

LET ALL OF US PRAISE OUR COMPONENT PARTS

by *Robert B. Glassman*

The author of a book has done a noble deed while the author of a review—even of a long review—is something of a parasite. Therefore, I accept that Joseph F. Rychlak missed the point that I was not attempting to criticize his book from an extreme reductionist position, but that I was adding to his points, trying to subsume what he said within a larger framework.¹ Reading his interesting book opened my eyes to new ways of thinking. Hoping that we are not talking past each other, I will now compound my presumption.

All experience is subjective, but we have a gift whereby much of it coalesces into stabilities enabling us to share objective knowledge. Therefore, Rychlak's way of bracketing "extraspection" is too limiting. Maturity and responsibility involve struggling against egocentricity. Success in that struggle underlies not only good science but also good teaching, good conversation, good citizenship, and so on. It seems to me there is something egocentric about an introspectionist stance, but for the most part Rychlak's stance is not egocentric. Rather, the very act of describing well, particularly with reference to many sources, places Rychlak outside of himself and outside the phenomena he is explaining.

Even when we take someone else's point of view, this is a heuristic device for unifying data; we are not really in the other person. We look within ourselves to obtain a suggestion about the other with whom we assume we share some deep similarities. But this is introspection with a nonegocentric, extraspective motive; to do it well, a variety of additional, circumstantial data must be taken into account. In the end we must be objective about it.

Language helps us to be objective. Words correlate a present idea with variously stable distillations of past experience. Memories underlie words now used with a confidence ranging from casual forthrightness to the trepidations of going out on a new metaphorical limb. However, there are many similarities and differences among things and therefore many options in describing-exercises; the aspects of reality one focuses on depend on his choice of purposes.

One of my purposes is to act upon a fascination with the fact that some of the most marvelous stuff in the universe is in our heads. Other purposes are someday to be better able to remediate cases of brain damage and to help figure out how to design more intelligent computers. Like Rychlak, I am a monist and have faith that all approaches converge on a single reality.

By saying that words are reminders of older experiences, I do not mean understanding consists only of a parade of associations. Donald T. Campbell

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has grappled with the problem of how experiences converge, using the "triangulation" metaphor.² Correspondingly, William C. Wimsatt speaks of the "robustness" of concepts that have many sources of support.³ The related problem of visual pattern recognition remains refractory to analysis by neurophysiologists and artificial intelligence theorists.⁴ This is so even now that it is clear that visual pattern recognition is no mere intellectual issue; there might be large financial payoffs in industrial robotics!⁵ (God help us with the moral problems in the face of all the money at stake. Natural selection will do its work in any case but we must choose some good options to offer up to natural selection.)⁶

Believing that my neurons underlie my ideas does not make me feel passive. In addition to the above purposes, I hope understanding how neurons work together will help me to new realizations about how I predicate. I will then be able to act more responsibly. However, this thorough an understanding is still far off; therefore, at present neuroscientists have more use for Rychlak's ideas than he has of theirs.

In response to Rychlak's new reminder of multiplicity in dialectics, here is an expansion of my idea that dialectical thinking involves an inhibitory neural image: From any percept or concept may be abstracted a variety of features. The neural counterpart of such decomposition must in some way involve connections from a subsystem to other subsystems, which pare away details. The neural representations of these abstracted aspects can then be recombined in other ways, elsewhere in the brain.⁷ Perhaps each such abstracting and recombining is reiterated, with various distortions, analogous to variations on a musical theme. The distortions would be expressions of our individualities, as Rychlak demands. Differences and similarities in the ways we handle information are due to genetic variations comparable to those yielding the individualities of our faces and due to individual differences in past experience. Pursuing this tentative model, each neural iteration of an abstract property representation may be associated with a distorted inhibitory reflection, with which it competes. The eventual resolution of these dialectical fragments must be based partly on events that are random with respect to our larger purposes, because parts of the nervous system and aspects of behavior have a degree of loosely coupled spontaneity.⁸ But some resolutions must result largely from interactions of these fragments with aims of the whole person. The general possibility of rigorously theorizing about such "downward causation" from wholes to parts is amply demonstrated in concrete form by phenomena of embryology, in which emerging patterns having purposes or functions show evidence under higher magnification of being efficiently caused in all their chemical and mechanical details.⁹

The foregoing hypothesis about the neural counterparts of dialectical thinking is still incomplete. For instance, it does not provide explicitly for the long delays, on the order of days or months, during which a matter may be put out of conscious mind before a decision is made. This happens, for example, in revising a paper or important letter. Often it takes such an incubation period to renew the process of seeing alternatives. Introspectively, I have a sense that these delays allow a better feedback testing against my preexisting criteria of how things ought to look, but I need to know more of the psychology of how those criteria arise and evolve before I can speculate well about their neural substrates.

Phenomena at a molecular level are handled well in efficiently causal terms; at the somewhat more macroscopic level of neurons some interesting cyberne-

tic phenomena of regulation occur. At the most macroscopic levels of individual people and their societies the language of purpose often works best. In my opinion it would be a nihilistic agnosticism or a lazy mysticism—and a shirking of responsibility—to argue there is no way to fill the knowledge gap between the levels of person and neuron. Equally, it will not do to sweep purposive explanation all the way down to the tiniest components of ourselves, seeing will in atoms and molecules. (Our parts participate in such “wholely” characteristics as will and purpose only when the parts are aggregated as living organisms.) It is also too easy a nonanswer to suppose that extracorporeal spirits do the real work of generating personhood. Someday this may turn out to be true and we will then have to find new measuring techniques, but we have not yet sufficiently explored more promising alternatives. I propose to figure out in what ways combinations of microscopic “pushes and pulls” have sufficient interactive complexity to be the components of our purposes. The language of purpose is not a condescension and it is not merely provisional; it is the most efficient way to describe the larger systems within which groups of neurons function. Indeed, purposes are the neurons’ evolutionary *raison d’être*.

Finally, both Rychlak’s emphases, as well as those he speaks against, are psychologies. Psychology, a field with a “what’s-happening-now” orientation, has too little to say about what are good purposes. Although Rychlak’s knowledge of what-happened-then is impressive, he uses history primarily for its supports of his methodological points and not for the substance of the advice in the wisdom of the ancients. A single human life is too short for an individual to derive adequate wisdom from his own experiences. However, science and psychology arose because during the past several centuries we needed to resort more to direct experience and reasoning to keep up with accelerating history. We have now swung somewhat too far toward trusting experiences. My emotional reactions tell me something, but usually not enough about what I ought to do. Similarly, in science there are too many examples of rigorously trivial empiricism.

History must contain some overlooked hints. While Rychlak does point to Eastern religious traditions, as I argued in the review these teachings pose some puzzles that must be solved before westerners can constructively put them into practice. Our search of history should include study of Western moral traditions and studies of biological evolution, in an attempt to understand the most ancient of imperfect wisdoms, naturally selected and coded in our genes and cultural traditions.¹⁰

NOTES

1. Joseph F. Rychlak, *Discovering Free Will and Personal Responsibility* (New York: Oxford University Press, 1979). Robert B. Glassman, “Free Will has a Neural Substrate: Critique of Joseph F. Rychlak’s *Discovering Free Will and Personal Responsibility*,” *Zygon* 18 (March 1983): 67-82. Joseph F. Rychlak, “Free Will as Transcending the Unidirectional Neural Substrate,” in this issue.

2. Donald T. Campbell, “Natural Selection as an Epistemological Model,” in *A Handbook of Method in Cultural Anthropology*, ed. R. Naroll and R. Cohen (Garden City, N.Y.: Natural History Press, 1970), pp. 51-85.

3. William C. Wimsatt, “Robustness, Reliability, and Overdetermination in Science,” in *Scientific Inquiry and the Social Sciences*, ed. M. Brewer and B. Collins (San Francisco: Jossey-Bass, 1981), pp. 124-63.

4. David H. Hubel, “Evolution of Ideas on the Primary Visual Cortex, 1955-1978: A Biased Historical Account,” *Bioscience Reports* 2 (1982): 435-69. Robert L. Solso, *Cognitive Psychology* (New York: Harcourt Brace Jovanovich, 1979).

5. C. A. Rosen, "Machine Vision and Robotics: Industrial Requirements," in *Computer Vision and Sensor-Based Robots*, ed. G. G. Dodd and L. Rossol (New York: Plenum, 1979), pp. 3-22. Also see *1982 Robotics Industry Directory*, ed. Philip C. Flora (La Canada, Calif.: Technical Data Base, 1982).
6. Ralph Wendell Burhoe, *Toward a Scientific Theology* (Ottawa: Christian Journals, 1981).
7. Robert B. Glassman and William C. Wimsatt, "Evolutionary Advantages and Limitations of Early Plasticity," in *The Behavioral Biology of Early Brain Damage*, ed. C. R. Almli and S. Finger (New York: Academic Press, in preparation). Also R. B. Glassman, "Parsimonious Representation of Information in Layered Neural Systems," *Neuroscience Abstracts* 9 (1983): in preparation; John Szentagothai and Michael A. Arbib, "Conceptual Models of Neural Organization," *Neurosciences Research Program Bulletin* 12 (1974): 305-510.
8. Robert B. Glassman, "A Neural Systems Theory of Schizophrenia and Tardive Dyskinesia," *Behavioral Science* 21 (1976): 274-88.
9. See Donald R. Campbell, "Downward Causation in Hierarchically Organized Biological Systems," in *Studies in the Philosophy of Biology*, ed. F. J. Ayala and T. Dobzhansky (Berkeley: University of California Press, 1974).
10. Burhoe.

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