



Response to Dylan Thomas Lott

Reply by Moyer:

The foregoing thought-provoking response to my inaugural IJTMB Research Section editorial takes issue with the way I have conceptualized “reductionism,” and with my position on its role and value in massage therapy (MT) research. I thank the author, Dylan Lott, for opening this dialogue, and for giving me the opportunity to clarify my position.

Reductionism, notes *The Oxford Companion to Philosophy*, is “one of the most used and abused terms in the philosophical lexicon,” and so it should probably come as no surprise that some disagreement has arisen from my implicit definition. The *Oxford Companion* goes on to distinguish three specific types of reductionism, the most relevant of which, for current purposes, is “methodological reductionism.” Methodological reductionism asserts that,

“in science, ‘small is beautiful.’ Thus the best scientific strategy is always to attempt explanation in terms of ever more minute entities. It has undoubtedly been the mark of some of science’s greatest successes, and not just in physics”⁽¹⁾.

An application of methodological reductionism to massage therapy (MT), then, would have investigators start with an established effect at some “larger” level, and then attempt to determine a cause of that effect at the next “smaller” level. For example, MT reliably makes recipients less anxious, an effect that could be conceived as occurring at the organismic level, and it is possible that this organismic-level effect is largely the result of MT first having an effect on the organism’s nervous system (which is one of the organism’s major systems but not, obviously, the whole organism itself). If *that* turns out to be true, it may then be sensible to go to the next “smaller” level: Which *branch* of the nervous system is most affected by MT?

To my mind, this approach is analogous to selecting the correct power on a microscope equipped with multiple levels of magnification. It is no use always to use the most powerful setting—though I admit doing exactly that when I was a child first learning to use a microscope! Eventually, one learns that the correct approach is to use a lens that can focus at a level not too far removed from the level of primary interest, which allows one’s understanding of the adjacent levels to be refined. This widely-used reductionistic approach, not just in

microscopy, but in science generally, has advanced our knowledge of natural phenomena as much or more than any other available scientific approach.

I originally asserted that reductionism is often misunderstood, and I daresay that Lott’s statement, defining reductionism as “the metaphysical claim that phenomena at one ‘level’ can be completely understood by the explanation of phenomena at a ‘lower level,’” “illustrates one form this misunderstanding can take. Although I find the word “metaphysical” to be unnecessary, the truly problematic word in that statement is “completely.” Its inclusion equates any form of reductionism with what Dennett has termed “greedy reductionism”—the notion that all reductionists

want to abandon the principles, theories, vocabulary, laws of the higher-level sciences, in favor of the lower level terms. A reductionist dream, on such a preposterous reading, might be to write “A Comparison of Keats and Shelley from the Molecular Point of View” or “The Role of Oxygen Atoms in Supply-Side Economics,” or “Explaining the Decisions of the Rehnquist Court in Terms of Entropy Fluctuations”⁽²⁾.

Clearly, the reason that those absurd titles do not exist is because lower-level phenomena cannot completely explain higher-level phenomena. If they could, then the very idea that different levels exist would have no meaning; if ever one level can be perfectly derived from another, then conceptually there are not two levels at all—there is only one, and so no need for reductionism whatsoever. Indeed, the very need for reductionism *arises* from the fact that phenomena at one level cannot completely explain phenomena at the next level. The reductionistic approach, and the theories that result from it, form the scaffolding that permit meaningful movement from one level of phenomena to the next.

It is true that there are some difficulties and weaknesses associated with reductionism, which is a point I did try to make clear in my original editorial. It is also true that there are antireductionist scientific approaches in the areas of complexity and emergence, and in Gestalt psychology, that have the potential to be applied to MT research. But my original point, and the point I wish to emphasize here, is that it would be a mistake to convince oneself, as some do, that MT

belongs to a category somehow distinct from all the other complicated natural phenomena that have been fruitfully researched with reductionistic approaches.

After all, MT cannot possibly be more complicated and inscrutable than love, can it? And yet, even love has been thought about, and examined, by reductionistic means that have advanced our understanding of what love is and how it occurs. Is it fully captured by, say, Sternberg's influential triangular theory of love⁽³⁾? Well of course not. It would awfully greedy to ask that of reductionism.

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3. Sternberg RJ, Barnes ML, eds. *The Psychology of Love*. New Haven, CT: Yale University Press; 1998.

CONFLICT OF INTEREST NOTIFICATION

The author declares that there are no conflicts of interest.

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