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*How Literature Plays with the Brain: The Neuroscience of
Reading and Art* by Paul B. Armstrong (review)

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Paul B. Armstrong. *How Literature Plays with the Brain: The Neuroscience of Reading and Art.* Baltimore, MD: Johns Hopkins UP, 2013. 221 pp.

Paul Armstrong explains that the initial inspiration for his new book came from his feeling that “neuroscientific accounts of the structure and functions of the brain...matched up with...the experience of reading and the interpretation of literary texts” (ix). As this suggests, Armstrong engages in one common form of theoretical literary study – the establishment of correlations between some source domain (the “theory,” here neuroscience) and the target domain of literature. The point of such correlational work is often to give value to the literary target, drawn from the theoretical source. In keeping with this, Armstrong selects certain critical approaches, primarily Phenomenological, and argues that neuroscience supports those approaches. More exactly, Armstrong organizes neuroscientific findings into a large binary opposition – harmony versus dissonance – which he takes to show the paradoxical or contradictory operation of the brain. This opposition guides his correlational project as he maps the putative neuroscientific opposition onto various binary oppositions from literary study.

In the course of its five chapters, the book treats aesthetic experience, processes of reading, parallel processing and the hermeneutic circle, temporality, and finally “mirroring” in connection with empathy and literary identification. Each chapter includes valuable and informative summaries of neuroscience research and Phenomenological theory. Armstrong’s criticisms of alternatives and his larger syntheses are, however, less successful. As to the former, for example, Armstrong dismisses other cognitive literary critics (with a few exceptions) on the grounds that they treat neither neuroscience nor Phenomenology. Armstrong seems simply not to have read very much cognitive literary and cultural theory. What little he has read, he seems to have misunderstood. One of many instances concerns Mark Turner’s blending theory. Armstrong’s dismissive view that the theory applies only to dead metaphors (88) is simply mistaken. Indeed, the key point of the theory is that it extends far beyond metaphors of any sort.

More significantly, Armstrong’s attempts at dealing with theoretical issues are often problematic. For instance, he tries to engage in the philosophical debate about eliminativism, the view that all mental phenomena are explained by brain phenomena without any emergent properties at the mental level. First, Armstrong misconstrues this as a debate about whether reference to mind is or is not legitimate – ignoring the practice of virtually all neuroscientists, who routinely interpret neural phenomena in terms of mental processes (e.g., interpreting hippocampal function by reference to the mental phenomenon of memory). He then goes on to claim incomprehensibly that reliance on cognitive science “may be an obstacle to collaborations with neuroscience.” He concludes that he will bypass the entire debate by talking about brain and such phenomena as “aesthetic experience” (19). But, of course, to speak of “aesthetic experience” is to adopt a mentalistic idiom,

thus not to bypass the issue at all. The difficulty is not only that Armstrong fails to understand the philosophical debate. This misunderstanding rationalizes setting aside the extensive non-neuroscientific, but highly relevant research in cognitive and affective psychology.

A still broader problem concerns the value of correlational study. As a general principle, correlations are valuable only if they lead to some reconfiguration of the source or the target. For example, it is valuable to see a character's behavior in friendship, love, and work as all instances of attachment insecurity, because we may not have related these different forms of behavior to one another without attachment theory. However, it is probably not terribly valuable to link Proust's madeleine with memory retrieval cues since that does little more than rephrase what we already knew in a different terminology. It is not always clear that Armstrong's correlations have a reconfigurative function.

There might still be some value in simply linking two phenomena in some sort of causal relation. In connection with this, even more serious problems arise with Armstrong's systematization of neuroscience, particularly his insistence on the binarism of dissonance and harmony, which often misrepresents the phenomena he is trying to discuss. For example, he indicates that previous accounts of aesthetic experience are inadequate because they acknowledge harmony, but not dissonance as a source of aesthetic pleasure. However, the examples he cites seem to refer almost entirely to the difference between routine patterns and novelty. Indeed, there are places where Armstrong himself suggests this (23). Crucially, the novelty is aesthetically pleasing when it is recognizable as a new pattern. Indeed, even the "harmony" must involve some novelty (See my "Literary Aesthetics: Beauty, the Brain, and *Mrs. Dalloway*" in *Literature, Neurology, and Neuroscience*. Anne Stiles, Stanley Finger, and François Boller, eds. Boston, MA: Elsevier, 2013. 319-337). Thus we are not faced with a binary opposition between dissonance and harmony. Rather, there is a scale of differences in the degree to which readers' experiences of aesthetic pleasure require novelty in patterning.

The same sort of problem vitiates Armstrong's treatment of the causal operation of the brain. Armstrong rightly stresses the parallelism of neural processes. But there is nothing "circular" (82) or paradoxical about this. For example, he criticizes Steven Pinker for holding to the view that there is "billiard-ball causality" in the brain (82). Leaving aside the linguistic issue (which Armstrong does not seem to understand), we might simply consider his example—the ambiguity of the spoken words, "You two/too can go to the movies" (82). On hearing these words, we encode the lexical items, the pitch contour, the stress pattern, any accompanying gestures, etc. These are processed separately. Indeed, the lexical items themselves are processed in both left and right hemispheres. Moreover, these processing sites interact. Suppose I utter the sentence meaning "two." I may point two fingers at the addressees. Any listener will encode and process the gesture. The gesture will activate neuron populations that signal the number two. The sound

“two/too” will also activate those populations, in addition to the “too” populations. The activations from the gesture and the (ambiguous) lexical item will add up to give greater activation to the number population. Listeners will also encode my falling pitch contour (higher on “you” than on “two”) and my stress on “you” rather than “two.” This will also affect the activation of number, since “too” would activate different expectations. Thus there is parallelism – and cycling, not circularity – but nothing paradoxical, just ordinary causal processes.

In sum, Armstrong has read a great deal of neuroscientific research and a great deal of Phenomenology. When summarizing that work, he is clear and informative. His deployment of that work is, however, often problematic.

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Philip Lorenz. *The Tears of Sovereignty: Perspectives of Power in Renaissance Drama.* New York: Fordham UP, 2013. 379 pp.

Philip Lorenz begins and ends his first book, *Tears of Sovereignty*, with an image: James I burning Francisco Suárez’s *A Defense of the Catholic Faith against the Errors of the Anglican Sect*. This image stands as a metaphor for what he sees as the tension between competing views of sovereignty, and Lorenz uses Suárez’s text to set his work apart from previous studies. *Tears of Sovereignty*, for better or worse, is not a historicist work. Lorenz states explicitly that this study is “not a historicist one. Instead, it focuses on a different sense, in which the specific representational capacities of theater as a medium participate in the historical formation of the concept of sovereignty” (19). Instead of viewing the theater’s relationship to sovereignty through a historicist lens, new or otherwise, he understands the history of sovereignty through the lens of theatre. Some readers may view this push against historicism as a welcome beginning to an insightful study of the theatre’s effect on sovereignty, while others might view this as a means to an arguably anachronistic interpretation of texts whose links to one another feel forced and tenuous at best.

Lorenz accomplishes his non-historicist study by exploring the movement by which sovereignty is first being represented by the body of the king to subsequently being understood as an abstract space. This he does by examining Suárez’s treatise alongside Shakespeare’s *Richard II*, *Measure for Measure*, and *The Winter’s Tale*, Lope de Vega’s *Fuenteovejuna*, and Calderón de la Barca’s *Life is a Dream*. By placing these texts in conversation with one another, Lorenz suggests that we can see the development of ideas about sovereignty as shaped and determined largely by the tropes of the theatre. Sovereignty must be understood through its tropes, for “without these terms, there is no sovereignty. Sovereignty is troped or not at all” (25). Lorenz devotes the rest of the book to demonstrating how the theater’s depiction of