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Back on the Right Track

Abstract: This article reviews the 'second' (although first prepared) volume of Deely's Poinsot trilogy. It argues that postmodern thinking is, according to Deely, back on the right track; whichever guiding light has been used in the past, it is semiotics that gives light to both cenoscopy and ideoscopy. Science in the modern sense must be able to not only measure and record natural events, but also see the action of signs in all these processes: that is, that there is no understanding of the interrelation of the web of life without cenoscopy and the doctrine of signs

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The full title of this work is Descartes and Poinsot: The Crossroad of Signs and Ideas, Volume 2 in the "Postmodernity in Philosophy" Poinsot Trilogy: Contrasting the Way of Signs to the Way of Ideas, Semiotics to Epistemology, which volume, I contend, should be required reading for all scientists. A slim book, despite the ample references and the exhaustive index, it fills a place where science texts never go: covering how we know what science does and how it gets there.

When John Deely took on the project of re-positioning John Poinsot (John of St. Thomas, 1580–1644) as a pivotal figure in the advancement of semiotic thought, he immediately seized on René Descartes, a close contemporary, only seven years younger than Poinsot, as his first target, and started examining this crossroad, this mutual fecundation. At the beginning of the "Scientific Age", also known as modernity, the natural wisdom of previous (philosophical)

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reflection clashes with the new instrumental method of seeing nature.

In that same year, 2007, Deely had just published *Intentionality and Semiotics: A Story of Mutual Fecundation*. While helping him proofread the latter, I shared in his excitement at the new project and had intense conversations with him about the long-term goal of also dealing with Poinsot and Peirce. At the same time, *Descartes and Poinsot* was to be the second in the series of "crossroads", but John had not yet even begun his treatment of Augustine. The latter was published first (May 2009), however, and then the Descartes study. My purpose here is to review the Descartes book on signs and ideas, because this particular crossroad affects how we view science, both in its methodology and in its elucidation.

Cenoscopy is the basis for thought about reality. It leads to an understanding, through the work of Augustine, of the importance of 'sign' as mind-independent non-physical reality. This reflection on the nature of nature and of our perception through and about it, begins with the Greeks and culminates in Poinsot, who, Deely reminds us, was reluctant to delete any aspect of the previous (Latin) thinkers' reasoning, but saw most clearly aspects of the action of signs in cognition and *sciencia*, what is known. No scientist can afford to ignore that fact that the very scientific method itself is based on the interpretation of data through cenoscopy, to wit, logic and other sign interpretations on the level of index, symbol, and even the 'aha' moments of scientific breakthrough, such as Galileo seeing mountains on the moon and concluding that it could not be made of a different substance than the earth. Semioticians call this abduction, not deduction, since it adds to knowledge and does not derive from premises.

Ideoscopy is the acquisition of knowledge through instrumentation. It led to the great scientific breakthroughs of the 17th century onwards. One of its first proponents was Galileo, building on Copernicus, using the new instrument of inverted magnification that came to be called the telescope. After the "debacle" (Deely, 2009: 12) of Galileo's trial at the Vatican, where the Roman Catholic Church joined many Protestant formations in condemning any denial of biblical inerrancy, the break between faith and reason pushed many to eschew writing, at least in public, on the issue of heliocentricity. This hesitancy affected both Descartes and Poinsot, the one refraining from publishing while the latter destroyed all evidence of his thought on the matter of the solar system. The further result, however was the break between "scientific" reasoning and any faith perspective at all, an attitude still prevalent in certain circles.

The key matter is not the difference between cenoscopy and ideoscopy. That problem is dealt with quite adequately, is the main thesis of the book, and its foundation is the semiotic concept of information, compared to Cartesian

epistemology. No, the process of getting 'data' and interpreting and reflecting on it – that is what interests me the most. As opposed to brute force (aka physics in the modern and postmodern sense), that which causes rocks to fall toward the center of gravity, for example, most outside forces affecting any organism are "interpreted" according to the value inherent in the organism. The discussion by Deely of object and thing, the former being experienced as logically prior to things (96), as a relation, but never reducible to things nor to subjectivity, i.e. suprasubjective and triadic (47–48), continues throughout the book. The interpretive activity depends upon the juxtaposition of thing and object, such that the reality that affects the organism's very existence as an entity (*Umwelt*) depends upon interpretation (*Innenwelt*, which Deely says falls under psychology (31), but I contend is other, more basic, before cognition), and this for all life.[1] Deely uses an extended metaphor to illustrate this process.

At this level of interpretation, living matter evaluates sign information, also known as "a difference that makes a difference" according to positive, negative, or neutral value. The plus, minus, and zero equations given are what describe the actions of life itself; and yet, to have a better picture, we need to add something to it.

> Plus (+) indicates that the sign value received has a positive aspect that draws a response. This may be as small as a photon that is captured by the plant to produce food, or it may involve finding a mate, or having a good meal, or it may be as large as a concept, such as liberty.
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> Minus (-) indicates that the sign value received/perceived is negative. The response can be flight, fight or other defense. A good example is any death dealing entity, an enemy, something that can destroy that individual (phenotype). Plants cannot flee, however, so defenses are necessary, and plants have developed many tools, including vitamins, which help them in minimizing the attack. In any event, it is not an emotion, but a re-action to any danger.
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> For Deely, zero (0) indicates indifference, lack of interest. In these cases the sign value does not affect the organism, and can be safely ignored. In the evolutionary scheme of things, certain signals are simply not meaningful in certain contexts, such as sounds for a limpet attached to a rock on the shoreline. The crashing sound of waves is a constant, part of its environment, but, while the water is vital, that signal is not, it bears no meaning,

1 Sentience and the use of signs by animals is evident. What is less obvious is the fact that non-sentient life, even at the level of bacteria, makes use of signs and shares in the semiotic web. Thus Deely's metaphor extends to all forms of living things and does not need "thought" as such, but rather the scaffolding of RNA and DNA to record and "remember", without cognition, the conditions that preserve and advance the organism, as we shall see.

and thus is ignored. The force of the water makes the limpet cling, the sound has no bearing on the issue.

What is also important to science and to us, to Deely and myself, (and we discussed it in length in 2009 and again in 2015), is another relationship, this time *between* organisms, a combination of plus and minus (±) that indicates "tradeoff" or "cooperation", which is simply not dealt with in the book, but forms a reality of object and thing together. This relationship is fundamental for all plants and animals, for any creature that has a nucleus in its cell (eukaryotes), because already that nucleus is a tradeoff in terms of function, design, and activity.

The organisms that constitute lichens (algae and fungus) form a synergistic "species" that cannot exist without the cooperative give-and-take of shared responses.[2] Whereas the algae produce food via the chlorophyll cycle, the fungal units cannot fix carbon but rather produce dissolved minerals from the stratum that are necessary to the algal processes. The cooperative organism thus grows and reproduces (each species reproduces independently; the joining may take place simultaneously) , slowly, under adverse conditions, where other life forms would perish. By giving up independent living, the two synergistically survive, in what is called symbiosis. Another case of clear co-operation is in the marine hydroids' dependency on zooxanthellae for the formation of coral calcium carbonate structures. Without the activity of the dinoflagellates (the name refers to the two "tails" that propel the motile form of the creature, and which are not present in the sessile form), these animal/plant species present in the individual coral polyps, fixation does not take place and the coral cannot "build its home" (Muller-Parker et al., 2015). On the other hand, the mobile algae are not dependent on the host, but thrive, however, in the colonies of these polyps and thus find a niche environment, while being rare in free-swimming formation. Thus co-operation sustains and furthers survival of both, but both take a loss to get the gain.

The most common land-based symbiosis is that between fungi and plants, the mycorrhizal cycle whereby hyphae (hair-like structures) of the fungus collect minerals, which are transferred to the plant in exchange for carbon, not readily available to the fungus. This relationship is as ancient as land-based plants, it is thought, coming about more than 450 million years ago (University of Aberdeen, 2010; Thomas et al., 2015).

2 Lichen are of different kinds, some 20,000 of them, but are called species only by lichenologists. Their component species are often very difficult to identify. http://www.ucmp.berkeley.edu/fungi/lichens/lichensy.html accessed May 2016.

But enough about examples. If we examine the interchange of information and the interdependency of life, we must conclude that "+, -, and 0 are not adequate to describe the entire semiotic discourse and that "±" is the needed balance to make the equation of life complete. Unfortunately, life, like DNA, is more complicated than we ever thought, and something negative can become ± or even +, given certain circumstances, seemingly in stochastic manner. In other words, the relationship, the interplay between objects is in flux. What may begin as aversion may become attraction and even cooperation through the action of signs, which, Deely explains (2009: 60), takes place on primary, secondary, and tertiary levels. The web of life, then, is more than brute force (primary); or simple reactions of attraction repulsion and indifference, but includes "*partage*", sharing and cooperation (secondary); on the tertiary levels we have sentient activity, including active memory and complex behavioral processes. These two latter levels are what Deely calls semiosis. The semiotic animal carries the triadic activity of semiosis into the knowledge of and reflection upon the three other levels. Science in the modern sense must be able to not only measure and record natural events, but also see the action of signs in all these processes. In other words, scientific investigation, using ideoscopy, also understands that there is no chemistry without physics, no biology without taking into count the two former, and no understanding of the interrelation of the web of life without cenoscopy and the doctrine of signs: semiotics.

Thus we are in an exciting period, indeed. Science, in the modern and post-modern sense, is learning how to use the doctrine of signs from Augustine through Poinsot and Peirce to advance our knowledge of life itself, from the most basic activities, like photosynthesis and genetics, to the all-out effort to combat cancer, that negative entity masking as a co-operative member in life. At the same time, philosophers of the idealist camp are learning the role that cenoscopic science (in the sense of knowledge about the nature of things and objects through the same doctrine of signs). Postmodern thinking is, according to Deely, back on the right track; whichever guiding light has been used in the past, it is semiotics that gives light to both cenoscopy and ideoscopy.

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Bionote

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