

■ ANDREW VAZSONYI, Feature Editor, McLaren School of Business, University of San Francisco

# Change in World Paradigm

Andrew Vazsonyi, Feature Editor

The most decisive conceptual event of the twentieth century has been the realization that the world is not deterministic but uncertain, governed by the laws of Goddess Fortuna, the ruler of chance. The response of physics was quantum theory; social sciences replied with the theory of games and the subjective expected utility hypothesis.

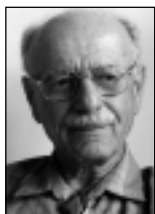
In 1812, Pierre-Simon, Marquis de Laplace, expressed this nineteenth century hubris on predictability in his *Analytic Theory of Probabilities*:

Suppose an intellect which any given moment knew all the forces that animate Nature and the mutual positions of the

beings that comprise it. If this intellect were vast enough to submit its data to analysis, could condense into a single formula the movement of the greatest bodies of the universe as well as that of the lightest atom: for such an intellect nothing could be uncertain, and the future like the past would be present before its eyes.

The cosmos operated like a giant clock. God wound the clock and Newton discovered the laws governing the motion of the heavenly bodies.

Chaos theory nailed the lid on the coffin of determinism by showing that if even the Superior Intellect found the magic formula, the belief that he/she could predict the future is a non sequitor. ■



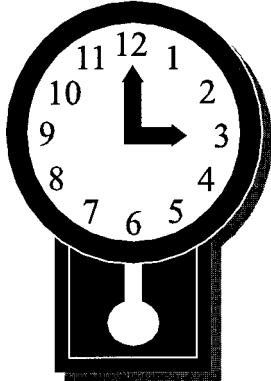
**Andrew Vazsonyi** is an internationally recognized author, researcher and educator. He is the author of over 70 technical articles, and seven textbooks, in English, German, Spanish, French, Russian, Japanese and Hungarian. Dr. Vazsonyi received

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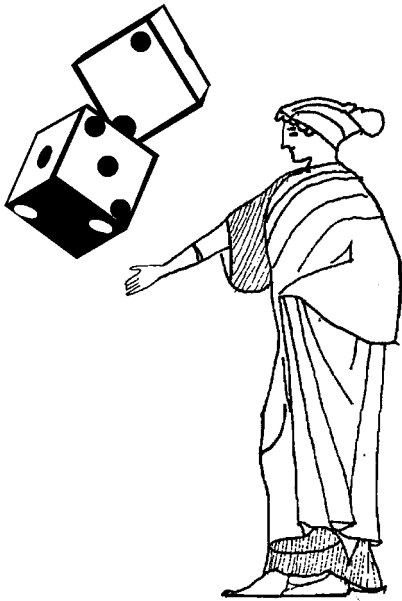
**Flourish in Chaos**

**Determinism  
19th Century**



**La Place  
Newton**

**Chaos  
20th Century**



**Quantum Mechanics  
Theory of Games**