

**A Few Thoughts on Theology and Physical Science**  
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Theology and physical science share at least one thing in common: they are human activities. As such, the product of these activities is contingent. No conclusion of either activity can be considered absolute. This irrefutable fact has often been used to denigrate either theology or physical science, but the purpose of the present paper is not to abuse the truth by questioning the value of two of the most exalted of human activities! The goal of the discussion is to clarify the nature and meaning of these two activities.

The goal of physical science is to study and understand physical reality. While some philosophers have denied the reality of the physical world, I will assume a position of material reality. I know of no practicing scientist that denies the reality of the physical world. The goal of theology is to study and understand ultimate reality. While some philosophers have asserted that all reality is physical, and while some theologians agree with them, I will assume in this discussion that ultimate reality includes physical reality but also transcends it! If all reality is comprehended by the entities discovered and described by physical scientists, then theology is a redundant activity and should be ignored. It is my personal belief that such a position is not only false, but leads to an impoverished version of life with no possibility of ultimate meaning. While some philosophers revel in such an outcome, it is not possible to live a life based on such a conclusion. Any philosopher who is willing to assert a position that is practically unlivable is unworthy of consideration!

The human activity called science is rich with observations, speculations, arguments and conclusions. Efforts to present a picture of science that is sanitized to the point of ineffectiveness do not come from the scientific community, but from outsiders that either do not understand the nature of science or desire to criticize it unfairly. The caricature of science as the straightforward application of the “scientific method” fails to account for the actual history of science! The human activity called theology is rich with observations, speculations, arguments and conclusions. Efforts to present a picture of theology as the unrestrained rantings of unbalanced individuals fail to account for the actual history of theology. The

miscomparisons engendered by mutual caricaturization do not advance the human condition.

One of the activities of physical science is exploration, but a search is rarely mounted without a context of observation. This context may be provided in many ways. A comprehensive and coherent theory usually produces predictions of observable phenomena that are as yet unknown. The construction of such a theory can proceed in many ways. One historical path is pure speculation followed by careful deduction. But why should anyone suppose that the predictions of pure speculation are worth the investment of time and money necessary to produce an observation. The value judgment associated with the funding and execution of a program of exploration transcends the merely scientific method! Another paradigm proceeds from all known observations by induction to a comprehensive theory. But observations as such do not point to a unique and coherent representation of the physical world in terms of certifiably reliable quantities that are independent of the observations. A “theory” that at best empirically correlates all known observations may not make any predictions about where to look next. While “empirical” theories are of great value in the description of the physical world, they rarely serve as strong motivators for grand programs of exploration. Many successful theories combine both an empirical knowledge base and a deep speculative insight into an approximate theory that transcends the known observations but accounts for the prior knowledge.

The full scientific community contains many different kinds of workers. Some people focus on the collection of data within a known paradigm, with the goal of solidifying knowledge for the benefit of humankind. Some people try to discover the limits of the current paradigm with the goal of extending the search for new knowledge in promising directions. Other people engage in truly speculative thinking in an effort to reach new contexts outside the current paradigms. A healthy scientific community contains a very diverse set of individuals and research groups. Some members of the community try to simplify the current state of knowledge in an effort to communicate it to a wider audience. Some theorists engage in an effort to refine the current theory to make it more applicable or more comprehensive. Others seek simplification to facilitate rapid application for the benefit of humankind. Effective scientific communities are visibly diverse in purpose, methods and language.

One of the activities of theology is exploration, but many current theologians deny that there is anything to find! Some theologians focus on the ultimate nature of the universe. They ask questions like: “Did the universe have a beginning?” or “Will the universe as we know it have an end?” One kind of observation that is employed in such programs is the state of the universe at the present. In this regard, theologians depend on the conclusions of physical scientists about the present structure and dynamics of the universe. Speculative models of the formation of the universe often make predictions about the present state. The “big bang” model of the formation of the universe predicts that there will be a ubiquitous microwave background radiation, and the observation of this phenomenon has greatly strengthened the prestige of this position. But what does this mean for our understanding of ultimate reality? Why was there a big bang? Was it a necessary outcome of the nature of physical reality? Was it a random fluctuation? Or was the big bang a planned outcome of a personal agent? Scientific speculation could help to evaluate the probability of a random fluctuation or the possibility of a necessary inflation, but could the action of a personal agent be inferred from our understanding of the current state of the universe? Remarkably, scientific observations have sparked considerable theological speculation about the necessity of an intelligent designer for a universe that includes humans as well as hydrogen! While there is considerable debate about the presence of intelligent life anywhere in the universe, only a philosopher or a theologian could sustain any interest in denying the existence of humankind! One of the most persistent speculations in theology is that we are not alone in the universe. This is not at present a scientific conclusion. There are no observations of intelligent life beyond earth, but the belief in a Creator is virtually universal among humankind. This contingent position is the basis for many theologies!

Another focus of theology is the earth. The physical history of the earth is inferred from its present structure and dynamics. Was the earth a necessary outcome of the formation of our solar system, or did it require a specific act of planned assembly followed by a long period of maturation? Was the appearance of life on earth a necessary outcome of the structure and dynamics of our solar system and earth, or did it require a specific act of planned assembly followed by a long period of development and change? Our current state of scientific knowledge is insufficient to answer these questions. One of the most remarkable frauds of science is the assertion that an answer to these questions is available at present. Theological speculation on these questions is highly heterogeneous. One group of theologians is

convinced that the entire history of the earth follows necessarily from the accident of the formation of the solar system. There is no evidence that this is the case, but the assumption of strict materialism requires that all observed phenomena are the result of the necessary consequences of random events.

Another group of theologians focuses on the existence of moral agents on earth and speculates that the source of morality is not physical necessity. While the description of humankind as moral agents has been called into question, only a philosopher or a theologian could sustain such a denial! Another one of the persistent speculations of theology is that the source of human morality is another moral agent that transcends humankind. This speculation incites outrage among many theologians that deny any explanation of human culture that does not invoke necessary development following random introductions of arbitrary notions. Stochastic morality is the only politically correct position in many communities of theologians. The incoherence of this position is firmly denied by such coterie of naturalists, but the notion of arbitrary lawlessness as the basis of human moral laws defies logic.

Another focus of theology is the study and understanding of the spiritual. One group of theologians firmly denies the existence of the human (or any other) spirit. One justification for this assertion is the belief that all reality is material, but such a position is a category error. Many entities are instantiated in material media, but transcend the medium. The functions of a material system depend on both the structure and dynamics of the assembly. Material systems can process inputs and produce outputs that transcend the merely material. Success is not a material property of a material system! While such conclusions are now well known, theologians continue to misconstrue the necessity of a medium of realization as an argument for the lack of existence of anything but the medium. Books can be instantiated in many media and hence have an existence that transcends paper and ink. Historical theology linked the human spirit with a distinct spiritual substance; the position known as substance dualism. This is a subject where the theologians might well learn from the history of science. Heat was long understood as a specific substance, but a more modern view is that heat reflects the kinetic motion of a material medium or the energy instantiated in an infrared optical field. Limited ontologies produce incoherent theologies! Nevertheless, the existence of a soul is also a persistent theme in theology. One of the greatest needs in 21<sup>st</sup> century theology is a coherent theory of the soul.

While scientific observations of material systems provide a concrete constraint on pure speculation, it is often asserted that there are no spiritual data. Such a position flies in the face of actual human history. A sense of the numinous is one of the most common experiences of humankind. And in spite of the current focus on individual spiritual exercises, many historical instances of spiritual phenomena were corporate in character. What is usually denied is that anyone today can experience actual spiritual phenomena, since they DO NOT EXIST! This position in theology is called naturalism and all supposed spiritual experiences are attributed to chemical imbalances! In scientific practice, all reported phenomena are subject to public verification by others. But, even within scientific protocols, a firm belief in the lack of validity of a reported phenomenon often leads to a lack of confirmation. This presuppositional expectation of a null result dominates the study of the spiritual. We SEE what we expect to observe! The strong filtering of experience also affects positive reports of spiritual phenomena. Positive reports are often found within strong communities of faith, while negative reports are more often given by isolated individuals. With such a problematic phenomenology, it is small wonder that most scholars approach spiritual questions with caution!