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**Science, Paradox, and the Moebius Principle: The Evolution of a "Transcultural" Approach to Wholeness.** Steven M. Rosen. Albany: State University of New York Press, 1994, 317 pages, \$59.50 hardcover, \$21.95 paper.

*Reviewed by Michael Washburn, Indiana University South Bend*

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Steven Rosen has written a fascinating book which brings together and updates essays he has published over the past twenty years. Rosen is a professor of psychology who is well versed in philosophy, mathematics, and physics, and his essays treat topics that draw together ideas from all of these fields. Some of the chapters of *Science, Paradox, and the Moebius Principle* discuss issues in mathematics and physics in ways that may present a challenge for people in the behavioral sciences or humanities. This is especially true of the chapter "A Neo-Intuitive Proposal for Kaluza-Klein Unification," which, originally published in *Foundations of Physics*, is a technically sophisticated essay on cosmogony conceived as a process of dimensional generation. Even this paper, however, is accessible in its basic ideas to the general reader. And it is well worth serious study, for it formulates Rosen's theoretical program in an uncompromisingly rigorous and elegant way. It is a *tour de force* and the centerpiece of the collection.

If some chapters of *Science, Paradox, and the Moebius Principle* present ideas from mathematics and physics in ways that may challenge people in the behavioral sciences and humanities, others pursue philosophical issues that typically are bracketed or ignored by people in the "hard" sciences. Rosen's perspective is *transcultural* in the sense of crossing over, and bridging, C.P. Snow's two cultures: the sciences and the humanities. In this respect, his perspective is similar to that of the physicist-philosopher David Bohm, with whom Rosen carried on an extensive correspondence in the 1980s. The last third of *Science, Paradox, and the Moebius Principle* features a transcription of a portion of this correspondence along with two essays on Bohm's work.

Like Bohm, Rosen focuses on the phenomenon of fragmentation and the possibility of higher wholeness. He seeks to understand why fragmentation afflicts our culture and our individual lives and how we can conceptualize a wholeness that would mend this fragmentation in a truly creative way. Distinctive of Rosen's approach to these questions is the *Moebius principle*, which stresses both *intuition* (concrete symbols guide us to intuitive realization of higher wholeness) and *paradox* (higher wholeness is a unity of opposites). Rosen seeks to forevision a higher-

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dimensional wholeness in which opposites that for us are irreconcilable (e.g., body and mind, symmetry and asymmetry, continuity and discontinuity, locality and nonlocality, finitude and infinitude) would be unified as indivisible counterparts without in any way losing their essential differences. To this end he explores symbols which embody, rather than merely represent, wholeness as a paradoxical unity of opposites. He focuses on the Moebius strip, the Necker cube, and the Klein bottle. The Moebius strip is a unity of opposites because the opposing sides of the strip continuously flow into each other to form single (global) side. The Necker cube is a unity of opposites because the inside of the cube is at the same time the outside, and vice versa. And the Klein bottle (a higher-dimensional counterpart of the Moebius strip) is a unity of opposites because the inside and outside of the bottle flow into each other to form a seamless whole (which cannot be represented in three-dimensional space). Each of these symbols shows us how opposing aspects can be unified without losing their oppositeness. Moreover, these symbols, Rosen proposes, are *vehicles* to the higher-dimensional perspective they embody; they help us see beyond the limits of our divided consciousness and worldview.

The movement from the divisions of our culture to a higher wholeness is only one phase of the evolutionary process defined by the Moebius principle. For, Rosen proposes, the divisions of our culture had their own genesis, and any higher wholeness that would resolve these divisions would itself be the beginning of a new phase of dimensional generation: the wholeness achieved would incubate its own inner divisions, which in turn would lead to a higher-dimensional resolution of these divisions, and so forth. Rosen's perspective is, then, an open-ended dialectical perspective: evolution (at all levels) is a never-finished process of wholeness followed by differentiation (structural articulation) followed by division (conflictual opposition and fragmentation) followed by higher wholeness, and so forth. New levels of wholeness are achieved without ever attaining a final end state or unsurpassable totality. Each new level of wholeness is a new beginning; each totalizing unification contains the seeds of a higher reunification.

Applying this dialectical perspective to human development in an epoch of mind-body dualism, Rosen stresses that our estrangement from the body is not to be overcome by abandoning or suspending the mind in an effort to return to the body. Anti-mental approaches to transcendence simply put the evolutionary process into reverse. Rather than abandoning or suspending the mind, Rosen suggests that we need to turn the mind "inside out" in Moebius fashion, realizing that the inner mind and the outer body, although opposites, are also one, like the two sides of a Moebius strip. To get to the other side of a Moebius strip, we do not need to abandon or cease traveling on the side we are on; for the side we are on, if followed far enough, leads to the other side. Analogously, to get from inner mind back to outer body, we do not need, regressively, to abandon or suspend the mind; for, Rosen suggests, if we follow the mind to its deepest interior core, we will "come out on the other side." We will become integrated with the body by moving *through* the mind rather than *away* from it. Moreover, in finding our way back to the body in this manner, we will at the same time find our way to a higher-dimensional perspective from which we will be able to see that the mind and the body, although irreducibly different, are also seamlessly one.

In his correspondence with David Bohm, Rosen elaborates on the role of the mind in achieving higher integration by recommending a poetic, archetypal thinking as the vehicle of transcendence. Unlike Cartesian thinking, which remains separate from that about which it thinks, and unlike most traditional meditative

practices, which seek to suspend thinking in order to achieve openness to a higher dimension of experience, this poetic, archetypal thinking is a symbolic thinking which participates in the creative process of higher-dimensional exploration and realization. Here we see the influence of C.G. Jung. Like Jung, Rosen believes that the creative imagination is a vehicle of self-transformation. New dimensions of self-understanding and self-actualization unfold from within as we follow the lead of the symbolic process. Higher mind-body unity is to be achieved not by abandoning the mind or by meditatively suspending the mind but rather by allowing the deep creative core of the mind to configure new symbols from which, Rosen suggests, higher-dimensional intuitions of unity will emerge.

A review cannot do justice to the scope of Rosen's thought. *Science, Paradox, and the Moebius Principle* is a wide-ranging collection of essays. Chapters are devoted to the theory of dimensional generation, to binary concepts such as symmetry/asymmetry, continuity/discontinuity, locality/nonlocality, and finitude/infinity, to the mind-body problem, to paradigm problems in contemporary physics, and to psi phenomena. And the last third of the book presents essays on David Bohm and Rosen's correspondence with Bohm. Using the Moebius principle as guiding motif, Rosen discusses a diverse array of subjects in a coherently integrated way. He explores how higher spatial dimensions might be generated from lower-dimensional predecessors, how classical dualities in mathematics and physics can be reconceived from a higher-dimensional perspective, how the mind-body problem points to a paradoxical mind-body unity, and how anomalies in contemporary physics and evidence of psi phenomena point to a holistic-dialectical (i.e., Moebius) perspective embracing both matter and mind.

*Science, Paradox, and the Moebius Principle* is not for the intellectually conservative or timid. Rosen's thought reaches beyond the edges of inquiry as we presently practice it. His perspective is both transcultural and interdisciplinary. It is transcultural in attempting to bridge science and the humanities, and it is interdisciplinary in drawing on psychology, philosophy, mathematics, and physics in new and creative ways. Some insiders in these disciplines might be unreceptive to Rosen's reconceptualization of "their" ideas. We are fortunate, though, that there are people like Rosen exploring intellectual frontiers in a responsible way.

Rosen is a creative thinker who has pursued his own intuitions with fruitful results. *Science, Paradox, and the Moebius Principle* is an excellent book which deserves to be widely read. It is a book which will disturb "dogmatic slumber" and awaken thought to new directions of inquiry. Whether the Moebius principle is true or false is not, I think, the right question to ask. The Moebius principle is a guiding motif. It is a tool for the transformation of intuition. We must wait to see if, and how, it will bear fruit.