

The Resolution of a Math/Science Conundrum

By James D. Nickel

Mathematics is technically not science. In the natural sciences (e.g., chemistry, physics), the test of the validity of a theory is by experiment and then whether the theory can make accurate predictions or give explanation that is not just particular, but general or comprehensive. Hence, this is the reason for the term *natural* science. It is all about exploring the physical (or natural) world (using inductive/experimental methods).

In contrast, although induction (i.e., the search for pattern) has a part to play in the study of mathematics, the test of validity of a mathematical proposition is not experiment; it is deduction. Hence, logic and proof play a key role in mathematics.

Even though there is contrast and diversity of emphasis separating the natural sciences from natural philosophy (induction versus deduction), there is a most remarkable relationship or unity between the two. To unbelieving mathematicians and scientists, this unity can only be described using terms like mystery and miracle. For example, Eugene Wigner (1902-1995), Nobel Prize winner in Physics (1963), responded to the connection between mathematics, especially imaginary numbers (the square root of negative numbers), and quantum mechanics by saying, “It is difficult to avoid the impression that a miracle confronts us here.”¹ Responding to the connection between mathematics and the physical sciences in general, Albert Einstein (1879-1955) said, “The eternal mystery of the world is its comprehensibility.”²

Why do men of this stature make these kinds of statements?

It is important to note that only unbelieving scientists and mathematicians are in a quandary over the resonance between mathematics and science, between deductive thinking and inductive thinking. These people have rejected the infinite, personal, and Triune God revealed in both Scripture and Creation. Because of this rejection, they have defective starting points for understanding the true nature of reality (metaphysics), knowledge (epistemology), and ethics (living). Romans 1 describes what these people are doing ... they suppress the truth of God revealed in creation and, by doing so, their so-called wisdom is really the wisdom of fools.

If one’s starting point is not the Living God of Scripture, then man must start with himself. When man starts from himself, he becomes the autonomous judge of all reality. Man’s reasoning abilities are the adjudicator of what is true or false, what is real or not real. But, here lies the rub. Man starting from himself cannot truly account for what is going on outside of himself.

Some philosophers, namely the German Immanuel Kant (1724-1804), have posited *that man’s sense impressions of what is going on outside of himself is all there is to the nature of reality*. Hence, if man does not

¹ Eugene Wigner, *Symmetries and Reflections: Scientific Essays* (Cambridge and London: The MIT Press, 1970), p. 229.

² Albert Einstein, *Out of My Later Years* (New York: Citadel Press [1950, 1956, 1984] 1991), p. 61.

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experience or sense something, it is not really real. The logical conclusion of Kant's philosophy is that man is the creator of reality. This conclusion makes "sense" because Kant's starting point is man, not God. Without God, man cannot truly account for the nature of reality (i.e., what goes on inside man, his thinking, his perceptions, etc. and what goes on outside man or what exists independent of man's existence).

Let me repeat: *Man starting from himself cannot truly account for what is going on outside of himself.* Since all man has is his reason, *then rationality is removed from what is going on outside of him; i.e., universe.* Ultimately, man is faced with a universe that is irrational, the product of time + chance + matter (or the result of a cosmic crap game). Here is how math historian Morris Kline (1908-1992) puts it, in his conclusion to his book *Mathematics: The Loss of Certainty*, "The plight of man is pitiable. We are wanderers in a vast universe, helpless before the devastations of nature, dependent upon nature for food and other necessities, and uninformed about why we were born and what we should strive for. Man is alone in a cold and alien universe. He gazes upon this mysterious, rapidly changing, and endless universe and is confused, baffled, and even frightened by his own insignificance."³

To Kline, the universe is not the handiwork of God (and subject to His eternal decrees and purposes). The universe is not open to reason because God, the all-wise God, created and governs it. Because there is no rational governance, *the universe is a frightful place.*

Since man is the source of reason, then what is outside of man cannot therefore be posited as truly rational; it is just "brute" fact (i.e., a fathomless sea of unrelated, disconnected facts). The universe is ultimately an irrational realm.

But, through man's investigation of this universe, there appears to be a "sliver" of rationality in it! In fact, every scientist and mathematician must presuppose a given order, a given unity, in the scheme of things (that unity is what the word universe implies!). Without this foundational presupposition, there would be no justification for searching for laws or proving propositions; i.e., science and math would be impossible.

What is the source of this rationality, this order, the amazing interconnections that mathematics and science reveals? Furthermore, why is there a connection between man's rationality and the "appearance" of rationality in the universe? If man starts with man, the only answer is "I don't know" which is what is behind the words "mystery" and "miracle." But, if man starts with God, the Biblical God, the answer is immediately apparent. Man's rational mind, including his ability to think mathematically, and the physical universe, reflective of a rational order that can be modeled using mathematics, resonate because of a Common Creator.

³ Morris Kline, *Mathematics: The Loss of Certainty* (New York, Oxford University Press, 1980), p. 353.

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Rejecting this Creator as the only true starting point for understanding reality, knowledge, and ethics, is, indeed, the plight of our times. The Biblical Christian understands and lives in the real world; unbelieving scientists and mathematicians live in a dream world (i.e., a world where reality starts with them). This dream world is also a schizophrenic world because for man to *do* science or mathematics, he must assume, contrary to every word that comes out of his mouth, that the Biblical Christian worldview is true. *Without the truth of the Biblical Christian system, no fact or reality can be properly understood ... no theorem, no law, can be truly justified.*