



MODERN SCIENCE AND THE HUMAN SUBJECT

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The partitioning of science into discrete and separate avenues of study took place, it is generally argued, during the nineteenth century. This century witnessed *the end of natural philosophy and the invention of modern science*.¹ The transformation of natural history into scientific *biology* is an important aspect of this process.² Natural history had heretofore been the domain of the clergy and, thanks to the studies of the likes of Charles Darwin and Charles Lyell, the new scientific disciplines of biology and geology came to be independent of this clerical influence, legitimizing a new set of non-ecclesiastical authorities.³

The warfare model of conflict between science and religion had grown out of the quest for liberation and intellectual freedom experienced during the Enlightenment. Proponents of Darwin's *Origin* promoted this myth of perennial warfare, inhibiting meaningful dialogue between the scientist and the clergy/philosopher. Such a posturing continues to our post-modern era, whereby the reductionist materialism of science and the mind-body dualism of theology/philosophy are the problematic boundaries which now define this conflict.

This paper will discuss these concepts of materialism and dualism, their origination, historical path and, finally, what each ideology brings to the post-modern scientific perspective of the human subject.

Richard Swinburne, in his book *The Evolution of the Soul*, states that *it is most unlikely that anyone will ever be able fully to explain their origin in terms of a normal scientific explanation*.⁴ The scientific quest for a meta science, effectively distilling our humanity to the whirling and swirling of molecules, has shaped applications of scientific endeavour and technologies since the time of the

¹ Harrison, Peter, "Science and Religion: Constructing the Boundaries" (The Journal of Religion, Vol. 86, No. 1, p. 86).

² Ibid, p. 87.

³ Ibid, p. 87.

⁴ Swinburne, Richard, "The Evolution of the Soul", p. 3.

Enlightenment. This paper will argue that this bleak philosophical approach effectively removes the aspect of humanity from science and creates a divided and split way of seeing the world, generating the danger of not integrating our values into our sciences. This paper will argue that a revised philosophy of science is needed, one that recognizes that humanity is part of the world and the world is part of humanity. An important aspect of this revision is the re-introduction of the Christian Doctrine of Creation. The Doctrine of Creation is the common theme running through the historical development of the scientific philosophy attached to technological and medical advances. At the root of this discussion then is found a fundamental question, *what is a human person?* The Christian Doctrine of Creation holds that humanity is made in the image of God, therefore, human life is sacred. The Doctrine of Creation has been removed from the materialistic scientific philosophy.

David Livingstone points out that the conflict model between science and religion is a crude tool for the reconstruction of this historical faith/science relationship. For example, this approach does not do justice when considering the emergence of the modern experimental method and that the growth of scientific endeavours grew out of, and was closely associated with, the spirit of Puritanism.⁵ He points out how this conflict ultimately limits scientific advancement and Christian belief. Such muffling of meaningful dialogue risks reducing scientific endeavour to “scientism”; the tendency to reduce all reality and experience to mathematical descriptions of physical and chemical phenomena.⁶ The philosophy of science is thereby reduced to mere chemistry and physics, the humility of the scientist is not required nor is a consideration for the sanctity of life. Anything which cannot be empirically proven is cast aside. So, according the materialistic approach, conscious experience, the soul of a person, is simply part of our bodily, physical material.

⁵Livingstone, David N., “Darwin’s Forgotten Defenders, Encounter Between Evangelical Theology and Evolutionary Thought”, p. 2.

⁶ World Book Dictionary, p. 1864.

Richard Swinburne defends the position of dualism in his book *Evolution of the Soul*. He states that *mere knowledge of what happens to bodies does not tell you what happens to persons. Therefore, it follows logically that there must be more to persons than their bodies and that a person living on earth is a substance consisting of two substances; body and soul.*⁷

A person's body is empirical, the soul is not. The soul occupies no volume or space. Events in the body affect events in the soul and conversely. Mental events happen to his soul, bodily events happen to his body. Swinburne classifies this approach as *soft dualism*.⁸

This form of dualism counters the extreme Platonic position that the soul has a natural immortality. Swinburne's position is that a soul cannot survive without its body and that under normal conditions the functioning of the soul requires the functioning of the body.⁹

Implicit in Swinburne's approach to the human subject then is, we are more than chemistry, physics and biology. This approach denies the reductionist stance that our mental and physical events both happen to our bodies. His analysis posits that conscious feelings must be something additional to any material happenings.

The argument put forth by David Papineau represents the materialist viewpoint. In the introduction to his book *thinking about consciousness*, Papineau states that *consciousness is an intractable mystery*. On the one hand, consciousness must be a normal part of the material world because our conscious states affect our bodily movements. On the other hand, how can conscious states be identified with material states? Conscious states are subjective, involving experience, awareness and feelings.¹⁰ *The basic puzzle of materialism*, states Papineau, *is to reconcile the causal*

⁷ Swinburne, Richard, "The Evolution of the Soul", p. 3.

⁸ Swinburne, Richard, "The Evolution of the Soul", p. 10.

⁹ Ibid, p. 10.

¹⁰ Papineau, David, "thinking about consciousness", p. 1.

*efficacy or epiphenomenalism, of mental states with their subjectivity.*¹¹ “Epiphenomenalism” states that consciousness lies outside the physical world and does not have any power over it. This is often regarded as unlikely because our own consciousness seem to be causally active.

This dualist / materialist continuum has a long history. Darwin struggled with his theory of evolution. His *Origin of the Species* (1859), could not account for the conscience and intelligence found in humankind. The scientists of the Darwin era debated Darwin’s ateleological approach to natural design. This debate continues, the post-modern terminology now being *mental events, physical events, epiphenomenalism* and *sui generis*. The vocabulary of this discussion may have changed, the philosophical/theological question remains; is a human being simply a compilation of biological, chemical and physical components, whose conscience and intelligence is derived simply from the interactions of these constituents OR does a human being consist of these physical components PLUS features beyond this material explanation? To sum, what does it mean to be human? Humankind exhibit features such as human consciousness, empathy, intuition and imagination which wrap our human physiology with something beyond our biology and makes each individual greater than the sum of our individual parts. The parameters of this discussion in post-modern science are remarkably consistent with the parameters found in pre-Darwinian Britain. Even at this time, theologians such as the great Scottish divine, Reve. Dr. Thomas Chalmers, held that the most compelling argument in nature for the existence of God was to be found in the universality of conscience.¹²

Our discussion begins with Richard Swinburne’s argument that a human possesses a soul and that our mental states are states of that soul; a mental substance in interaction with our physical body. The brain is part of our physical body and is connected to our soul, that essential part of us, that part

¹¹ Ibid, p. 2.

¹² Livingstone, David, “Darwin’s Forgotten Defenders, Encounter Between Evangelical Theology and Evolutionary Thought”, p. 8.

which enjoys our mental life.¹³ He grants that the fact of evolution is evident, but that the humanity which has evolved is different, radically and qualitatively, from that which it has evolved.¹⁴ Evolution has brought about creatures, humans, with a life of conscious experience and a conscience; those ideas and feelings within a person that tell her she is doing right and warn her of what is wrong.¹⁵ This definition alludes to the non-material essence of conscience, it is a sense of right and wrong.

Swinburne posits that our conscious experience is causally efficacious; that our thoughts and feelings are not just caused by the brain. These thoughts and feelings cause other thoughts and feelings and that they make a difference in a human's behaviour.¹⁶ Hence, there really are mental events and states outside of, peripheral to and different from our brain processes and observable public behaviour. This continuity of conscious life, the thoughts and feelings which begin in our brain and become something else can only be made sense of by supposing that there are two parts to a person, a body and a soul.¹⁷

Swinburne hypothesizes two *levels* of the mental life. The first level of a person's mental events include perceptions and sensations of all the different senses; imaginings, memories, hopes, thoughts and feelings, dreams, desires and beliefs.¹⁸ He further proposes that all mental events are qua mental or in addition to and resulting from the first level of mental events; sensations, thoughts, purposings and desires.¹⁹ These mental events are not a result of our actively effecting such events, they just happen. This is the kernel of dualist thought; that conscious feelings must be something additional to any material goings-on.²⁰

¹³ Swinburne, Richard. "The Evolution of the Soul", p. 2.

¹⁴ Ibid, p. 1.

¹⁵ World Book Dictionary, p. 441.

¹⁶ Swinburne, Richard. "The Evolution of the Soul", p. 1.

¹⁷ Ibid, p. 2.

¹⁸ Ibid, p. 17.

¹⁹ Ibid, p. 17.

²⁰ Papineau, David. "thinking about consciousness", p. 3.

The materialist viewpoint stridently argues against this position. The belief of the materialist is that everything, including this mental and conscious life, is illusory and can be reduced to physical events; the firing of neurons in our brains. An entire discipline, neuroscience, has developed around attempting to link or associate the activities of these brain cells with our consciousness.²¹ The materialist is ipso facto an atheist. Molecules in motion exclude God by definition.²²

David Papineau's book, *thinking about consciousness*, presents a distinction between two ways of thinking about the conscious states of humans. He describe the conscious state materially, as in the firing of neurons. He also describes the conscious state phenomenally, in terms of feelings. This is the approach of Richard Swinburne, in that these feelings lie outside of our brain processes and belong to a non-material, dualist reality. This is where any agreement ends however, and Papineau argues against this position stating that a successful materialism must explain the compelling intuition that the mind is ontologically distinct from the material world. Further, that such an argument of successful materialism must deal with and identify the source of this contrary intuition.²³

Now we have an effective working model for the reductive materialist / dualist puzzle; how to reconcile the causal efficacy of mental status with their subjectivity. This is a difficult problem and, from an empirical view point, not possible to solve because mental states, due to their subjectivity, cannot empirically be proven.

David Norman states that *the historically orthodox doctrine of substance dualism and the scientific alternative of reductionist monism are both untenable.*²⁴ The non-reductive physicalist approach that complex structures or concepts can have irreducibly non-physical properties such as

²¹ Evolution News and Views. "What is the World Really Like? Darwinism, Materialism, and How They Relate", p. 1.

²² Ibid, p. 1.

²³ Papineau, David. "thinking about consciousness", p. 3.

²⁴ Norman, David, A., "Beyond Reductionism and Dualism: Towards a Christian Solution to the Mind Body Problem", p. 1.

consciousness and will cannot be empirically verified. Similarly, the physiologists of the reductionist monism camp are far from making exact correlations between neural states and even one mental state.

Ultimately, it is a philosophy of science which proponents of either persuasion put forth to support their position and thwart the other. Such a philosophical approach is necessitated by the lack of empirical evidence on either side. This is not to say that empirically-based arguments are not posited at both ends of the dualist/materialist conundrum. What I am saying is that sufficient empirical data does not exist which would authenticate one stance and nullify the other. Hence, a philosophical approach to this question is required and utilized to explore whether the approach of the dualist or the approach of the materialist is efficacious in determining what it means to be human.

So, we have examined the historical sources of the materialist / dualist debate and have a working definition. How are each of these positions supported? In the dualist corner, Richard Swinburne admits that the fact of evolution is evident.²⁵ Further, that there really are mental events and states different from brain processes and observable public behaviour. These mental events do make a difference to a human's public behaviour. This continuity of conscious life can only be explained by the dualist position that a person is composed of two parts, a body and a soul.²⁶ These mental properties fall outside of the subject matter of physics and chemistry. Physics and chemistry deal with the physical. A scientific explanation requires laws of nature. Mental events are such different things qualitatively from pains, smells and tastes, that a natural correlation between them appears almost impossible.²⁷ So, it follows that if we cannot have scientific laws, we cannot have a scientific explanation.

²⁵ Swinburne, Richard. "The Evolution of the Soul", p. 1.

²⁶ Ibid, p. 2.

²⁷ Ibid, p. 189.

In the introduction I stated that no meta-science exists to encompass all of humanity; its physical and psychological components. Along this line of thought, Swinburne states that there cannot be a super-science which supports this and that can explain both sensations and brain-events.²⁸ He argues that scientific integrations into a super-science have been achieved by the application of reduction. Sciences dealing with entities and properties apparently qualitatively very distinct, propose that really some of those entities and properties were not as they appeared to be. A distinction was made between the underlying, not immediately observable, entities and properties and the phenomenal properties to which they gave rise.²⁹ Thermodynamics is presented as such an example of reductionism. This field is concerned with the laws of temperature exchange; temperature supposedly an inherent property in an object. You feel the temperature of an object by touching it. The felt temperature of an object is qualitatively different from the particle velocities and collisions producing such temperature. The reduction is achieved by the distinguishing between the underlying cause of the temperature (motion of molecules) and the resultant sensation of heat in the observer. This reductionist scientific approach effectively separates the cause of the temperature from the phenomenon of the temperature. This approach explains only the verifiable motion of the molecules while denying the secondary quality or the phenomenon of the heat. In this way, science regards these qualities of colours, smells and tastes as purely private sensory phenomena.

So, science cannot explain such sensations, such interpretation of physical phenomena by the brain. Finally, he states that the very success achieved by science in its integrations in physics and chemistry is a result of this approach. The separation of the phenomenon from its cause has made it

²⁸ Swinburne, Richard. "The Evolution of the Soul", p. 191.

²⁹ Swinburne, Richard. "The Evolution of the Soul", p. 191.

apparently impossible to achieve any success in integrating the world of the mind and the world of physics.³⁰

It would appear to this writer that science has fractured the world into that area which it can explain and prove empirically and has chosen not to explain phenomena found outside of this paradigm. Science must start from the data of experience including sensations. If it finds some of these too difficult to explain in terms of current theories, this needs to be acknowledged. Do not pretend that what science cannot explain does not exist.³¹

Papineau counters this argument and states that *plenty of materialist philosophers of consciousness now combine the ontologically monist view that conscious states are material states with the conceptually dualist doctrine that we have two distinct sets of concepts for thinking about these states, including a special set of phenomenal concepts.*³² Further, that this conceptual dualism is rapidly becoming the orthodoxy among analytic philosophers who defend a materialist view of consciousness.

To strengthen his materialist argument, Papineau presents his theory of the *intuition of distinctness*. This describes the persistent intuition of mind-brain distinctness that is due to the way we think about conscious states. He states that this persistent intuition stems from the way in which phenomenal concepts of conscious states standardly exemplify or simulate versions of those conscious states themselves.³³ This results in confusion when the phenomenal way of thinking about conscious states is compared with other ways of thinking about them, especially as material states. Since non-phenomenal modes of thought do not similarly exemplify or simulate conscious states, we feel (intuit)

³⁰ Ibid, p. 191.

³¹ Swinburne, Richard. "The Evolution of the Soul", p. 191

³² Papineau, David. "thinking about consciousness", p. 5.

³³ Ibid, p. 6.

that they *leave out* the feelings themselves and so conclude that these feelings must be something different from the non-phenomenal material states.³⁴

Papineau calls this *antipathetic fallacy*; that because material modes of thought don't activate feelings doesn't mean they can't refer to feelings. Thinking about something doesn't require activating some version of it.³⁵

In order to understand the naturalist philosophy then, is to understand the special structure of our phenomenal concepts. The existence of these (material) concepts need to be recognized for their ability to simulate the feelings to which they refer. Hence, the (incorrect) intuition that other non-phenomenal concepts leave out conscious feelings. This presents the materialist conclusion that while non-phenomenal concepts don't use the feelings, non-phenomenal concepts may still refer to feelings.³⁶

Papineau presents what he refers to as the canonical argument for materialism;

*Many effects that we attribute to conscious causes have full physical causes. But it would be absurd to suppose that these effects are caused twice over. So, the conscious causes must be identical to some part of those physical causes.*³⁷

He then goes on to explain that the scientific consensus on the completeness of physics, which was reached by the middle of the twentieth century, clinched the argument that all physical effects are due to physical causes. Without the completeness of physics, there is no compelling reason to identify the mind with the brain.³⁸ The physiological research of the first half of the twentieth century revealed a great deal about the biochemical and neurophysiological processes at the cellular level. None of which

³⁴ Ibid, p. 7.

³⁵ Ibid, p. 7.

³⁶ Swinburne, Richard. "The Evolution of the Soul", p. 7.

³⁷ Ibid, p. 17.

³⁸ Ibid, p. 255.

gave any evidence for the existence of special forces.³⁹ So, it was difficult for scientists and philosophers to go on maintaining that special forces operate inside living bodies. Hence, the widespread philosophical acceptance of physicalism since the 1950's.

What of the dualist side of this debate? This is where the warfare metaphor can really come to life, usually manifested by blistering attacks from the materialist scientific community. Take for example, the recent publication of *Darwin's Doubt: The Explosive Origin of Animal Life and the Case for Intelligent Design*, written by Stephen Meyer who has a PhD from Cambridge University in the philosophy of science. His book has been subject to a barrage of hateful descriptions such as *mendacious intellectual pornography*.⁴⁰ Darwin's Doubt raises many questions about the theory of evolution. And, it is known that Darwin himself had doubts about some aspects of his theory.

Meyers disputes Darwin's claim that organisms arose by random variation and natural selection, which would have been a slow business. But, the fossil record shows that the major animal forms appears without visible predecessors during the Cambrian Explosion. This presents two problems for the Darwinian evolutionist; insufficient time and missing fossils.⁴¹ This is one problem of which Darwin was aware.

Meyers also disputes the theory of *punctuated equilibrium* hypothesized by the paleontologist Niles Eldredge and Stephen Jay Gould. Eldredge, an expert in ancient trilobites, was bothered by the absence of change he noted. The ancient trilobites were all so similar that Eldredge and Gould theorized that long periods when animal forms are static are punctuated by periods in which new forms of animal

³⁹ Ibid, p. 253.

⁴⁰ Bethel, Tom. "Darwinism and Materialism: They Sink or Swim Together". (The American Spectator, 9.18.13), p. 1.

⁴¹ Ibid, p. 2.

life arise quickly, too quickly to leave a record.⁴² Meyers argues that this theory has never produced a mechanism which could plausibly produce so much anatomical change so quickly.

Meyers describes how work in statistical paleontology has undermined the idea that the missing ancestral fossils are simply a result of incomplete sampling.⁴³ Empirically it becomes evident that the missing fossils were never there.

Next, Meyers demonstrates the mathematical implausibility of the neo-Darwinian explanation for the origin of new genetic information which relies on mutations. The building of new animal body plans requires original new genetic information and epigenetic information. He shows that the Cambrian Explosion is not just an eruption of new animal life, but an eruption of this information or instructions required to build them.⁴⁴

He cites the work of molecular biologist Douglas Axe who has shown that the generation of even just one new protein by mutating DNA at random has a prohibitively small chance of ever occurring even over evolutionary deep time. The improbability of a right guess or sequence must be multiplied over and over because the next mutation could cancel the first. The standard Darwinian view takes no account of mutations that reverse the progress made. Finally, proteins and genes cannot be randomly changed much at all without degrading their function. Darwinian science maintains that transitions from one body plan to another must be viable at every stage.⁴⁵ Meyers refutes this.

In the third part of *Darwin's Doubt*, the author outlines his case for Intelligent Design or ID. The concepts of irreducible complexity and specified complexity propose that certain biological features are too complex to be the result of natural processes. Proponents of ID conclude that these features are

⁴² Ibid, p. 4.

⁴³ Ibid, p. 5.

⁴⁴ Bethel, Tom. "Darwinism and Materialism: They Sink or Swim Together". (The American Spectator, 9.18.13.), p. 6.

⁴⁵ Ibid, p. 7.

evidence of design. Ironically, Meyers uses the same principal of scientific reasoning known as the *Vera Cause* principle which Darwin used in the *Origin*. This principle asserts that scientists should seek to explain events in the remote past by causes *now in operation*. He applies this question to the origin of the information necessary to produce new forms of animal life. He argues that the only known cause of the origin of the kind of digital information that arises in the Cambrian Explosion is intelligent activity.⁴⁶

Additionally, recent scientific discoveries, especially in molecular biology, have weakened Darwinism. As example, the cell once considered a simple lump of protoplasm is now known to be a high-tech nano-factory, highly complex. A cell can also reproduce itself, a feat no man-made machine has been able to accomplish.⁴⁷

William Dembski, author of several ID books, predicted in 1998; *On an evolutionary view, we expect a lot of useless DNA. If on the other hand, organisms are designed, we expect DNA as much as possible to exhibit function.* The *junk DNA* theory has been supported by most leading biologists. Dembski's view was confirmed in 2012. The ENCODE project reported that over 80% of DNA in the human genome serves some purpose, biochemically speaking. Earlier, 98% had been considered junk.⁴⁸

Finally, Meyers reviews *The Rules of Science* decreeing what is permitted if an investigation is to be called scientific. *Methodological naturalism* is the big rule these days: only material causes are permitted. This is the rule which is the basis for Darwinian accusations that ID is creationism. For ID does admit non-material causes, thereby flouting the rule of methodological naturalism.⁴⁹

Similarly, the scientific community handed the book authored by Thomas Nagel, *Mind and Cosmos*, a vicious reception. In Britain, the Guardian newspaper called it *the most despised science book*

⁴⁶ Ibid, p. 8.

⁴⁷ Bethel, Tom. "Darwinism and Materialism: They Sink or Swim Together". (The American Spectator, 9.18.13.), p. 9.

⁴⁸ Ibid, p. 9.

⁴⁹ Ibid, p. 9.

of 2012.⁵⁰ This book urges deep skepticism about evolution's explanatory power and illustrates the perils of raising arguments against evolutionary intellectual orthodoxy. The warfare approach is maintained. Nagel argues that the main failing of evolutionary theory is that it fails to take into account for how consciousness fits into the natural order. Evolutionary theory does not go deep enough.

Professor Nagel, professor philosophy and law at NYU is an atheist. He is a skeptical philosopher putting science in its place. There aren't any theistic claims in his book, he relies instead on traditional tools of logic and *common sense*.⁵¹

The response of the scientific community to the work of Meyers and Nagel is an exhibition of the shrill polarity between materialists and those who are not. The Darwinists (materialists) cannot live with Intelligent Design. The biblically based creationism can easily be dismissed as it comes from the Bible. Intelligent Design however, is an assault on their philosophy of science and its exclusive reliance on material causes.

This debate demonstrates a vociferous antagonism, a warfare aspect. Materialists will not counter their science being challenged. The materialist reduction has expanded to apply to other aspects of life not normally thought of in terms of whirling molecules. This reduction also applies to post-modern morality, free will and consciousness. According to this philosophy, all are illusions created in our brains. In fact, Will Provine of Cornell University states that the materialistic philosophy results in *the existence of no ultimate foundation for ethics*.⁵²

We have discussed the evolution of the naturalistic philosophy of science pre-Enlightenment; the entry of the Darwinian theory of evolution into the debate with its warfare attitude and the

⁵⁰ Ibid, p. 10.

⁵¹ The National Post. "Evolution's Revolution. How a leading atheist philosopher became an intellectual outcast for daring to question Darwinism. Section A, Page 10.

⁵² Evolution News and Views. "What is the World Really Like? Darwinism, Materialism, and How They Relate", p 1.

consequent expansion of the resultant scientific debate into the extremes of creationism vs materialism and all points in between. The camp of scientism is winning, no scientific philosophy outside of their bleak philosophy of materialism is allowed. So, what are the results of such a materialistic application? The twentieth and twenty-first centuries is a time of medical and technological achievements. These achievements have resulted in new, never before encountered and difficult moral problems. Yet we have seen that the materialist viewpoint provides no moral or ethical compass. Scientific inquiry has been reduced to that of scientism represented by the Darwinian mantra that we are animals to whom everything is permitted.

This scientism leaves humankind vulnerable to the machinations of the human spirit without any guidelines. This has allowed and promoted the current barrage of antipathy from the materialist camp of inquiry against anything outside of their philosophy. These scientists and philosophers are permitted, there is no room for morality or humility in their attacks. John Bowker succinctly stated *the issue between science and religion is less to do with propositions than with power*.⁵³ The scientism of the materialist is in a position to maintain its power as it has acquired the status of the use of a bully pulpit. These scientists and philosophers are in a position of authority and they will be heard.

In a similar, Darwinian vein, the British economist, Herbert Spencer, first coined the term *survival of the fittest*, and then applied this concept to *social Darwinism*. This was the concept that the human social order was the result of evolution and that those on top deserved to be there. The rich were rich because they were more fit and so were entitled to benefit at the expense of the weak, in for example, a capitalistic economy. The fittest therefore had economic power and subsequent authority.⁵⁴

⁵³ Brooke, John. "Science and Religion, Some Historical Perspectives, p. 103.

⁵⁴ Grigg, Russell. "Herbert Spencer – the Father of Social Darwinism", p. 1.

This post-modern scientism is reflective of this era's loss of belief in an objective moral truth. We now live in a time of moral relativity whereby truth is whatever we think it is. So, if truth is relative and changing, there is no moral compass available by which to judge our actions; anything goes. Monika Hilder states that *the consequences of this moral relativity are scientism, individualism, the over-privileging of analytical reason, genocide, the destruction of the environment and totalitarianism.*⁵⁵ This has eroded our sense of interconnectedness with the material world and has broken the relationship between imagination and reason. In fact, C.S. Lewis in his prescient *Abolition of Man*, points to humanity's striving to dominate nature and how those of humanity with the power will use those means of domination to prevail over other humans. Further, we will try to re-design ourselves and change the very nature of being human.⁵⁶

How human beings define themselves can shift so easily within a context of moral relativity. Consequently, the value of a human life also can shift and can be determined by those people with the power to decide. The petri dish of moral relativity allows humanity to become more and more dehumanized as we become more and more technological.

What is it about a non-materialistic philosophy of science that so challenges materialism? It appears to this writer to have a lot to do with the loss of power. A non-materialistic philosophy of science requires scientists and philosophers to consider the *big picture*, to recognize and to behave in a way which validates the stance that the world is part of us and that we are part of the world. This can be humbling and uncomfortable, depending on your philosophy. Materialism allows scientists to move in step with the moral relativity of the twenty-first century and to alter what it means to be human as required by medical and technological advances. Materialism proffers great powers on its adherents.

⁵⁵ CBC Radio, "Ideas: C.S. Lewis and the Inklings"

⁵⁶ CBC Radio, "Ideas: C.S. Lewis and the Inklings"

The scientific community owes a debt to the Christian world view, especially the Doctrine of Creation, within which scientific endeavour and advancement flourished. The Doctrine of Creation provides a moral compass and ensures the sanctity of life, all life. Within this medium the uneasy relationship between reason and imagination can be soothed because imagination is allowed to give shape to our reality. Within this medium, imagination does not need to be empirically proven and, in fact, can be as real as scientific inquiry. This is absolutely necessary in our era of ever advancing technologies and ever more intrusive medical technologies, especially around beginning and end of life issues.

A return to the consideration of the Doctrine of Creation in scientific/technological studies and endeavours can be a source of meaning, deeper than strictly empirical findings. Such consideration can assist these practitioners to consider the philosophical *why* questions of philosophy, not just the *how* questions of science. Such consideration can provide an intersection of imagination and reason, providing both arenas of debate with, at the very least, a place to begin dialogue. After all, it cannot be disputed that all humanity is inter-connected. Each of us depend upon and live through others, beginning with our parents who give us life. All humanity and the earth upon which we live is inter-connected, humanity cannot exist without the O₂ of our universe. Science and philosophy would do well to not ignore these statements of fact, which are empirically proven.

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