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# Quantum Gravity and Taoist Cosmology: Exploring the Ancient Origins of Phenomenological String Theory

Steven M. Rosen

## ABSTRACT

This paper carries forward the author's contribution to *PBMP*'s previous special issue on Integral Biomathics (Rosen 2015). In the earlier paper, the crisis in contemporary theoretical physics was described and it was demonstrated that the problem can be addressed effectively only by shifting the foundations of physics from objectivist Cartesian philosophy to phenomenological philosophy. To that end, a phenomenological string theory was proposed based on qualitative topology and hypercomplex numbers. The current presentation takes this further by delving into the ancient Chinese origin of phenomenological string theory. First, we discover a deep connection between the Klein bottle, which is crucial to the theory, and the *Ho-t'u*, an old Chinese number archetype central to Taoist cosmology. The two structures are seen to mirror each other in expressing the curious psychophysical (phenomenological) action pattern at the heart of microphysics. But tackling the question of quantum gravity requires that a whole family of topological dimensions be brought into play. What we find engaging with these structures is a closely related family of Taoist forebears that, in concert with their successors, provide a blueprint for cosmic evolution. Whereas conventional string theory accounts for the generation of nature's fundamental forces via a notion of symmetry breaking that is essentially static and thus unable to explain cosmogony successfully, phenomenological/Taoist string theory is guided by the dialectical interplay between symmetry and asymmetry inherent in the principle of *synsymmetry*. This dynamic concept of cosmic change is elaborated on in the three concluding sections of the paper. Here, a detailed analysis of cosmogony is offered, first in terms of the theory of dimensional development and its Taoist (yin-yang) counterpart, then in terms of the evolution of the elemental force particles through cycles of expansion and contraction in a spiraling universe. The paper closes by considering the role of the analyst per se in the further evolution of the cosmos.

**KEYWORDS:** quantum gravity; Taoism; yin and yang; topology; phenomenological philosophy; physics; cosmogony; string theory; symmetry; dimension

## 1. CONTEMPORARY PHYSICS, ARCHETYPAL NUMBERS, AND THE HO-T'U

In recent decades, there has been little meaningful progress in mainstream physics toward a theory that would effectively unify all the forces of nature—the quantum

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