



Indy's **alternative** voice

## Review: ISO and the quantum world

by Tom Aldridge – April 28, 2014

The science part - **4.5 stars**

The music part - **1.5 stars**



*ISO guest conductor Edwin Outwater*

String theory. Entanglement. Ultra-violet catastrophe. Planck's constant. Fundamental randomness. These are concepts I was exposed to as an undergraduate in engineering school -- their names now being the only things I recall. They are all elements of [quantum mechanics](#), the study of the behavior of atomic and subatomic particles and how they contrast with the properties of larger objects -- like those we can see. A very small audience (less than 100) attended the ISO sponsored event, held at Butler's Schrott Center for the Arts.

Together with narrators [Raymond Laflamme](#) and [Dr. Stacy O'Reilly](#), ISO guest conductor [Edwin Outwater](#) attempted to show a correlation between the 20th-century evolution of quantum mechanics and the accompanying "experimentation" in music, both starting at that century's beginning. To open the comparison, Outwater played the first movement of Mozart's 29th Symphony as a musical counterpart to the physics of Sir Isaac Newton (1642-1727), which remained unchallenged till the end of the 19th century: orderly, predictable, harmonious.

Following which came the discussion of quantum theory, accompanied by the music of Anton Webern (1883-1945), Charles Ives (1874-1954), Henry Brant (1913-2008), John Cage (1912-1992), and Iannis Xenakis (1922-2001). While it is safe to say that, excepting the Mozart and Webern's post-Romantic *Langsamer Satz*, none of the remaining pieces--including a movement from Webern's Symphony, Op. 21-- would ever likely be performed in a regular concert series, the concomitant science narration was fascinating.

Where the disconnect occurs between the music and the science is that knowledge of the quantum world of the last century will have a tremendous impact on the "visible" world's evolving technology, most especially in its micro-electronics applications such as the computer and its newer, smaller progeny. The music offered, however, explores several of many "haphazard" (to quote ISO program annotator Marianne Williams Tobias) styles, none of which remained in vogue at the 21st century's start, but all of which have a selective following, mainly among musicians and music school grads. More general symphony goers find them too "perplexing" and "cacophonous."

Webern was the most extreme exponent of 12-tone or serial music: Every single note was calculated. Cage was at the opposite end; randomness was his long suit, with no two performances being the same. Xenakis formulated his music based on mathematical and architectural models. Ives, a pioneer in dissonance, was ahead of his time, but has his followers. Brant remains hardly more than a footnote in music history.

Outwater closed with a blending of Mozart's 29th with some of the modernist styles we had subsequently heard. The presentation was well done. The music was well played. But its 20th-century offerings will not be missed.

*April 25-26; Henry L. Schrott Center*