DE GRUYTER MOUTON
DOI 10.1515/css-2016-0034 — Chinese Semiotic Studies 12(3): 351-361

Vincent Colapietro*

Human Understanding in Light of John Deely, Charles Darwin, and Charles Peirce

Abstract: This article presents a review of Deely's 2002 book, *What Distinguishes Human Understanding?* It considers Deely's argument regarding the grounds for asserting the "uniqueness of man" as the "semiotic animal". It then compares Deely with the arguments regarding continuity of species in the work of Charles Darwin, Charles Peirce and, more recently, Frans de Waal. The article argues that while Deely's book draws us to key features of the human, the *animal semeioticum* might be distinctive without being in any single respect absolutely unique.

Keywords: *animal semeioticum*; Charles Darwin; Charles Peirce; semiotic animal

***Corresponding author, Vincent Colapietro**: Pennsylvania State University, Pennsylvania, USA, E-mail: vc5@psu.edu

What Distinguishes Human Understanding? (2002) is a slight but far from insignificant book.[1] *The Four Ages of Understanding* (2001) dwarfs it, but then it dwarfs most books! In length, *What Distinguishes Human Understanding?* is comparable to *Basics of Semiotics*, but shorter than *Introducing Semiotic*. In scope, however, it is much more narrowly focused than either of these books. In the Foreword (2002: xiv), the author identifies it as the fulfillment of a promissory note issued two decades earlier in *Introducing Semiotics: Its History and Doctrine* (1982). It is, as it has turned out, only one of the works in which this theorist addresses the issue of anthroposemiosis, but it is an instructive one.

In the tradition in which John Deely was trained, the titular question is broader than the way that we are most likely to understand it. In that tradition, an understanding of our own understanding involves distinguishing what is specific to us from divine and angelic *intellectus*, on the one hand, and the

Article note: Deely, John N.: *What Distinguishes Human Understanding?*, South Bend, IN: St. Augustine's Press, 2002, pp. 176, Hardback, ISBN: 1890318973.

1 As it happens, my copy of this book was a gift from the author to my wife Josephine Carubia and me, inscribed, "For Vincent and Josephine, an improbable souvenir from Bari (2/12/02)".

forms of cognition specific to animals other than humans, on the other. In this hierarchy, humans stand between the higher forms of *intellectus* possessed by purely spiritual beings and the lower ones exhibited by unqualifiedly natural beings. In *What Distinguishes Human Understanding?* Deely is simultaneously trying to extricate himself from parts of this tradition and to bring other parts into the center of the debate signaled in its title. He is convinced of the contemporary relevance of an Iberian philosopher roughly contemporaneous with René Descartes as much (if not more) than that of an American pragmatist who died more than a century ago (2002: x, 8–9). This book is more of homage to Poinsot than Peirce. Even so, it is one of the numerous places in which the author is endeavoring to bring into the sharpest focus that the action of signs is rooted in the proper being of signs (see, e.g., 2002: 101), a point as central to Peirce as Poinsot.

Today the question of what distinguishes human intelligence tends to be narrower in scope than the one to which thinkers in the thirteenth and fourteenth centuries (e.g., Thomas Aquinas, Duns Scotus, and William of Ockham) devoted themselves. It concerns almost exclusively what distinguishes the species-specific form of human understanding from the forms of knowing specific to animals other than humans. The image on the cover of this book makes clear the focus of the question: the author sits at a desk, in front of a keyboard, with a dog sitting next to him. The human and canine both appear to be fixated on a text – or, to put it more cautiously, some object (see, e.g., 2002: 136) – opened next to the keyboard.[2] We see both in profile. In this photograph, taken by Brooke Williams, the author is situated between a shelf of books on Deely's left and the dog on his right, with both looking in the same direction, apparently at the same "object". On the back cover, a smaller photo of Deely and the dog looking at one another appears, with the author holding a pen in his left hand and stroking the face of the dog with the back of his right, as the dog is leaning backward to look up at Deely. On the front cover, then, the human and the dog appear to be looking in the same direction, but presumably perceiving something radically different. On the back cover, the image appears to be one of mutual affection.

The contrast between the two images is more significant than one might imagine. In this monograph, Deely addresses the question of human under-

2 In this book as well as elsewhere, the distinction between *object* and *thing* is, for Deely, critical. In his manner of drawing of such distinctions, he exhibits both the value of such a rigorous training in Aquinas, Poinsot, and a host of other thinkers from this tradition and his own signature style of thought.

standing in abstraction from the affective dimension of human experience, the one so clearly on display in the photo on the back cover. Our understanding of other sentient, affective, and responsive beings, both other human beings and (within rather narrow limits) animals other than humans, is arguably very intimately linked to our understanding things and events. It would be better to put it the other way around: our comprehension of things and events is bound up with our comprehension of other agents with whom our lives are emotionally intertwined.

Charles S. Peirce, at any rate, insists, "every kind of consciousness enters into cognition" (*EP* 1, 260). Lest there be any doubt about what he means by this, he spells it out for us: "Feelings ... form the warp and woof of cognition". They are thus nothing less than "constituents of cognition". Moreover, the "will, in the form of attention, constantly enters, and the sense of reality or objectivity ... is even more essential yet, if possible". While the cognitive, affective, and conative facets of consciousness and experience can be distinguished from one another, they are inseparable. And this bears directly upon the thorny question of human understanding, far more so than Deely appears to realize either in this monograph or elsewhere. If one cannot tell a book by its cover, one ought to offer a premature critique based on the photographs gracing its two covers! Indeed, I have been jumping ahead of the story.

So, let us briefly return to the central question and then the author's far from unexpected answer. The issue concerns "the relation of human intelligence to the intelligence exhibited by other biological forms, especially, of course, animal forms high on the scale of life, as judged by similarity to ourselves" (Deely, 2002: 3). "Discussion of the issue has", the author contends, "normally been muddled by the fact that few of the participants actually cared a whit about the communication systems of animals other than human" (3–4). The main reason is that the concern of the participants in this debate "was most often to assert 'the uniqueness of man', often with a view to further conclusions about personal immortality" (4), whereas Deely is devoted in this monograph to the task of identifying wherein "the uniqueness of man" resides. While the former question is older than Aristotle, it "was rendered more acute after the work of Darwin which made the adoption of an evolutionary model for nature and mind all but unavoidable" (ibid.). While most influential classical thinkers have argued for a difference in kind between human intelligence and the intelligence possessed by other animals, a dramatic shift began to occur in the second half of the nineteenth century: from 1859 (the year in which *On the Origin of Species* appeared) onward, more and more thinkers judged this difference to be merely one of degree. On the one hand, the author of *What Distinguishes Human Understanding?* wants to do justice to the empirical facts regarding animal life, above

all, their remarkable sensory capacities and communicative competencies. On the other, he is strongly disposed to defend what is in essence the classical portrait of the human animal: there is, he is convinced, a difference in kind between human understanding and the forms manifest in the lives of, say, dolphins, apes, dogs, horses, and cats.

As exemplified here, the way forward is, in part at least, backwards. By going back to John Poinsot's *Tractatus de Signis* (1632), we can take up a crucial question forcefully pressed upon us by the Darwinian revolution and address this question in a uniquely effective manner. "With the emergence of semiotics", in particular, a theory of signs drawing upon the spirit and details of Poinsot's singular contribution to this theoretical undertaking, "it becomes possible to put this discussion on a whole new footing, to formulate the matter in terms of unprecedented clarity, and to resolve the issue without any reference to religious concerns or belief in some supposed 'afterlife'" (40).

Allow me to cut to the capture, not merely to the chase. How is this issue to be resolved? While this is a relatively short book, its main argument is intricate and its principal claims are not infrequently formulated with daunting exactitude (e.g., "anthroposemiosis consists specifically in an intersemiosis of perception and understanding whereby the intrinsic indifference of the action of signs to the signification of what is or is not at any given moment is, through its explicit realization, brought to its highest exercise" [124]). Even so, Deely presents with admirable clarity the principal argument in its main outline and, moreover, the most crucial details in this intricate argument. It is imperative, first, to distinguish between sensation and perception, then, to show that, in the case of humans, semiosis goes beyond perception – most dramatically, in the ability of humans not only to use signs but also to know that there are signs (i.e., to be able to frame a conception of signs). The difference "between zoösemiosis and anthroposemiosis" resides in this: "The apprehension of animals in employing signs in purely zoösemiotic terms is exhausted in the experience, manipulation, and control of the sensory aspects of their objective world" (Deely, 2002: 80–81).

Such apprehension entails objectification, but such objectification allegedly falls short of what human intelligence is able to accomplish in its mode of apprehension. "What never enters into the objectification proper to sense perception [at the level of animal life] is", Deely insists, "an awareness that objects experienced depend in their objective structure on a series of relations transparent to sensation but which give to perception at once its connections with the environment and its arrangement of those connections to suit the organism's individual taste and species-specific needs" (81).

The nub of the matter is the apprehension of relations *as relations*, an apprehension underlying our capacity to conceive signs *as signs*. Here, as in other

writings, Deely appeals to Jacques Maritain's appropriation of John Poinsot's insights:

> Then, since signs as such – as distinct from their vehicles, interpretants, and significates – consist in relations, the consequence is that, as Maritain puts it, such animals as have available only zoösemiotic means of structuring the perceived may use signs within perception without knowing that there are signs. (Deely, 2002: 82)

As a result, such animals "are absorbed in the objective world without any possibility of developing an understanding of its independent structures beyond and underlying the biological requirements of interaction therewith" (ibid.). In other words, they are inescapably imprisoned in their *Umwelt*. In contrast, humans inhabit not only an *Umwelt* but also *die Welt* (*die Welt*, not simply *eine Welt*). The *Umwelt* of the human animal is unquestionably the arena in which human needs, desires, and impulses (or drives, i.e., *Triebe*) are fulfilled, frustrated, and transformed. But the limits of this perceptual world are not those of the human world itself. For the human world is, to some degree, not merely a human world: if Poinsot, Maritain, and Deely are right, it is nothing less than the world.

The upshot of this inquiry is embodied in the deceptively simple title of the surprisingly brief concluding chapter of *What Distinguishes Human Understanding?* ("The Semiotic Animal", all of two pages). All human knowledge develops through the action of signs and, in turn, this action (the name for it being the one coined by Peirce – *semiosis*) is thematized (made explicit and indeed central) by semiotics. What, indeed, distinguishes *human* understanding, beyond this, what is the specific *differentia* of the human animal? For Deely, the question can be answered decisively: "we can see in terms of genus and difference the definition of human nature that semiotics calls for" (Deely, 2002: 125). "The human animal, as the only animal that, besides making and making use of signs, knows that there are signs, is", he announces, "properly called *animal semeioticum*, the *semiotic animal*" (ibid.).

Hence, *What Distinguishes Human Understanding?* fulfills a promise made in *Introducing Semiotic* (lest there be any doubt about where this promise was made, Deely in the Foreword of the later book directs us to page 117 of the earlier one). But it also prepares the way for later and fuller treatments of this question. This monograph actually picks up threads from several of his earliest publications, most notably, "The philosophical dimension of *On the Origin of Species*", Parts I and II (1969), as well as "Animal intelligence and concept-formation" (1971). In some of John Deely's most recent writings, he is still engaged in weaving these and other threads into an intricate tapestry.

What at least the evolution of the semiotic animal reveals is not so much the adaptability of this animal to its *Umwelt* but exaptation. Following a suggestion made by Stephen J. Gould and Elisabeth S. Vrba (1982), as Deely explains the meaning of this term, *exaptation* signifies "the application of evolutional adaptations to new ends beyond that one or ones in terms of which they originally emerged" (2002: 75, n.8). More than a century before, R. W. Emerson had claimed: "Nothing in nature is exhausted in its first use" (1849: "Nature", Ch. 5, p.39).

Excluding the Appendix ("Definition of Umwelt" - one of the best expositions of the concept of *Umwelt* to be found anywhere in Deely's writings and, hence, to be found anywhere without qualification), the last word of this monograph (2002: 125) turns out to be the first one in the list of publications under the author's own name (148). In 1965, the date of the earliest of his publications listed in *What Distinguishes Human Understanding?*, we discover that in *Listening* Deely published an article titled "Evolution: Concept and content". Several years later in *The Thomist*, he published (as we have already noted) two quite long pieces on "The philosophical dimensions of *On the Origin of Species*". Taken together, Parts I and II in effect make up a monograph comparable in length to *What Distinguishes Human Understanding?* It hardly seems an exaggeration, then, to suggest that for over fifty years Deely has been preoccupied with evolution.

There is however something a bit curious about John Deely's philosophical stance toward biological evolution, at least if one takes seriously how deeply allied he is to the American pragmatist Charles S. Peirce. Following Darwin, Peirce in certain fundamental respects breaks with the classical tradition of Western philosophy. Deely does not. He imagines that the implications of Darwin's views regarding the evolution of species, especially for understanding our own distinctive mode of understanding, are hardly as profound or radical as the pragmatists in general and Dewey in particular suppose (or, for that matter, as Darwin himself believed). Indeed, in one of his notebooks, Darwin famously wrote:

> To study Metaphysics, as they [sic.] have always been studied, appears to me like puzzling at astronomy without mechanics. – Experience shows the problem of mind cannot be solved by attacking the citadel itself. – the mind is [a] function of [the] body. – we must bring some *stabile* foundation to argue from". (Darwin, *Notebook N*, p. 5)

Darwin took evolution to be just that foundation. So, too, did Dewey and in a more qualified way also Peirce.

As important as it is to go back to John Poinsot's *Tractatus de Signis* (and John Deely's remarkable authorship proves this point beyond a doubt), it is imperative to go forward from Charles Darwin's *On the Origin of Species* (1859) and *The Descent of Man* (1871). What William James told his students in a course on metaphysics – we must take evolution *aux grand serieux* – most of those who came of age at this time felt deeply to be true. This included Charles Peirce, who insisted against Herbert Spencer and at least by implication also against other mechanistic determinists, "philosophy requires thorough-going evolutionism or none" (*EP* 1, 289). While he remained until his death only a half-hearted Darwinian, he was from his youth forward a thoroughgoing evolutionist.[3]

Peirce was convinced that the only thing that distinguishes the human animal from other animals is the degree of self-control that humans are able to exercise. In a remarkable passage, he notes, "of course there are inhibitions and coördinations that entirely escape consciousness" (*CP* 5.533). In context, the implication is clear: despite being unconscious, such inhibitions and coördinations are instances of self-control. Here he is more concerned to identify the higher levels of autonomous conduct. This is nowhere clearer than in this remarkable passage, one worthy of being quoted at length:

> There are, in the next place, modes of self-control which seem quite instinctive. Next, there is a kind of self-control which results from training. Next, a man can become his own training-master and thus control his self-control. When this point is reached much or all of the training may be conducted in imagination. When a man trains himself, thus controlling control, he must have some moral rule [or norm] in view, however special and irrational it may be. But next he may undertake to improve this rule; that is, to exercise a control over his control over control. To do this he must have in view something higher than an irrational rule. He must have some sort of moral principle. This, in turn, may be controlled by reference to an esthetic ideal of what is fine [or admirable or in its original sense, adorable, i.e., worthy of adoration or reverence]. There are certainly more grades than I have enumerated. Perhaps their number is indefinite. The brutes are certainly capable of more than one grade of control; but it seems to me that our superiority to them is more due to our greater number of modes of self-control than it is to our versatility. (*CP* 5.533)

The distinct but integrated levels of self-control are central to Peirce's pragmaticist portrait of human agency.

What Peirce immediately goes on to claim is no less pertinent to our topic than the passage just quoted. The text from which I am quoting is one cast in

3 Even so, Peirce in "Chance and design" indicates, "Darwin's view is nearer to mine [than that of Epicurus]. Indeed, my opinion is only Darwinism analyzed, generalized, and brought into the realm of Ontology" (*EP* 1, 222).

the form of a dialogue between *Doctor X* and a *Pragmaticist* (i.e., a pragmatist of a distinctively Peircean orientation). In response to that passage, Doctor X asks, Is not our superiority "due to our faculty of language?" (*CP* 5.534). We might take *language* here in either a narrow or broad sense. In its narrow meaning, the word signifies only linguistic signs in the strict sense; in a broader one, however, it designates the full range of distinctively human signs. The context does not provide altogether clear clues for how to understand the scope of this word, as Peirce intends it here, though it does suggest that the broader one is at play. In any event, Peirce (or the figure named *Pragmaticist*) responds initially by asserting, the faculty of language "is itself a phenomenon of self-control" (ibid.). Thinking is, Peirce proposes, "a kind of conduct, and is controllable".

Notice both how close and how distant Peirce's position is from the one championed by John Deely in *What Distinguishes Human Understanding?*. "Now the intellectual control of thinking takes place", he suggests, "by thinking about thought". But there is no thinking apart from signs. This is as true of animals other than humans as it is of the human animal. For Peirce, there is no doubt that

> the brutes use signs. But they perhaps rarely think of them as signs. To do so is manifestly a second step in the use of language. Brutes [then] use language, and seem to exercise some little control over it. But they certainly do not carry this control to anything like the grade that we do. They do not criticize their thought logically. (*CP* 5.533)

So, do notice just how cautious Peirce is here: it is perhaps the case that some animals other than humans think of the signs they use as signs, but they do so rarely. What John Deely declares to be a constitutional impossibility for such animals, Charles Peirce tentatively and qualifiedly grants. This does not mean that Deely is wrong and Peirce right, only that they disagree. Even so, my suspicion is that our understanding of our own understanding would be deepened if we took seriously the possibility entertained by Peirce in this text.

This is, however, simply another way of saying, if we took seriously the philosophical implications of the Darwinian revolution [...]. As a careful student of the dusty folios of the medieval schoolmen, Peirce was convinced that such thinkers as Scotus had not been rendered obsolete by such later developments as the Darwinian theory of biological evolution. But, in this role, he knew that *species* is not univocally a logical concept (Deely, 1969A). Peirce was also convinced that the philosophical implications of the Darwinian revolution were almost certainly profound. "No animals reason so much as men", Peirce claims, "or about such intricate subjects; but to say that an intelligent dog, or horse, or parrot, or magpie, or canary bird does not reason at all, or only in such a way as

humans have taught him, can have no definite meaning" (*EP* 2, 470). One of course might try to explain the facts by appealing to, say, the "estimative sense" (or *vis aestimativa*) possessed by humans and many other animals (Deely, 1971: 60ff.), while reserving rationality or the capacity to apprehend signs as signs exclusively for humans. Or one might try to explain the facts by appealing to the operation of signs, paying close attention to the species-specific uses of sign by this or that form of animal life. It is however crucial to disambiguate what we mean by species-specificity. This expression might mean what is *uniquely* specific to a given species or simply what is specific to that species, without necessarily being unique. For example, it is specific to humans to require an extended period of nurturance. We are not unique in this respect, but this period tends to be longer than that required for members of other species.

It may be the case in general that there is no single trait that is absolutely unique to our species, including the capacity to apprehend signs as signs (Peirce implies as much in the passage quoted earlier). What might distinguish us is a complex array of species-specific characteristics or capacities, each one of these being in some form and degree discoverable in animals other than humans. It is accordingly, not this or that uniquely possessed trait or capacity, but this constellation of traits, in just this manner of integration and conflict, which provides the basis for claims regarding our distinctiveness. There is, in my judgment at least, no question that anthroposemiosis is a key to understanding our humanity, if not *the* key. There is nonetheless a range of questions concerning the numerous and fundamental *affinities* between our use of signs and the reliance of other species on them. There is a certain grandeur in the vision that our form of life is continuous with other forms (cf. Darwin, 1859: 459–60). There is also a far from remote possibility that this form is not in any single respect absolutely distinct from various other forms. In addressing the question with which *What Distinguishes Human Understanding?* is preoccupied, biological continuity rather than specific uniqueness might be made into our focal concern. This is brought home by the mere title of a book just published, *Are We Smart Enough to Know How Smart Animals Are?* (de Waal, 2016; cf. Mooallem, 2016). Unlike the title *What Distinguishes Human Understanding?*, the more recent one radically challenges the dominant presumption of Western thought regarding human uniqueness.

For John Deely, "the human animal *is* the semiotic animal" (2002: 125; emphasis added). He is confident that "the human animal is the only animal that knows that there are signs as well as makes use of them" (ibid.). "In such knowledge", Deely asserts in the penultimate sentence of *What Distinguishes Human Understanding?*, "the human being realizes the source of its difference from the other life forms, the *humanitas* of the human animal, as well as the universality

of the process on which all the life forms depend" (ibid.). This "process is", he adds in the very last sentence of this richly suggestive book, "perhaps the ultimate source of that general process in physical nature from simple to complex forms that we have heretofore called 'evolution'". With evolution, albeit with the word in scare quotes, then, *What Distinguishes Human Understanding?* concludes – without the volume containing any reference to either Darwin's *On the Origin of Species* or his *Descent of Man*.

But, arguably, *evolution* in the sense in which Peirce, James, Dewey, and the other pragmatists wrestled with this idea needs to be the first word.[4] The *animal semeioticum* might be distinctive without being in any single respect absolutely unique. Paradoxically, our deep affinities with other animals might throw more light on our humanity than any essential difference so far identified or alleged, including the ability to apprehend signs as such.

The depth and expanse of our knowledge might be intimately tied to the depth and range of beings with whom we have already and might yet forge affective bonds. Human understanding might be as much a moral achievement as a cognitive one; and as a moral achievement, it would encompass emotional attachments to not only abstract ideals but also other embodied agents. The image on the back cover of this monograph – the one in which that of the author and a dog are caught in a touching moment of mutual affection – suggests as much. As the author of *What Distinguishes Human Understanding?* suggests, the "objective world is constituted unto itself, in principle, by the single rationale of intersubjectivity" (2002: 85). The human face of this intersubjective world might be more than a merely human one and our co-inhabitants of the Earth might be, to some extent, mirrors in which our strangeness rather than uniqueness is brought vividly home to us.

References

DARWIN, Charles.

1859 [1965]. *On the Origin of Species* (New York: Modern Library). This is the edition used by John Deely in 1969A & B as well as 1971.

4 Peirce and James were still youths (Peirce just twenty, James not even that) when Darwin's *Origin* shattered the narrow confines of the intellectual world they had inherited. They were not only post-Darwinian, but self-consciously so. Indeed, American pragmatism might be identified as the first self-consciously post-Darwinian philosophical movement. If it is true that we are still catching up to the insights so finely articulated by Poinsot in *Tractus de Signis*, all the more is true of those in Darwin's *On the Origin of Species*.

DEELY, John N.
1965. "Evolution: Concept and content. Part I", *Listening* (0) 27–50.
1969. "The philosophical dimensions of *On the Origin of Species*", Part One. *The Thomist,* 33, 1, 75–149. "The philosophical dimensions of *On the Origin of Species*", Part Two. *The Thomist*, 33 (2): 251–342.
1971. "Animal intelligence and concept-formation", *The Thomist*, 35 (1) 43–93.
DE WAAL, Frans.
2016. *Are We Smart Enough to Know How Smart Animals Are?* (New York: W. W. Norton & Co.).
DEWEY, John.
1909 [1977]."The influence of Darwinism on philosophy", *Popular Science Monthly* (July). Reprinted in Jo Ann Boydston (Ed.), *The Middle Works of John De*wey, vol. 4, pp. 3–14, (Carbondale, IL: Southern Illinois University Press).
EMERSON, Ralph Waldo.
1849 *Nature; Addresses and Lectures* (Boston and Cambridge: James Munroe).
GOULD, Stephen Jay and Elisabeth S. VRBA.
1982"Exaptation – A missing term in the science of form", *Paleobiology*, 8 (1): 4–15.
JAMES, William.
1988. *Lecture Manuscripts*, edited by Ignas K. Scrupskelis. (Cambridge, MA: Harvard University Press).
MOOALLEM, Jon.
2016. "Wildly intelligent" [Review of Frans de Waal's *Are We Smart Enough to Know How Smart Animals Are?* and Jennifer Ackerman's *The Genius of Birds*]. *New York Times Book Review* (May 1), 16.
PEIRCE, Charles S.
1931–1958. *The Collected Papers of Charles Sanders Peirce*. Cambridge, MA: Belknap Press of Harvard University Press. Cited as *CP* (e.g., *CP* 1.55, refers to volume 1, paragraph 55 of *Collected Papers*).
1992. *The Essential Peirce*, volume 1, edited by Nathan Houser and Christian Kloesel. Bloomington, IN: Indiana University Press. Cited as *EP* 1.
1998. *The Essential Peirce*, volume 2, edited by Peirce Edition Project. Bloomington, IN: Indiana University Press. Cited as *EP 2*.

Bionote

Vincent Colapietro

Vincent Colapietro (b. 1950) is a Professor in the Department of Philosophy at Pennsylvania State University. His principal area of historical research is classical American pragmatism (Peirce, James, and Dewey), with the main focus of his current research being the intersections between pragmatism and psychoanalysis. He is the author of *Peirce's Approach to the Self*, *A Glossary of Semiotics*, and *Fateful Shapes of Human Freedom* as well as scores of articles.