healthy interactions between people in a group" (Foerst 2004:133).

The *unmediateable nature* of face to face communication is evident in Herzfeld's examination of relationships in Cyberspace. Her observations include the more static nature of technologically mediated forms of communication, the frequent compromise of authenticity, the truncation of communication to short posts, text messages, or emails, the tendency to be more superficial, and *the aversion of the hard work required to secure and maintain intimate relationships* (Herzfeld 2009:80-83). She claims the Internet fosters individualism at the expense of community. It is interesting to note that the most popular 'social' network on the Internet today is named 'Facebook.' Noting that careful and loving relationships with others is at the heart of all religious traditions, Herzfeld (2009:85) backs her claim that truly intimate relationships are best fostered through face-to-face contact, citing such contact as Barth's first ingredient to authentic relationships.

The significance of the face is also evident in the relationship between God and human beings. Moltmann (1985:221) asserts that "there is apparently one point at which God's relationship to human beings is manifested and can be recognized: the human face." Referring to the human face as the *mirror of God*, Moltmann lists the following passages from Scripture that refer to the face: 2 Cor. 3:18; 2 Cor. 4:6; 1 Cor. 13:12; Ex. 34:33-35; Matt. 17:2; Rev. 1:16. Noted earlier (section 5.1), the Greek word *prosopon* refers to the face (particularly the area around the eyes[63]) and was also used to refer to a person. Moltmann (1985:221) notes that "the whole person is known first of all in his committed attention, and his committed attention first of all in his open

[63] *Prosopon*: Literally the part toward, at, or around the eye. Hence, the face, countenance, presence, person (Zodhiates 1992:1239).

eyes and his attentive face." He concludes, "that is why the human being's original designation to be God's image already implies the eschatological promise of perceiving God 'face to face'" (Moltmann 1985:222).

While brief, the above sketch of the significance of the human face reveals the primacy of personal presence to communion between persons. For our care to be expressed, received, and 'full' of meaning (as compared to partial via mediated means) the persons must be together i.e. face to face. While there is room for robotic helpers (industrial robots are plenteous), personal care for human beings ought to be confined to other human beings, and robots in the 'human' workplace, home, and recreational spheres ought to by design remain clearly distinct from human beings in appearance, especially in regards to the face. It has been demonstrated in various ways that human isolation spawns a variety of psychological and physical issues, and that rather than sterile at-a-distance care, *the most effective care for human persons is the loving, face to face, embrace of another human being*. The human community is precisely that, *human, and any expansion by the inclusion of animals, robots, or posthumans, will jeopardize the integrity of the fabric of the human community*, or as Jonas (1984:20) remarked, "each time we thus bypass the human way of dealing with human problems, short-circuiting it by an impersonal mechanism, we have taken away something from the dignity of personal selfhood and advanced a further step on the road from responsible subjects to programmed behavior systems."

Prior to moving into the next section, it ought to be noted that all of creation is the loving handiwork of God, and as those entrusted with the watchful care of that creation (Gen 2:15) our technologies should be *protective of all of creation*, especially other living things (the Noahic Covenant included all living things – Gen 8:21). Technology is primarily driven by a very utilitarian perspective that emphasizes the practical usefulness of a thing to a human end, yet the book of Job even speaks of creatures that God delights in that have no apparent usefulness to humans, effectively discrediting a purely utilitarian worldview (Swearengen 2007:285). Swearengen (2007:286) argues that, "human activity that results in the extinction of species is not only a biological concern for the ecosystems that support human life, it is in opposition to God's intent. So our theology of technology must elevate maintenance of biodiversity to obedience to God." In *Responsible Technology*, the holistic care of creation is depicted as involving two specific concepts: (1) technological activity should show respect for all things by developing and using them as God intends. This is done by striving to understand the differing natures of each entity. The use and development should first honor the natural entity, bringing out the riches God has given it; uses should not primarily serve humankind's immediate, self-

centered needs or desires; and, (2) technological activity should reflect love for God and neighbor by expanding, not constricting, the opportunities for men and women to be the loving, joyful beings God intends them to be (Responsible Technology 1985:68-69). All of creation was lovingly brought into existence by God, is lovingly sustained in existence by Him, and with every passing moment is moved forward lovingly toward its destiny, an intimate relationship with a loving God.

This section exposed a disconcerting trend to hand over the care of one's fellow humans, often the most vulnerable and needy of them all, to the mechanized treatment of a cold robotic machine. The disdain for the frailty of the human body and the longing for a 'perfect' existence seems to foster an attitude toward those in need of care that causes a turning away rather than facing those in need. It is at these 'weak links' in human society that the appearance of a humanoid robot seems most appropriate. However, it is at this very entry point into human society, where the 'fabric' is the weakest, and the beginning of a tear, the end of which lies beyond imagination, shows signs of emergence in the gradual human-like appearance and acceptance of robots in the realms of human companionship and care. The cautionary words of Professor Noel Sharkey (see section 1.6) concerning robots for care ring with added clarity in this section. The next section turns to examine the destiny of humanity as yet another context for them and all of creation, providing an expanded understanding of our moral perspective for today.

5.3.3 The context of the future

The goal to transcend the present embodied existence is evident in the future vision of transhumanists. The concerns of estrangement by transcendence from the 'natural' world and its consequences both present and future have already been mentioned. However, as Christians it is imperative that we consider our eschatology and its relationship to our present. It is no secret that doctrines such as the rapture or our eventual eternal abode being in heaven, ring with a tone virtually indistinguishable from the knell of the transhumanists bell. How will we respond, like an employee working the final days of his present employment before departing in favor of something better, to the charge of dereliction? Jonas grounded his call for responsibility by referring to the *nature* of humans in their present existence and their place in the world with its potential to impact present and future. He criticized religion with its dualism for failing to account for present responsibility by relying upon that which lies beyond it – "the ethics we are

looking for is *not* eschatological" (Jonas 1984:17). Is this really the predicament of a theological perspective, namely, that it jettisons the world like some spent rocket booster on its journey to heaven, implying some kind of severance of relationship between God and the rest of His non-human creations? Is there reasonable theological warrant to offer a context for creation's future that is sufficient to ground a moral perspective for present action that also maintains the integrity and continuity of creation into the future?

The benefit to perceiving the events of time as God sees them i.e. as an eternal now (as a whole and not as incremental parts) is that it provides a better understanding of the incremental and progressive unfolding of particular events through time. The added belief that God is purposefully drawing creation through time, implies movement toward an end, and as Waters (2006:123) states, "if there is no given end, then providence is a vacuous doctrine, for there is no created order that can be said to unfold over time, and human acts are reduced to creative self-assertion, because there are no temporal trajectories with which humans may align their desires and will." As the apostle Paul reasoned with the Greeks at Mars Hill in Athens, he sketched a context in time in which to 'frame' his listeners and call them to present moral action. He ascribed the *origin* of all things to God (specifically mentioning mankind as originating from one man), then he depicted *present* life and human activity as subsisting in God, and finally he called them to turn in repentance from their ignorant rejection of God because God has *fixed* a *future* day in which He will judge the world through Christ (Acts 17:24-31). While the future day is fixed it is clear that in Paul's appeal the present is *open* to those (moral agents) that he addressed. Knowing that there is an end is not intended to imply insight into the unfolding events that lie between the present and the end but rather "to acknowledge that the world has an end, and is therefore necessarily temporal and finite" (Waters 2006:132).

Waters (2006:133) suggests that two interpretive principles can be derived from this acknowledgement: (*a*) there is continuity between the first creation and the new creation since the latter will not be brought into being *ex nihilo*; and, (*b*) there is discontinuity between the first and the new because the new will have no end. Waters (2006:133) associates the coming and exultation of Christ with His consent to necessity, His vindication and redemption of the finite and temporal i.e. creation, and the transformation of the temporal and finite necessity in and through Christ into the good, and eternal life of God. Surprisingly few theologians in their treatment of eschatology extend their view beyond the Day of Judgment or establish a sense of continuity between the 'old' and the new creation i.e. heaven and earth. In addition to Waters, Kelsey (2009:536), too, affirms this continuity claiming that while human creatures may be

radically changed (as words such as ‘re-created’ and ‘transformed’ imply), this does not entail the creation of a new kind of human creature since the same triune God who relates creatively to us as we are now, relates to bless eschatologically by consummating that which is constituted by God relating creatively i.e. our present form of existence as a living human personal body.

Since no specific scriptural support has been given for this continuity of creation, a few texts will be cited and examined. A few scriptures speak of creation *through* Christ and *for* Christ (Col 1:16; Heb 1:2), and several more speak of the Father in love giving *all things* to the Son – terms such as ‘appointed,’ ‘heir,’ ‘subjected,’ ‘handed over,’ and ‘given’ are used with *all things* to describe the Father’s activity in establishing the Son’s relationship to *all things* (Mt 11:27; Jn 3:35, 13:3; 16:15; Eph 1:22; Heb 1:2, 2:8). In 1 Cor 3:21-22, Paul notes that ‘all things’ belong to the believer (including the teachers revered by the Corinthians e.g. Paul, Apollos, and Cephas), however, he establishes the relationship to which this ‘possession’ is rightly aligned; Paul says they belong to Christ, and Christ belongs to God. Interestingly, in the following five verses Paul speaks of being *servants* of Christ and *stewards* of the mysteries of God, and the importance of stewards being trustworthy, then he points to the Lord as the one who will judge the motives of the heart and that each person’s praise will ultimately come from God. This is interesting because it not only strengthens the O.T. argument for human responsibility for all things, it also connects believers who are in Christ with Christ in His possession and restoration of all things as an outworking of His relationship to the Father.

The reconciliation of all things to the Father is through Christ (Col 1:20). A future restoration of all things is mentioned in Acts 3:21, and in 2 Peter 3:13 and Revelation 21:1, a new heaven and a new earth are promised. In Revelation 21:5, the Father declares that He is making all things new. The restoration of all things more clearly implies continuity in that the things restored have sufficient sameness to the things prior to the restoration i.e. their identity is not erased or their existence replaced. However, a new heaven and a new earth could be something that while similar enough to the ‘old’ to afford a correspondence in terms applied, they could be a replacement for what was before i.e. another heaven and earth. The difference between these two notions renders the existence of one continuous (restoration) and the other discontinuous (new). The impact upon responsibility for all of creation is significant. If the continuity of all creation is not ensured, especially in the face of technological transformation and/or transcendence, then the strength of the argument for humanity’s persistence in love and care for all of creation is greatly weakened. Could it be that this discontinuity is not intended in the sense of replacement?

Prior to turning to specific biblical texts, Middleton (2006:75) points to a Platonic dualistic influence that conceives of redemption (of creation) as the transferal from a lower, inferior realm to a higher, more valued and esteemed realm. Such a view denies the goodness of creation and renders inconsistent the biblical paradigm of creation-fall-redemption (or at least confines it to humans only).

In turning to Scripture it is evident that there is a clear indication of discontinuity, examples being Paul's contrast of the present body to the resurrected body (1 Cor 15) and Jesus' resurrected body mentioned earlier (see section 4.2.4). In the case of the resurrected body it is apparent that one difference is its freedom from bondage to sin and death. Redemption, like historical development, is not about reversal e.g. not a return to a primordial state, rather it is developmental (Middleton 2006:76). Middleton (2006:77) asserts, "the logic of biblical redemption, when combined with a biblical understanding of creation, requires the restoration and renewal of the full complexity of human life in our earthly environment, yet without sin."

The passage in Romans 8:19-23, conveys a sense of continuity in that it connects creation and the 'sons' of God (human beings) in their groaning for freedom from slavery to corruption, in their fellowship in the pains of 'childbirth,' and in their hope for glorification with God. The text in Revelation 21:1-5, uses the word *kainos* (new) to refer to the heavens and earth, and to the 'all' that God is making. Zodhiates (1990:1696) comments that *kainos* in this text refers to a "'qualitatively new' and not simply another earth and another heaven. Since our resurrection bodies will be changed, so will the environment in which these new bodies will live." If the Son is inheriting the cosmos from the Father it seems dubious that a cosmos that is about to be destroyed would be a 'good' gift; it seems more likely that a renewed cosmos, purified from the corruption of the fall from grace would be given to the Son (Swearengen 2007:285). The removal of corruption and its effects from the cosmos and the judgment of God upon mankind are evident in 2 Peter 3:7-13 (also Isa 65:17, 66:22). This passage does raise some questions about the future of the cosmos and poses difficulties for interpretation, however, given the emphasis upon the righteousness and judgment of humans and the reference to *kainos* with regard to the promise for a new heaven and earth i.e. qualitatively new, it seems consistent to affirm that this text portrays a renewed, purified by fire, cosmos fit for occupation by the those who are righteous (Heide 1977:55). Precisely what is consumed and what remains after the purification by intense heat is not known, but continuity exists between what was before and what remains after.

Commenting on five of the texts referred to above (and listed in a copy of Middleton's table below), Middleton (2006:91) claims they demonstrate that salvation is not about creating something completely new, rather it is "a re-doing something, fixing or repairing what went wrong, an interpretation that is congruent with the biblical language of restoration, reconciliation, renewal, and redemption." Also they show that salvation is a restorative work that "is applied *as holistically and comprehensively as possible*, to all things in heaven and on earth" (Middleton 2006:91).

Scripture	**Saving *Activity* of God**	***Object* of God's Saving Activity**
Acts 3:17-21 (esp. 21)	*Restoration*	*Everything*
Ephesians 1:7-10 (esp. 10)	*Bringing together, unifying* (under one head)	*All things in heaven and on earth*
Colossians 1:16-20 (esp. 20)	*Reconciliation* (by removing the source of enmity, through the blood of the cross)	*All things whether on earth or in heaven*
2 Peter 3:10-13 (esp. 10 & 13)	*Uncovering, laying bare* (having purified) *Re-creation, renewal, making new*	*The earth and everything in it Heaven and earth*
Romans 8:19-23 (esp. 21& 23)	*Liberation, setting free* (from bondage to decay) *Redemption*	*Creation itself; humanity Our bodies*
Basic Characteristics of Salvation:	***Restorative* Salvation is God repairing what went wrong with creation (not taking us out of the world, to "heaven")**	***Comprehensive and holistic* God intends to redeem or restore "all things" in heaven and on earth, including our bodies (salvation doesn't just apply to the human "soul")**

In view of the future and our participation in it, we, as co-possessors and co-inheritors of the world (as it belongs to us and we to Christ), ought to as righteous and responsible stewards, seeking to ready ourselves and this world for the Day of Judgment and the subsequent redemption and transformation of 'all things' which alone is the work of the Father – He is making all things new. Given the complexity and relationality of all of creation, and the extent and admixture of corruption throughout, one part i.e. *humanity, cannot simply be transformed (as the transhumanists suggest) in isolation from all else*, rather all of creation must be set free

together, and such liberation lies beyond the reach of any human being or collection of human beings and their technologies.

5.3.4 The moral framework distilled and applied

Admittedly, thus far this theological examination of an ethical response to the notion and consequences of humans and machines in communion has not offered a definitive list of specific guidelines for the scientist, engineer, entrepreneur, or consumer. However, the framework offered serves not only to contextualize the issues surrounding the subject at hand, it also serves as the ground for the ethical approach taken by the researcher too, as elucidated earlier (see section 3.8). This framework has God's loving community as its core and the body of Christ as the earthly image of God in which His character is being formed and by which it is being manifest to the world.

The priority a system of ethics ought to place on character is evident in Cunningham's treatment of Christian ethics. He debunks the notion that ethics is accurately portrayed as consisting of difficult decision-making (Cunningham 2008:26). He is correct that the common perception of ethics is that it is primarily about hard moral choices, and with the increase in technological advancements that introduce a multiplicity of novel situations, it seems to be a veritable minefield of such choices requiring a dynamic list of specific guidelines. While it is not disputed that specific moral edicts e.g. laws, are necessary to govern such endeavors, technology is one field in which the progress seems to consistently outpace the proclamation and often the enforcement of the edicts, requiring some enduring core framework for the alignment of its pursuits and ends. Additionally, while laws serve to safeguard the well-being of entities by regulation and/or prohibition (evidencing care for them) enforcing conformity by punitive measures, they do not advance by exhortation and/or reward those who are promoting the well-being of themselves or others. Granted, this emphasis in law evidences the proclivity of humanity to violate the well-being of themselves and others, it also accentuates the need in ethics for an emphasis upon the formation of good character in people. Cunningham (2008:26,29) notes that possibly the best English translation of the Greek word *ethos* (from which the word ethics is derived) is the word 'character' and that the goal of ethics ought to be to actively encourage good action in order to form people of good character. This approach is readily apparent in the summation Christ gave of the Law in response to a lawyers question regarding the greatest law; Jesus affirmed love of God, self, and neighbor (Mt 22:35-40). Absent (or thought not exclusive

of them) in this reply of Jesus is a long list of prohibitions with punitive enforcement. Evident in these words of Jesus is also the communal aspect of moral activity. Cunningham (2008:38-39) notes that character is formed "in the midst of our relationships with others," and that "you gradually *become* the company you keep." He is not alone in offering a prescription for the development of good character in community. *However, the human community itself has a context that frames its character and its notions of good character i.e. the triune God*.

By way of summarizing what has been written prior, the framework being proposed has as its core and comprehensive context the ultimate and eternal community of love i.e. the triune God. Nothing and no one, including the persons of the triune God, are able to locate their meaning or identity apart from their relationship to them. As Grenz (1997:258) affirmed, "the basis of our value does not lie in ourselves or in anything we might possess. Rather, our creation by God indicates that our value is *derived*. It arises solely from our relationship to the divine Valuer who values us." The Son as the One by, through and for whom all things were created (Col 1:16) and as the Alpha and Omega (Rev 1:8) He encompasses finitude, temporality, and the 'end' of all things, thereby providing the ultimate context for all of creation. He also enters creation in His incarnation, and in so doing vindicates it and in His resurrection redeems it including the redemption and future glorification of human persons. All of creation, while ultimately secure in the hands of a providential God, who is drawing it to its eternal destiny in Christ, is in the temporary custody of human hands, some of whom reject God (some who accept Him, too) and subject creation to abuse and neglect in violation of its *telos* in Christ. While Jonas is correct in appealing to human beings (as the ones who are most able in creation) to secure and protect the integrity of nature (as an end essential to all), until it is understood in whom it has integrity and an agape love is held for Him, creation will remain subject to frequent misguided and often malevolent acts of humanity.

Transformation is necessary or the future of creation is in jeopardy, however, it is by the grace of God alone that a person is created anew in Christ, and in renewing their mind in order to prove what God's will is – "that which is good and acceptable and perfect" (Rom 12:2) – they hold the greatest promise of bringing about such a salvation not from but in creation. It is through union with Christ that the redeemed enter into communion with God and thereby enter a community that epitomizes a community of good character that is more than sufficient to cause those who belong to become more like them. Waters (2010:212) concurs with the need of transformation, asserting that:

> What is needed, in short, is a second-birth into the body of Christ. For in dying and being raised in Christ one simultaneously consents to mortality and affirms natality by submitting to the eternal which gives these brackets their definitive meaning, enveloping them into the source of what is good, true, and beautiful; that final destination for which humans, as finite and mortal creatures have been fitted.

As technology advances, both benefitting and imperiling all of creation, concern for the latter imposes an imperative upon humanity to align their activities in and upon creation with its *telos* in Christ. The heart of this imperative is succinctly echoed in Grenz's (1997:296) definition of what the Christian ethic of love ultimately is – "[it] is an ethic of salvation. It draws its meaning from, and leads the community which acknowledges it as its ideal into, the narrative of the God who acts for the *salvation of all creation*" (emphasis mine).

The mention of salvation in Grenz's statement above evidences and supports the perspective established earlier that Christ has redeemed human beings and that His salvation extends to all of creation. It is true that due to the nature of human persons, their relationship with God is of a God-kind, so there is a priority on the salvation of human persons. Often neglected, however, is the salvation of creation. The responsibility as co-possessors and co-inheritors of Christ's creation makes it incumbent upon all of us to ensure that our technologies are aligned to that end.

Those technologies that have enhancement as their objective, by definition, do not find correspondence to that end. The researcher's description of both salvation and enhancement technologies may serve to illustrate this point. First, salvation's focus is all of creation, and its end is the restoration of all things. The means to accomplish this end is by overcoming death which will bring about 'new' life i.e. freedom, and with it the absence of corruption. Creation restored in this way remains finite and creaturely but is bound together and united with the 'ever-being' life of God. Enhancement technologies on the other hand focus on human beings,[64] and their end is to magnify the functional capacity of some aspect of the biological organism. The enhanced human being remains in bondage to the power of corruption that now encompasses their enhancements and magnifies its effects. Significant, too, is the harmonious well-being of all of creation due to salvation, whereas, the individual is the primary beneficiary of an enhanced power over nature (either an aspect of their own nature, or that of others). In short, technological enhancements hold nothing in common with salvation, and while they cannot thwart the purposes of God, they can distort the fellowship of all creatures in the present.

[64] The researcher acknowledges that some enhancement technologies have other things as their focus; however, even those enhancements continue to have utility for human beings as their end.

For those who choose to align their will with the will of God for the salvation of creation, *three priorities* emerge and will be presented in order of importance in this vital ministry of reconciliation (2 Cor 5:18). The *first priority is the task of articulating to those who are partakers in the fellowship of Christ, the context of creation in the communion of the triune God and the responsibility as participants in communion with God to love all of creation as He does*. Included in this task are the depiction of the current cultural milieu and a critical examination and appropriate response to its role in shaping the present approach to creation. This leads to the second task*, the activity entailed in loving creation*. This is *a multifaceted task with a single end. The end is the reconciliation of all things to God in Christ*. The task has a variety of activities (according to natures/kinds) but is united in its singular end. The *second priority and most urgent part of this task is the reconciliation of human persons to God*, which involves keeping the commandment of the Father, namely, belief in the name of His Son, Jesus Christ, and loving one another (with an *agape* i.e. God-given love) (1 Jn 3:18). The continued life of belief and love (abiding in Him) seeks the good of self, neighbor, and all of creation as an outpouring of the love of God abiding in him. The reconciliation of human persons is the most urgent because it makes possible the accomplishment of the remainder of the task by aligning persons to God's *telos* for all things, and in His equipping and empowering of them, they are capable of *assisting Him in the work of reconciling all to God, which is the third priority*.

The above is not intended to imply that Christians consistently and singularly work in congruence with God's will for all, but that they are uniquely privileged by the grace of God to do so, and when convicted of working at cross-purposes to God's will ought to repent. Waters (2006:141) reminds us that repentance is not merely an expression of regret, rather it "is a formal practice defined and refined within a theological tradition and community of ritual enactment," and that it "promotes the freedom to revise and amend the moral, social, and political ordering of creation as needed in an obedient manner."

In carrying out the work of reconciliation the researcher has intentionally emphasized an 'ethic' of love that reflects the essence of the community of the triune God. Love is not void of content or activity; rather it is full of content and is manifest in activity. The most vivid manifestation of God's love toward human persons is found in the person of Christ and as mentioned earlier caused the followers of Christ to adopt the word *agape* to refer to Christ-like love. One has only to examine the life and death of Christ to discover the activities of *agape*. However, in the absence of this shared perspective and mutual love, rules and/or principles remain a necessary guide for moral agents. Love and law are not incompatible, and as McDowell and Geisler

(1996:136) in reference to the Ten Commandments remark, "[they] give us the loving thing to do and the unloving thing to avoid in our relationship with God and others."

By extension, and to further illustrate this point in a manner relevant to the subject at hand, consider the following principles as a guide for technological activity:

Eight principles for technological activities (Responsible Technology 1986:70-75)	**Biblical guidelines for Hippocratic engineering (Swearengen 2007:310)**
Cultural appropriateness – considers five sets of opposites: continuity and discontinuity, differentiation and integration, centralization and decentralization, uniformity and pluriformity, and large scale and small scale.	Get wisdom: make use of the good potential of technology without falling prey to technological optimism or technicism.
Information and openness – there must be a constant, accurate flow of information.	Develop technologies that support or further the culture mandate, creation care and redemption and reconciliation.
Communication – social interaction marks technological activities; for responsibility there must be knowledge, and without open communication there can be no knowledge.	Include in the design process consideration of the possible social, cultural, aesthetic, spiritual and environmental impacts of new technologies, processes, and products.
Stewardship – material and human resources are involved in technology. The created nature of material resources are to be respected by being brought out and developed, not exploited. Humans are to be respected, treated as image bearers of God.	Assess the potential impacts of new technologies *while they are being developed*.
Harmony – objects (made by humans) should be a joy and a delight because they work properly and are satisfying to use, and because they have a beauty of line and form.	Include affected groups in the impact assessment process: developers, users, and collaterally affected persons.
Justice – all persons are to be given what is rightfully due them as God's image bearers, and the rest of creation is to be shown the respect that it is due.	Deploy green chemistry: if possible avoid synthesis of new compounds not seen in nature, especially chlorinated hydrocarbons.
Caring – goes beyond justice and asks not only if technology embodies what is due persons and other entities, but if it reflects a loving care for them.	For potentially high-impact technologies, utilize Intelligent Trial and Error and the Precautionary Principle design approaches.
Trust – the objects produced must be dependable and safe if put to its intended use. Also, faith in God guides the valuing of technology, not technicism.	Include the costs of impacts in the price of the products.

Love and respect underlie the principles listed in *Responsible Technology*, and it is asserted that they point in "a direction of cultural development and growth that occurs in the *context* of right relationships, justice, caring, harmony, and open communication" (emphasis mine) (Responsible

Technology 1986:75). Lastly, it is claimed that all of these principles are to be pursued simultaneously, not in isolation from each other, as they are all aspects of a single norm: *love* (Responsible Technology 1986:76). As one looks over these lists, it seems evident that an agapic love of God and His creation (the kind of love that would motivate one to seek out the 'good' of the other and then labor towards bringing the other to that end) would result in a community of wise stewards whose loving care of all things would encompass the principles cited above.

The guidelines offered in *Responsible Technology* and by Swearengen are beneficial and applicable to all technological endeavors, however, as broadly applicable principles, they lack more specific guidelines needed for the areas under examination here. In like manner and building upon their ground-work, ***the researcher proposes the following guidelines*** for robots in terms of appearance, operation, and location: (1) *appearance* – it should always be designed in such a way as to minimize its anthropomorphic appearance – (*a*) its exterior encasement should not be patterned after human skin; (*b*) it should not have a face that resembles a human face or that is expressive like a human face; (*c*) if it has a voice it should be intentionally distorted so as to be perceptibly non-human to the common listener; (2) *operation* – (a) a human being(s) should always be responsible for its operation i.e. not be autonomous; (*b*) its domain of operation in terms of what it 'knows' and where it goes, should be as narrow as possible e.g. dedicated to a single task such as disarming a bomb but not also to making one; (3) *location* – (*a*) the greater a robot's exposure to people the greater the need to adhere to (1) above in its entirety; (*b*) in communal situations e.g. parenting, care for the elderly, conversational settings and sexual intimacy, in other words in any scenario involving a human interacting with humans, robots should hold background roles (as imperceptible as possible) in non-human appearances, (*c*) the same i.e. (b), also applies to individuals. Only in isolation from people would use of a humanoid robot be permissible according to the researcher's conclusions, however, the purpose of doing so appears even more obscure than the already obscure purpose for using it elsewhere. The underlying concern here is the unhealthy attachment of humans to machines in a manner approximating human-to-human relationships. As already noted this propensity appears inherent in human beings, so even things deemed 'toys' or computer simulations e.g. conversational AI's, that foster attachment to the artifact as an end i.e. person, rather than as a medium through which one communications with a human person ought to be avoided for the good of the individual and the human community.

The focus of this dissertation has been on AI and robotics, however, the nature of humans has also been a focus and the effect that altering that nature would have on communion has also been

considered here. The merging of humans and machines in order to enhance human abilities and thereby exceed inherent limitations is arguably an even more imminent possibility than the construction of a humanoid robot or an AGI. The researcher is well aware that cosmetic enhancements are commonplace in today's world, but these are generally superficial and are not aimed at exceeding inherent human capabilities. The researcher also does not consider truly restorative aids to be enhancements e.g. hearing aids, prosthetics, eyeglasses, artificial hearts, pacemakers, and many similar devices (implanted or attached) or medications. If the use of these means bring about the restoration of their recipient to a state resembling that of a healthy human being (and medical science today has a very clear picture of that state), then so much the better. Jesus in His earthly ministry did likewise. However, *to enhance inherent capabilities in part is to distort and dislocate the part from or in the whole,* and to enhance the whole is the ambitious goal of transhumanism, already refuted in this paper. Enhancements ought to be in the form of devices that are worn and easily removable (without surgery) and subject to regulation and licensure by governing authorities in order to ensure the safety and protection of all. To repeat, an ethic guided by a profound love for God and one another, one that seeks the good of the other, will take into consideration the well-being of one's community, world, and relationship with God above self, including one's own self enhancements.

In short, what is being proposed is first a participation in the communion of God by coming to God through faith in Jesus Christ. This entails participation in the community of faith, namely, the body of Christ. The local expression of the body of Christ as a community ought to understand its context in God, in the world, and in its surrounding culture. Out of this understanding and out of God's love for creation, the body of Christ ought participate with Christ in the reconciliation of persons to God and in the substantial healing of the effects of the Fall by laboring together as responsible stewards (Swearengen 2007:312). This love for God and for one another as an end will preside over the means used in the ministry of reconciliation.

Technology will remain as a tool to be used in service of this end, but its use must not be permitted to exploit natural resources or to so impinge upon human relationships (with one another and God) as to obstruct the expressions and experiences of grace in them. Borgmann in commenting on the device paradigm[65] comments that "a culture informed by the device paradigm is deeply inhospitable to grace and sacrament. The productive side of technology is an

[65] Borgmann's definition of a technological device is the conjunction of machinery and commodity. The distinctive pattern of the division and connection of its components is the device paradigm. Using music as an example, he contrasts a stereo as a device inviting consumption with an instrument as a thing that calls forth skilled and active human engagement i.e. practice (Borgmann 2003:18, 31).

enterprise of conquering and controlling reality. The notions of human incompleteness and deficiency that signify a primal condition for the advent of grace are mere grist for technological mills" (Borgmann 2003:126). He suggests communal practices organized around focal things e.g. table fellowship and communal celebrations, as creative ways to reestablish habitats for grace where love of God and others can flourish.

The body of Christ must extend agapic love to one another, in personal communion with one another putting priority upon face-to-face encounters, purposefully avoiding the inclusion in fellowship or companionship of those non-persons e.g. robots. A community so ordered by the love of God living in the midst of a technological culture cannot hide, nor need it (or should it) denounce those living at cross-purposes to them, rather it should draw close to others in hopes that they might be drawn to Christ. Borgmann's (2003:128) insight into the predicament of the middle class in the U.S.A., adds to this hope; he said, "what the middle class is calling for is a promise of daily freedom and well-being that breaks with the device paradigm and holds out a sacramental life invigorated by a continuity of sacraments and sacramentals of worship, of focal things and practices, and of communal celebrations. Let us be the bearers of good news." The ministry of reconciliation is calling; will we answer the call, in person i.e. face-to-face?

5.4 SUMMARY AND CONCLUSION OF THE ETHICS OF MAN AND MACHINE IN COMMUNION

The triune God's own loving communion holds the only adequate model and context in which to anchor humanity's meaning, value, and destiny. The relationship established by God in creation and vindicated in the incarnation and resurrection of Christ holds promise and hope for the future transformation of all of Creation by God. The relationality and complexity of the cosmos renders the prospect of its transformation impossible apart from an omniscient, omnipotent, and omnibenevolent God acting to bring about such transformation.

In the interim between Christ's resurrection and the coming redemption, all of creation remains subject to futility and bondage to corruption, the by-product of which is suffering. However, even in the midst of suffering human beings are often drawn into a deeper communion with one another and God, more than they usually are during times of prosperity and comfort. In these moments of selfless caring a God-kind of love becomes more apparent, and by the nature of its actions the source of this love, God, is made apparent too. Jesus modeled the response of love to

God by His humility before the Father. Jesus freely submitted His will to the will of the Father. It is in this harmony of one's will to the Father's that love is manifest and eternal bliss is found.

Love does not seek its own good; it does not rush to grasp what has been withheld, rather it eagerly waits in hope and trust for the Giver to deliver what has been promised – the future redemption of our bodies. His promise affirms the necessity and significance of our embodiment, and if we obey and remain steadfast in it, our temporary restorative efforts can ease the pain and suffering without distorting or dislocation ourselves from those with whom we are in fellowship. And, as Moltmann suggests, our suffering may reveal our true meaning as human beings by showing to us that we are not defined by our sufferings but by something greater.

Finally, as embodied persons our personal face-to-face encounters provide a rich and complete context for communion. The social significance of the face has been noted in several works cited here, and it is attested to in both the presence and absence of such human contact. In many ways increasingly sophisticated technology has provided the means and the medium to traverse long distances without physical dislocation, however, in profound ways, a greater dislocation has been reinforced in accommodating individualism and individual isolationism. The restoration of face-to-face communion in the body of Christ, which in the unity of love beholds the face of God, will mirror the image of God in a world estranged from God, and in so doing will draw others to Him.

CONCLUSION

The focus of the research in this thesis was to reflect upon the ethical ramifications of humans and machines being in communion from a theological perspective. The guiding hypothesis for this investigation is that humans alone are uniquely suited by God for communion with God in Christ, and that this uniqueness also serves as the basis for human communion. The thesis presupposed (in title only) either the reality or the possibility of humans being in communion with machines. The hypothesis claimed that the very nature of humans is such that they are suited for communion with God and other human persons exclusively. Implied in the title of the thesis is the presence of a moral dimension to the communion of humans and machines. The research conducted in each chapter investigated these claims and considered the correlation of the findings to the guiding hypothesis of the thesis, and then suggested an ethical response to humans and machines being in communion.

In order to establish the reality or possibility of humans and machines being in communion, the history of technological advancements was examined to determine the possibility of such an occurrence. The research conducted in the first chapter clearly demonstrated a burgeoning trend not only in the sophistication and power of technology but in its prevalence, too. Initially, technologies gave people greater power over nature and the elements, thus providing a life characterized by reduced hardship and increased comfort. These developments, at first, had a larger industrial focus which fueled the rise in the production of goods, supplying expanding civilizations with goods in proportion to their demands. In the course of a few centuries products of technology were being used to travel, communicate, entertain, wage war, cultivate, and remediate various deficiencies in human health and in nature itself. As technology advanced its products often became smaller, more efficient, and more affordable. Not only could governments and corporations acquire technology, soon individuals could, also. The proliferation of personal technologies requires little proof beyond the examination of the average modern home. Soon humans and machines coexisted with an ever increasing dependence of humans on machines. Biological human beings became the focus of technology; from the attachment of prosthetics to the implantation of artificial organs and joints, machines were merging with people. This began to fuel visions of machines being made into humans and hybrid people composed primarily of machines. Science fiction writers and movie producers speculated in print and on the big screen the scenarios that might emerge as a result of these developments, leaving many to wonder if such a future was indeed possible and to speculate what such an existence might be like.

Without question many technological advancements alleviated human burdens and suffering, bringing about the betterment of human existence, but almost any human artifact can be used to harm others as well. Some technologies are even designed to do so e.g. military weaponry. The propensity of people for evil is evidenced in their design and use of technology. As technologies afforded people greater power over human life, so moral issues emerged in their handling of them. In chapter two a few practices that exemplify the dehumanization of human beings facilitated by modern technologies bear witness to the perilous predicament of human life today as it falls prey to the moral perspectives of those designing or using some technologies. The worldview one holds serves to shape one's ethic and approach to humanity and technology, so a brief examination of those in the fields of AI and robotics revealed a predominantly naturalistic view capable of supporting the notion that human beings are machines. Since the efforts to create a human-like AI or a humanoid robot are already underway and find continued support, it is essential that the moral issues surrounding these projects be carefully examined. In this chapter the question regarding the morality of the project itself was found to be precarious at best, idolatrous at worst, and most likely dehumanizing to humanity. The construction and deployment of a humanoid robot into human society first raises the question of inclusion into human society. If such a robot is included numerous moral questions arise such as rights, liberties, and responsibility. The alteration of human beings by way of enhancement also generates moral questions and challenges the notion of a static human nature. The consideration of humans and machines in relationship demands an assessment of relationship. The researcher claimed that humans and machines are in relationship but questioned the possibility of communion as something more than relationship.

The third chapter established an ethical framework for application to the issues surrounding humans and machines in communion. A survey of Christian ethics revealed the importance of the triune God and His various forms of revelation to the formation of a Christian ethic. The nature of God and the communion of the Godhead afforded the best foundation for a Christian ethic. Jesus Christ as the God-man and His exemplary life provided the most concrete content for a Christian ethic that placed priority on being (the kind of person we are), but it also vividly demonstrated how love acts (the vital role of doing). The importance of a sound hermeneutic to the interpretation of Scripture and the influence of one's epistemology are brought into clear relief by the challenges of modernity and postmodernity. The need for a view of reality that grants the possibility of reliability is apparent in the obfuscation in interpretation by models that deny it. The necessity of a sure foundation for both biblical interpretation and ethics is

desperately needed in these postmodern times of pronounced relativity. The only unchanging source for such a foundation comes from beyond the ever changing finite cosmos. God's revelation in Christ is sure, as is His revelation in the Word. The latter is confirmed and interpreted by the indwelling Holy Spirit in conjunction with our minds, the external witness of God's truth in nature and in His Son, and in the interpretive community of believers over time. In this light the wisdom and ability to live a moral life that is consistent and enduring is possible and will enable one to respond to the moral challenges of the day.

In order to claim the possibility of humans and machines being in communion it is necessary to consider the compatibility of humans and machines. Chapter four did this by closely examining the nature of humans. This is logically the correct first step because if one is going to fabricate a robot to comport with the characteristics of a human being and declare it to be human-like, *one has to know what being human means*. Also, if humans are altered in significant ways such that they do not resemble a human being, *one needs to know at what point of transformation one ceases to be human* and such a determination requires an understanding of what being human is. Philosophy, science, and theology confirm some of the unique differences of humanity to all other creatures. The first two disciplines supply strong evidence pertaining to the various traits of human beings to support the claim that humans are unique and above all other creatures, but most still hold humans merely differ in degree only. Technology in the construction of a human-like machine holds the greatest prospect to undermine the claim of human uniqueness (discontinuity from all other creatures) but to date has not accomplished that task. Theology holds the key to human uniqueness in its claim that *the triune God has created the human creature to not merely mirror the communion so foundational to their existence but to participate in that communion*. This relationship is concretized in the givenness of human embodiment established at creation and perpetuated through procreation, historically affirmed in God's ongoing activity among humanity and radically reaffirmed and reconciled in the incarnation of Christ. The unique human capacities and activities revealed in life and in the research of all the other disciplines are simply (not insignificant) a corroboration of a creature uniquely gifted for life in this earth and for something infinite, communion with the triune God.

The pivotal proposition of this thesis is the *impossibility of communion* between humans and machines. In the last (fifth) chapter the nature of communion was examined and the triune God as the epitome of communion was looked to as the starting point. The interrelationships among the members of the Trinity as revealed to us evidence the presence of mind, will, and emotion. This manner of relating has historically been ascribed to persons. However, given the *a priori*

communal nature of the triune God's existence and way of relating, the conception of person, derived from His way of relating (as persons), provides an unambiguous and enduring concept. In this way and in the way God has related to human beings, we can affirm our God-given status as persons, too. *Since this relationship and way of relating is God-given and sustained by Him, it is not ours to ascribe to an entity*; ours is simply to recognize those as persons who God has so related to e.g. our fellow human beings. The researcher also established the reason and role of human limitations to our present existence. It is God who has subjected humanity and creation to futility and corruption as a result of human sin. Yet, in suffering, human beings are often drawn together and find a deeper experience of communion during those times. Even in this state God works through times of suffering to form and prepare humanity for a better future existence. The promise of a better future existence has been confirmed by Christ and His resurrection. Rather than seeking to transcend our embodied existence as is the desire of transhumanists, believers ought to eagerly wait for the redemption of our bodies by God in the future and labor to mitigate the painful effects of the Fall in the present out of love for one another. It is God's agape that is the essence of His existence, and it was demonstrated to us in creation and Christ and flows through us by the Holy Spirit. Only friendship, affection, and deep desire exist in the absence of agape, but with agape, friendship, affection, and deep desire find their proper orientation in communion with God and one another. A humanoid robot is not a recipient or conduit of agape.

The contexts of human nature, nurture, and humanity's future were used to form a *framework intended to shape moral perspectives on the problem at hand*. The context of nature revealed the relevance of one's account (worldview) of human origin, human nature, and human morality to one's treatment of humanity. In the context of nurture the importance of in-person care was demonstrated, as was the growing trend to turn such care over to machines and the apparent suitability of robots appearing as humans to do so. The context of the future affirmed the hope of a future renewal of all things and the sole ability of God to accomplish it. The continuance, albeit renewed, of creation into the future also adds weight to the responsibility of human agents to cooperate now in the restoration of creation. The context for communion ultimately is God and given to us by God. *It is our God-given nature that determines our mode of relating, it is love that holds us in communion, and it is our God-given future that holds promise for a transformed, better existence*. Attempts to alter our nature or include artifacts and animals in our communion only serve to distort, dislocate, and distract us from rich communion now and the glorious communion to come. In an effort to secure and preserve the integrity of the human community from the perilous introduction of a humanoid robot, a suitable set of guidelines for robot construction and deployment is proposed for adoption in the field of robotics. The guidelines

contain three indicators (appearance, operation, and location) fitted for ethical direction in robotics. These guidelines reveal the priority given by the researcher *to the exclusion of robots appearing as humans from the human community*. This is confirmed by studies that show that the more proximate the appearance and the distance of robots to humans, the greater the likelihood of their acceptance, and the researcher's conclusion that it will result in the subsequent rupturing of the fabric of humanity. Additionally, the researcher recommended the avoidance of human enhancements due to the partial nature of enhancements as contrasted to the holistic nature of the human being and the subsequent distortion and dislocation of the whole by the transformation of a part.

GLOSSARY

AI – Intelligence that mimics human intelligence, when exhibited by devices and applications such as robots or computers with voice recognition and language processing ability. This human-like intelligence implies the ability to learn or adapt through experience.

Android – see humanoid robot.

Automaton – A machine, robot, or abstract device which performs tasks by following automatically a predetermined sequence of instructions. Some automata mimic human behavior.

Cyborg – A human who has certain physiological processes aided or controlled by mechanical or electronic devices.

Human enhancement – the use of natural or artificial means to temporarily or permanently exceed the inherent limitations of a biological human embodiment.

GNR – the complimentary technologies of genetics, nanotechnology, and robotics.

Hominid – a member of the primate family Hominidae. Homo sapiens are the only extant species of that family.

HRI – Human-robot Interaction.

Humanoid robot – a human-looking robot that mimics other human characteristics, thus appearing to humans as another human person.

Nanotechnology – a technology capable of producing objects on the atomic and molecular level.

Pongid – an anthropoid ape of the family Pongidae.

Posthuman – human beings that have evolved to a state beyond their present form of existence.

Phylogenetic – the classification of organisms based on their developmental relationships.

Robot – a mechanical device programmed to perform tasks formerly performed by humans.

Singularity – an event produced by the exponential acceleration of technological advances that results in the post-event emergence of superintelligences far superior in existence to any human intelligence before it.

Technology – a distinct human cultural activity in which human beings form and transform the natural creation, with the aid of tools and procedures, for practical ends or purposes.

Transhuman – the transformation of human beings by enhancement with a view to exceeding present embodied limitations such as morbidity and mortality.

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KEY TERMS

Agape

Artificial Intelligence

Christ's incarnation

Christian ethics

Communion

Cyborg

Fellowship of suffering

Human embodiment

Human uniqueness

Humanoid robot

Image of God

Persons

Posthuman

Relationality

Technology

Transhuman

SUMMARY

1. The research project titled *Imago Dei in machina?: A theological reflection on the ethics of man and machine in communion* addresses the possibility of shared communion between humans and machines. It presents a theologically informed ethical and anthropological response to the problem of admitting solely artificially derived non-human entities into the community of human persons. The rapid progression by technology toward this end and the inadequate theological response to it necessitates a preemptive theological and ethical reflection.

2. In order to understand how the problem arose, the roots of the current trend to merge humans and machines, or to create a machine like a human, are traced through the last four centuries of modern history in the first chapter. Not only is the sophistication and power of technology steadily increasing, but as it has become more prevalent, biological human beings themselves have become the focus of technological advancements; from the attachment of prosthetics to the implantation of artificial organs and joints, machines are merging with people, and machines that resemble people are emerging.

3. The moral challenges presented by technology to-date beg for greater circumspection and responsibility in future design and use. Chapter two affirmed this truth through several contemporary examples and drew attention to the role one's worldview holds in one's perspective and subsequent treatment of humanity. Clearly most contemporary experts in the fields of AI and robotics have dismissed God from their considerations and look to technology to remedy human ills and satisfy human desires in both the present and future. The strong tendency to embrace promising technologies, even at the expense of our own humanity calls for a clearer understanding of humanity and a sound ethical response.

4. In chapter three a theologically sound ethical response is shown to be derived from the community of the triune God, and so is a person's character and ability to respond wisely to ethical issues. A sound ethical response draws guidance from the recorded discourse between God and human persons in Scripture, from the annals of church history i.e. tradition, and from the interpretive community. All of these witnesses find their orientation and interpretation in the person of Christ. Although the written records and Christ do not attend to the specific matters being considered in this research they do provide images and paradigms that do provide sufficient guidance.

5. If humans are truly unique, then they require special moral consideration. In chapter four it was seen that a non-theological discussion, while identifying human faculties and functions that are different from other creatures, nonetheless typically terminate in unresolvable indecision in trying to find something truly unique. The appearance of a human-like machine could close the door on human uniqueness. When this ambivalence on uniqueness turns to equivalence the record shows that humans are typically treated as that to which they are equated.

6. In the last half of chapter four the portrait of humanity theologically derived reveals the real uniqueness of humanity. It is based solely in the relation of and inclusion by the triune God in their communion of persons. On the creaturely side this relation subsists in a persistent human embodiment, initially created by God, subsequently generated by biological procreation and regenerated in the resurrection. Any dislocation of that relation either by false conception or aberrant construction perverts that relationship and renders it even more vulnerable than it already is in its present estrangement from God.

7. There is moral significance to human uniqueness and this is especially clear in the profound moral implications centered on the concept of 'persons' in most societies. The efforts to insulate 'person' from a purely quantifiable i.e. functional ascription, by relational connectedness i.e. communion, appears to be the best move and one with theological warrant. The triune God (in communion) and His ways of relating are both necessary and sufficient to cast the concept of person, and only God holds the authority to esteem an entity a person by relating to it as such.

8. Remaining in the God-given creaturely relation to Him and others is crucial. The posthuman rejects God's gift of persons-in-communion, and by an act of self-making severs that which enables them to be in fellowship with Him and creation, therefore missing the receipt of His salvific eschatological gift to creation. The desire to transcend the pain of human limitation is understandable, but it is in our suffering together that the bonds of communion are strengthened and the cords of character perfected.

9. Humanity seen in this unique relational light admits non-human members to its peril. The human community is precisely that, human, and any expansion by the inclusion of animals, robots, or posthumans as persons will jeopardize the integrity of the fabric of the human community. Humanity cannot simply be transformed (as the transhumanists suggest) in isolation from all else, rather all of creation must be set free together, and such liberation lies beyond the reach of any human being or collection of human beings and their technologies.

OPSOMMING

1. Die navorsingsprojek met die titel *Imago Dei in machina?: A theological reflection on the ethics of man and machine in communion* spreek die moontlikheid aan van gedeelde gemeenskap tussen die mens en tegnologiese produkte. Dit bied ‘n etiese en antropologiese reaksie vanuit ‘n teologiese perspektief op die probleem om kunsmatige nie-menslike entiteite tot gemeenskap met menslike persone toe te laat. Die vinnige ontwikkeling van tegnologie in hierdie rigting en die onvoldoende teologiese reaksie daarop, noodsaak so ‘n voorkomende teologiese en etiese besinning.

2. Om te verstaan hoe die probleem ontstaan het, word die worstels van die tendens om mens en masjien te verbind en om ‘n tegnologiese instrument wat soos die mens is te vervaardig gedurende die afgelope vier eeue, in die eerste hoofstuk nagegaan. Nie net is daar ‘n verbreding van die sofistikasie en mag van tegnologie nie, maar word dit al hoe meer algemeen sodat die biologiese mens self die fokus geword het van tegnologiese vooruitgang. Van die aanhegting van prostese tot die inplant van kunsmatige organe en ledemate word tegnologiese produkte met die mens verbind, en ontstaan masjiene wat met die mens ooreenstem.

3. Die morele uitdagings wat die huidige tegnologie bied, vra om groter omsigtigheid en verantwoordelikheid t.o.v. toekomstige ontwerp en gebruik. Hoofstuk twee lig hierdie feit uit deur die aandag te vestig op die belangrikheid van ‘n wêreldbeskouing op ‘n siening en behandeling van die mens. Die meeste kenners op die gebied van kunsmatige intelligensie en robotte het God ter syde gestel, en kyk na tegnologie om menslike probleme op te los en om menslike begeertes te bevredig in die hede en die toekoms. Die sterk neiging om belowende tegnologie te verwelkom, selfs ten koste van ons menslikheid, vra om ‘n duideliker verstaan van die wesentlike van die mens en van die etiese.

4. In hoofstuk drie word aangetoon dat ‘n gesonde teologies-etiese reaksie afgelei word van die gemeenskap met die Drie-enige God; so ook ‘n persoon se karakter en vermoë om met wysheid te oordeel oor etiese aangeleenthede. ‘n Verantwoordbare etiese respons vind leiding by die opgetekende diskoerse tussen God en mens in die Bybel, asook van die rekords van die kerkgeskiedenis, dit is die tradisie, en ook van die interpreterende gemeenskap. Al hierdie getuienisse vind hul oriëntasie en interpretasie in die Persoon van Christus. Alhoewel die geskrewe rekords en Christus self nie die spesifieke aangeleenthede van die navorsing aanspreek nie, verskaf hulle tog beelde en paradigmas wat genoegsame leiding bied.

5. As mense werklik uniek is, vereis hulle spesiale morele oorweging. In hoofstuk vier blyk dit uit die nie-teologiese bespreking dat alhoewel menslike vaardighede en funksies identifiseer kan word wat van nie-menslike skepsele verskil, so ‘n beandering tog in ‘n doodloopstraat beland. Die verskyning van ‘n masjien wat soos ‘n mens is, kan die einde van menslike uniekheid beteken. Wanneer sodanige ambivalensie neerkom op ‘n gelykstelling, dui gegewens daarop dat mense tipies behandel word soos dit waaraan hulle gelykgestel word.

6. Die laaste gedeelte van hoofstuk vier skets ‘n teologiese beeld van die mens wat die unieke van die mens aantoon. Dit word gebaseer op die verhouding tot en insluiting by die Drie-enige God in hul gemeenskap van persone. Hierdie verhouding bestaan in die menslike beliggaming wat aanvanklik deur God geskep is, en daarna deur prokreasie voortgesit is en vernuwe is deur die opstanding. Enige verplasing van hierdie verhouding of deur valse verstaan of deur afwykende konstruksie versteur die verhouding en laat dit méér broos as wat dit reeds is in die huidige vervreemding van God.

7. Daar is ‘n morele betekenis verbind aan menslike uniekheid, en dit word veral duidelik in die morele konnotasies verbind aan die konsep van “persoon” in die meeste gemeenskappe. Pogings om “persoon” af te grens van ‘n suiwer kwantifiseerbare, d.w.s. funksionele, aanduiding deur relasionele verbinding, dit is gemeenskap, blyk die aangewese weg te wees met die beste teologiese begronding. Die Drie-enige God (in gemeenskap) en die wyse waarop Hy Homself verbind tot verhouding is beide nodig en genoegsaam om die konsep van persoon te definieer, en slegs Hy besit die gesag om ‘n entiteit as ‘n persoon te ag deur daarmee in relasie te tree.

8. Dit is belangrik om met God in ‘n verhouding te leef. Die post-menslike verwerp die gawe van God om persone in gemeenskap te wees, en deur die daad van selfverwesentliking verbreek dit die gemeenskap met Hom en met die skepping, en verbeur so die ontvangs van die eskatologiese gawe aan die skepping. Die begeerte om die pyn van menslike beperking te transendeer is verstaanbaar, maar dit is in lyding dat die bande van gemeenskap versterk en karakter gebou word.

9. Wanneer die mens in hierde relasionele lig gesien word, sou dit slegs tot haar eie gevaar dien om die nie-menslike tot gemeenskap toe te laat. Menslike gemeenskap is presies dít, en enige verbreding deur die insluiting van diere, robotte of die postmenslike as persone, stel die integriteit van die menslike gemeenskap in gevaar. Menslikheid kan eenvoudig nie getransformeer word soos transmenslike voorstanders beweer in afsondering van die res van die

skepping nie. Die hele skepping moet bevry word, en sodanige verlossing lê buite die vermoë van die mens en van tegnologie.