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All Things Are Numbers

Andrew Vazsonyi, Feature Editor



Andrew Vazsonyi

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Pythagoras asserted that the essence of all things are numbers, and thereby gave rise to the Western scientific and mathematical tradition. But he was also a number mystic who believed in magic. In the estimation of one critic, "he was only 10% science, 90% sheer fudge." As science developed, many mystical beliefs were replaced by logical knowledge. By the 19th century, the prevailing scientific theology was dominated by faith in causality, determinism.

The theology of the Eastern world, as expressed by I Ching, is based on numbers, too, but on random numbers—the type of numbers the ancient Western world could not conceive of. Counts through 49 yarrow stalks lead to random, six digit binary numbers, pictured as hexagrams. Interpreted as magic of chance events, this philosophy may have prevented the recognition of causality and thus hindered the discovery of science in the East.

In the 20th century, quantum mechanics changed all this in the West. The new laws of physics control the world, at least in the small, by the laws of probability.



Pythagoras: The West

While the foundation of quantum mechanics remains mysterious, the prediction established the validity of the theory beyond doubt.

In decision sciences the change came through awareness of the theory of games and the subjective expected utility theory. The center of interest moved from the deterministic to the statistical.

This, however, does not mean that the mystic elements have been eliminated from science. But it does mean that mysticism has retreated to questions, for which science is not capable of giving answers. ■

I Ching: The East



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