

The Mystery of Why Mathematics Works

By James D. Nickel

What does the Bible say to mathematics? What principles can we glean from Scripture that help us make true sense of the subject? From a study of history, we know that mathematics is man's way to order his numerical and spatial thought structures. Since man is made in God's image, then man's mind has a "sixth sense" regarding numbers and space. In other words, man can think numerically and spatially because he is *imago dei* (in the "image of God"). From Genesis 1, we see that God is the author of space (the heavens and the earth). Space and number are in unity (one reveals the other).

Because of the spatially and numerical patterns revealed in creation (made in, by, through, and for Christ, the *logos* of God) are orderly (as a reflection of God's creational covenants; cf. Genesis 8:22) and man has an orderly mind (*imago dei*), then mathematics, which is man's search for patterns in the created order (mind investigating matter), is reflective of God's covenantal order founded in the Agency of Creation, the Lord Jesus Christ (Genesis 1, John 1:1-3; Colossians 1:15-17). Hence, the Lord Jesus Christ is Himself the ultimacy in rationality, order, harmony, symmetry, proportion, balance, and interconnectedness. Mathematics as a language of science, seen in this context, is only an infinitesimal commentary on the *logos* of God.

This symmetry, these patterns revealed by mathematics that underlie the *deep laws* of creation, is revelational of a Superior Mind. Physicists Stephan M. Barr reflects on this reality:

"If symmetry is found in works of art of every sort, and is an important element in what it is to be beautiful, and if as well the laws of nature are based on symmetries that are so sophisticated and so deep that while we may study them with the tools of modern mathematics they lie far above our mental powers to appreciate on an intuitive level, does that not suggest the mind of an artist at work that is far above the level of our own minds? When we contemplate this strange and beautiful universe, well may we ask, in the words of the poet Blake, 'What immortal hand or eye could frame thy fearful symmetry?'"¹

The Biblical God is the creator of the physical world, a world that reflects mathematical patterns, and the human mind, a mind that is gifted with the ability to think mathematical thoughts, two diverse aspects, the physical creation and the human mind, *that cohere because of a common Creator*. The physical creation and the mind of man *resonate* because of a common Creator.

This resonance is the basis for the principle of unity in diversity. This principle is replete in mathematics because mathematics is all about the discovery of *unifying patterns* in a *diversity* of relationships; i.e., the many branches (disciplines) of mathematics because interconnect in a myriad of ways. We can discover these patterns because: (1) the physical creation (invisible and visible) has

¹ Stephen M. Barr, *Modern Physics and Ancient Faith* (Notre Dame: University of Notre Dame Press, 2003), p. 104.

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meaning and purpose and (2) the mind of man can discern this meaning (connections, unity) because man is made in God's image.

The following remarks reveal what happens when mathematicians suppress the truth that the Biblical God is the true Author of this unity in diversity. The first example is from mathematics professor Calvin C. Clawson:

“Why does mathematics work in the material universe? ... Why does mathematics work so magnificently as a model to explain our universe? Scientists use mathematical models of the physical world to make certain claims and predictions about the world. Why should this relationship between model and physical reality exist unless there is some underlying connection? If numbers are only objects of thought, then why are they so wonderfully useful in analyzing the material universe?”²

Next, the words of Albert Einstein (1879-1955):

“You find it surprising that I think of the comprehensibility of the world ... as a miracle or an eternal mystery. But surely, a priori, one should expect the world to be chaotic, not to be grasped by thought in any way. One might (indeed one should) expect that the world evidence itself as lawful only so far as we grasp it in an orderly fashion. This would be a sort of order like the alphabetical order of words of a language. On the other hand, the kind of order created, for example, by Newton's gravitational theory is of a very different character. Even if the axioms of the theory are posited by man, the success of such a procedure supposes in the objective world a high degree of order which we are in no way entitled to expect a priori. Therein lies the ‘miracle’ which becomes more and more evident as our knowledge develops.... And here is the weak point of positivists [true knowledge is that which can only be verified by the senses or experience-JN] and of professional atheists, who feel happy because they think that they have not only pre-empted the world of the divine, but also of the miraculous. Curiously, we have to be resigned to recognizing the ‘miracle’ without having any legitimate way of getting any further. I have to add the last point explicitly, lest you think that, weakened by age, I have fallen into the hands of priests.”³

² Calvin C. Clawson, *Mathematical Mysteries: The Beauty and Magic of Numbers* (Cambridge, MA: Perseus Books, 1996), p. 52.

³ Albert Einstein, *Lettres À Maurice Solovine* (Paris: Gauthier-Villars, 1956), pp. 114-115 and cited in Stanley L. Jaki, *The Road of Science and the Ways to God*, pp. 192-193.

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The spirit of genuine mathematics, i.e., its methods, concepts, and structure—in contrast with mindless calculations—constitutes one of the finest expressions of the human spirit. The great areas of mathematics—algebra, number theory, combinatorics, real and complex analysis, topology, geometry, trigonometry, etc.—have arisen from man’s experience of the world that the infinite, personal, Triune, and Sovereign God has created and currently sustains. These branches of mathematics, constructively developed by man made in the image of God, enable man to systematize the order and coherence (the unity in diversity ... the proximate one and the many) of creation mediated to us by the Creator and upholder of all things—the *logos* and wisdom of God revealed in the person of the Lord Jesus Christ.

This systematization not only gives man a *tool* whereby he can take *effective dominion* over the creation under God in Christ, but also gives man the experience and enjoyment of a *rich intellectual beauty that borders the sublime in its infinitely complex, yet structured mosaic.*