

## Editorial Commentary

# Integrating Semiotics and Visual Rhetoric Studies with the Broader Terrain of the Cognitive, Physical, and Social Sciences

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The practice of separating the humanistic and social scientific disciplines into specific territories, each one with its own epistemology, methodologies, and objectives, has produced significant findings and led to many insights into the nature of the human mind and its connection to the phenomenon of culture. However, there has always been much overlap among the disciplines and, more importantly, gaps left in the intersection among them that need to be filled via interconnections if any true progress into understanding human nature can be made.

As incoming editor of the IJSVR, and as someone who has practiced interdisciplinarity his whole academic career, I am hopeful that the journal can continue to expand as a forum in which semiotics and visual rhetoric (VR)—already highly interdisciplinary—will be seen as part of the larger landscape of the cognitive and social sciences. I will also highly encourage interactions with the physical sciences, and especially mathematics so that the common ground of knowledge-making can be better understood (Danesi 2016).

VR is an offshoot of both visual semiotics and the psychology of visual thinking. The basic method of VR, as is well known, can be traced back to Roland Barthes' pivotal 1964 article "The Rhetoric of the Image," where he showed how to unravel the connotative meanings of visual images with semiotic notions. The key insight of VR is that connotation is anchored in rhetorical structure, involving processes such as metaphor, analogy, metonymy, chiasmus, and allusion. VR is showing that visual objects are rhetorical objects and that, therefore, they can be studied from interdisciplinary angles—semiotics, linguistics, cultural analysis, psychology, and so on. The journal has already opened its doors to researchers in these fields. My goal is to encourage this interdisciplinary collaboration even more so, bringing in marketing analysts, graphic designers, among many others, who can shed their own particular light on how visual images work on shaping cognition. As Phillip Yenawine (1997, p. 845) observes, the goal of VR is "the ability to find meaning in imagery:"

*It involves a set of skills ranging from simple identification (naming what one sees) to complex interpretation on contextual, metaphoric and philosophical levels. Many aspects of cognition are called upon, such as personal association, questioning, speculating, analyzing, fact-finding, and categorizing. Objective understanding is*

*the premise of much of this literacy, but subjective and affective aspects of knowing are equally important.*

Roland Barthes' article "Rhetoric of the Image" (1964), as mentioned, was the starting point for VR. Soon after, Rudolf Arnheim's book *Visual Thinking* (1969) and Jonathan Berger's book *Ways of Seeing* (1972) came forward to catapult VR into the broader domain of both cognitive and cultural studies. I will not only continue to promote the participation of these fields in a common quest for unraveling the nature of mind, but also cognitive linguists, computer scientists, mathematicians, and many more who are committed within their own domains to a similar pursuit.

For example, cognitive linguistics has introduced the idea of *image schema* into the mix at around the same time period that semiotics and the psychological study of visual thinking were spreading broadly across various disciplinary domains (Lakoff and Johnson, 1980, 1999; Lakoff, 1987; Johnson, 1987). The image schema is defined as an unconscious mental outline of a recurrent shape, action, dimension, orientation, object, and so on that guides how we conceptualize abstractions. Collaboration with scholars in this field is going to be a top priority for me. But so too is the connection to mathematics. A few years ago I founded a research network at the Fields Institute for research in Mathematical Sciences that brought together mathematicians, neuroscientists, semioticians, linguistics, and others in the common goal of understanding the nature of mathematics.

Mathematics is often characterized as a "language," complete with its own symbols and rules of grammar. This characterization, in my view, is not purely analogical. The two (language and mathematics) are very much alike. They may have different intellectual and practical functions, but they share many properties and appear to also enlist the same structures in the brain. Linguists have actually used mathematics frequently as a tool for investigating aspects of language. On the other side, mathematicians have rarely looked to linguistics or semiotics for insights into their own discipline; but this situation has changed drastically in the last little while, as they begin to realize that language is of central importance to understanding how mathematics is conceptualized—this is the major finding of Lakoff and Núñez's groundbreaking 2000 book, *Where Mathematics Comes from*. Mathematicians are also becoming more and more intrigued by research that is showing that mathematics and language might form a unitary cognitive system. If so, this has many implications for both disciplines, including the development of a "common ground" of interests for developing an agenda of collaborative future research. And given the claim that mathematics is based on rhetorical thinking, it is also connected to VR and other fields studying the connection between figuration and thought.

The study of VR is, in the end, a "hermeneutic" enterprise. Most fields have one—literature has literary criticism, music has musicology, art has art criticism, and so on. These strive to understand the relevance of the field to human knowledge through an analysis of key texts within each. The same kind of approach can be applied to VR. And indeed, I would claim that the true impact of the IJSVR should be on extending hermeneutics as a general technique in all fields, from the humanities to the sciences.

This will give it greater salience in the modern-day domain of research paradigms that seem to insist on understanding the nature of reality. Lakoff and Núñez showed the way nearly two decades ago, arguing that the same neural processes are involved in producing language and mathematics. This line of inquiry has soared considerably since the publication of their book. One of the offshoots from this new interest has been an increased sense of the common ground that mathematicians, linguists, semioticians, psychologists, etc. share. I think a fundamental goal of the IJSVR should be to lay the groundwork for formulating specific hermeneutical questions about the interrelationship of all the humanities and the sciences—physical and cognitive.

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