The Journal of Mind and Behavior
Winter 2007, Volume 28, Number 1
Pages 77–80
ISSN 0271–0137

# Theory-Neutral "Explanations": A Final Note on Kuttner and Rosenblum's Approach to Science

Larry Vandervert

*American Nonlinear Systems*

To understand differences in perspective between Kuttner and Rosenblum's (2006) and my view (Vandervert, 2006) of the plausibility of theory-neutral quantum experiments, meta-theoretical differences between *experimental physicists* and *theoretical physicists* are examined. According to F.S.C. Northrop the perspective of experimental physicists (like Kuttner and Rosenblum) is more toward the operational specification of "facts," while the perspective of theoretical physicists (like Albert Einstein) is more toward how theory influences how we see "facts" and, at the epistemological level, what constitutes "facts." It is pointed out that the same difference in perspective occurs among scientists in psychology. An example of how the purely experimental perspective could lead to Kuttner/Rosenblum-type impossible experiments in psychology is presented.

Key Terms: quantum theory, quantum measurement, philosophy of science

Kuttner and Rosenblum (2006) continue to believe that they can explain consciousness by way of quantum activity that resides *outside* of a theoretical framework. In my final plea on this issue I will offer the simplest possible examples of the actual place of *theoretical* physics in the theoretical–epistemological scheme of things. I hope this will get Kuttner and Rosenblum to see what is perhaps an unconscious error in their thinking. To do this I go back to one of the great discussions of all time of the theoretical and epistemological nature of physical reality, namely, that in the beautiful volume, *Albert Einstein: Philosopher–Scientist*, edited by Paul Schilpp (1949). In Schilpp's volume the natures of relativistic and quantum realities are deeply examined from many sides. For the purposes of this final little reply paper I will draw elucidations from Filmer S.C. Northrop's "Einstein's Conception of Science."

Requests for reprints should be sent to Larry R. Vandervert, Ph.D., American Nonlinear Systems, 1529 W. Courtland Avenue, Spokane, Washington, 99205. Email: LVandervert@aol.com

I offer a quote from Northrop that I think describes the root source of the difference in perspective between me and Kuttner and Rosenblum. In discussing Albert Einstein's conception of science, Northrop pointed out that Einstein's ability to develop sound theory and epistemology in physics stemmed in part from the fact that he was a *theoretical* physicist rather than an *experimental* physicist. The following differentiation between these two orientations helps explain, I think, many of the differences I have with Kuttner and Rosenblum:

> The experimental physicist's business is to perform denotatively given operations. This tends to cause him to have his attention upon, and consequently to emphasize, the purely empirical, positivistically immediate side of scientific theory. It tends also to cause him to want to reduce all other meanings in science to such purely empirical, positivistically immediate operational meanings. The theoretical physicist, on the other hand, tends to approach science from the standpoint of its basic theoretical problems, as these problems are defined either by the points of difference between major theories in different parts of the science or by points of difference between the deductions from a single systematic scientific theory and propositions incompatible with these deductions, which are nonetheless called for by the experimental evidence. Thus the experimental physicist who writes on the methodology, epistemology and theory of physics tends naturally to reduce imaginatively constructed, systematically and deductively formulated scientific meanings to positively immediate, purely denotatively given meanings [which tends to hide theoretical assumptions that are inherent in them]. The theoretical physicist, on the other hand, tends to see that *the problems of physics are only theoretically formulatable, since facts cannot contradict each other; only the theoretically prescribed conceptualizations of the facts can contradict one another* [italics added; in other words, physics can only obtain epistemological meaning through theory that organizes facts]. (Northrop, 1949, pp. 389–390)

The logic and perspective by which Kuttner and Rosenblum arrived at their major original argument was as follows:

> We will present the empirical facts of the two-slit experiment in a theory-neutral manner. By "theory-neutral" we mean that our description avoids any reference to quantum *theory*. The point of the theory-neutral treatment is to emphasize that the objective evidence for consciousness can arise *directly* from empirically demonstrable facts. The usual treatment, introducing theoretical constructs such as the wave function, can mask this evidence. (2006, p. 47)

This statement is an elaboration of Northrop's *experimental* physicist's tendency toward the reduction of reality to produce what may *seem* to be a theory-neutral position. But if the position were actually theory-neutral it could only mean *uninformed as to possible outcomes because no hypotheses can be derived from a theory-neutral position.* (I use the term "reality" because Kuttner and Rosenblum purported to provide objective evidence for consciousness, and it is through consciousness that we are in contact with reality.)

The problem with the experimental physicist's approach when addressing the deeper problems of epistemology is simply that in the act of reducing all

meanings to immediate operational meanings one must automatically, as Northrop says, invoke the full theoretical frames of reference that connect the concepts (the basis of all meaning) of quantum theory to the empirical referents which, in themselves, can have no meaning. Darwin (see Darwin and Seward, 1903/2007) made Northrop's point in an 1861 letter during a similar scientifically turbulent time:

> About thirty years ago there was much talk that geologists ought only to observe and not theorise; and I well remember some one saying that at this rate a man might as well go into a gravel-pit and count the pebbles and describe the colours. How odd it is that anyone should not see that all observation must be for or against some view if it is to be of any service! (p. 195)

By "view," of course, Darwin meant theory. It seems that Kuttner and Rosenblum's objective evidence would only be a matter of counting pebbles and describing colors.

Psychology has an experimental/theoretical division of perspective that is analogous to that described by Northrop. The strict behaviorist represents the extreme end of Northrop's experimental perspective. On the other hand, working memory theorists who are conceptually connected with and hope to explain *phenomenal experience* as discussed by Baddeley and Andrade (2000), provide examples of Northrop's theoretical perspective. It may seem laughable, but it is meant in all seriousness; Kuttner and Rosenblum's impossible two-slit experiment seems to be in the position of theory-neutral behaviorists proposing impossible rat experiments aimed at providing the only objective evidence for the phenomenal phantom limb experiences of amputees and of those with congenitally missing limbs (Melzack, 1992; Melzack, Israel, Lacroix, and Schultz, 1997).

## References


Baddeley, A., and Andrade, J. (2000). Working memory and the vividness of imagery. *Journal of Experimental Psychology: General, 129*, 126–145.

Darwin, F., and Seward, A.C. (Eds.). (2007). More letters of Charles Darwin. A record of his work in a series of hitherto unpublished letters (Volume 1, p. 195). Http://darwin-online.org.uk [http://darwin-online.org.uk/content/frameset?itemID=F1548.1&viewtype=side&pageseq=240] (originally published 1903)

Kuttner, F., and Rosenblum, B. (2006). The only objective evidence for consciousness. *The Journal of Mind and Behavior, 27*, 43–56.

Melzack, R. (1992, April). Phantom limbs. *Scientific American*, 266(4), 120–126.

Melzack, R., Israel, R., Lacroix, R., and Schultz, G. (1997). Phantom limbs in people with congenital limb deficiency or amputation in early adulthood. *Brain, 120*, 1603–1620.

Northrop, F.S.C. (1949). Einstein's conception of science. In P.A. Schilpp (Ed.), *Albert Einstein: Philosopher–scientist* (pp. 387–408). New York: MJF Books.

Schilpp, P.A. (Ed.). (1949). *Albert Einstein: Philosopher–scientist*. New York: MJF Books.

Vandervert, L. (2006). Kuttner and Rosenblum failed to "objectify" consciousness. *The Journal of Mind and Behavior, 27*, 167–176.