Translator's Introduction

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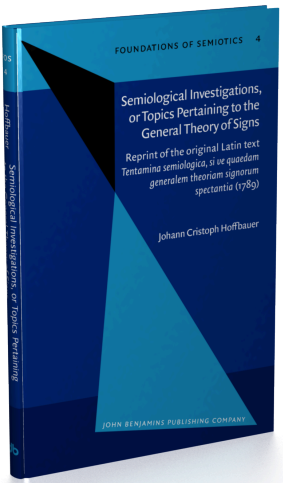

Pages vii–xxii of
Semiological Investigations, or Topics Pertaining to the General Theory of Signs: Reprint of the original Latin text Tentamina semiologica, si ve quaedam generalem theoriam signorum spectantia (1789)
Johann Cristoph Hoffbauer
[**Foundations of Semiotics**, 4] 1991. xxxi, 116 pp.

Translator's Introduction

> All human reasoning uses certain signs or characters. Neither the things themselves nor the ideas of the things can always be distinctly present to the mind, nor is this necessary. For the sake of abridgment, signs are therefore substituted for them. Leibniz

I

Johann Christoph Hoffbauer's 1789 'inaugural dissertation,' *Tentamina Semiologica*, by means of which at the age of 23 he attained the degree of Doctor of Philosophy at the University of Halle, belongs to a very interesting part of the history of semiotics: the late 18th century German tradition. While it did not have any historical influence or impact on later developments of semiotics, or even on the later work of its author, which took a rather different direction (see the biographical sketch), it does nevertheless offer us a window through which we can grasp a certain stage or period in the history of philosophical semiotics that is still not as known as it should be. To be sure, the German preKantian philosophical tradition in which it is situated has been discussed extensively in many now classic works and in English by Beck (1969).[1] Studies of the semiotic content of this tradition, however, are predominantly in German (see Hubig (1979), Arndt (1979a, 1979b), Poser (1979), Franke (1979), Hardenberg (1979), Burkhardt (1980) and the materials cited there. See also the materials in Eschbach and Eschbach-Szabó (1986)).

Within its limited and self-imposed framework Hoffbauer's *opusculum* is not only a clear and systematically developed attempt to sum up and develop further some central themes in the general theory of signs, but it points toward those parts of 20th century semiotics represented by Peirce

and others that closely associate the logical and semiotic domains. This affinity gives a rather sober tone to Hoffbauer's work and certainly does not place it in the framework of the emerging German humanist traditions, though, as we know from the account of his life, he was a thoroughly cultured man with a wide range of interests and friends. But the literary or even aesthetic dimension does not appear in this book,[2] whose primary focus is upon the typology and classification of signs and upon their heuristic fertility in aiding thought and discovery. Hence, while it is not necessary, nor would it be wise, to exaggerate the importance or percipience of Hoffbauer's dissertation, to ignore it would be a lost opportunity to learn something historically important about the lines of a general semiotics constructed in the objectivist and logical modes.

The reference space of Hoffbauer's essay indicates just where he defined himself in the tradition of philosophical reflection upon signs. The central figure is obviously Leibniz, from whom Hoffbauer took a number of his chief distinctions as well as the main orientation of his work — and also, it must be admitted, some rather opaque chunks of text. But a quick glance at his citations in the footnotes shows that Christian Wolff, described as the 'immortal Wolff,' Alexander Baumgarten, Johann Heinrich Lambert, John Locke, and Leonhard Euler furnished conceptual, theoretical, and illustrative materials. In addition, Hoffbauer was aware of certain 17th and 18th century attempts, other than the Leibnizian, to develop a 'a real character and a philosophical language,' such as those by J.J. Becher, George Dalgarno, Georg Kalmar, John Wilkins, and Johannes Heinrich Toennies, works by all of whom are cited in the notes of the dissertation and at times discussed, in greater or lesser detail, in the body of the text itself (see § 21 and Asbach-Schnitker 1984). But Hoffbauer's goal was not historical scholarship. It was rather a systematic setting in order and discussion of some central themes in the theory of terms from a 'semiological' point of view. It offers us a kind of cross section of issues and a detailing of the relative strengths and merits of some contrasting proposals. In this sense, Hoffbauer is resolutely concerned with 'the thing itself' and keeps his eyes directed not primarily toward the historical genesis or development of the issues and themes he is discussing, but toward the subject matter itself.

II

Hoffbauer's project has a twofold focus: 1) a descriptive inventory of signs and 2) a comparison of the expressive and cognitive powers of different sign systems. As to the first, we have a passing in review of the various types of signs: linguistic (§ 20), mathematical (§§ 14, 26, 27, 28), hieroglyphic (iconic) (§§ 22, 29, 30) and so forth, though with the already marked absence of aesthetic signs. There is also a pointed analysis of the status of figured discourse, of the semiotic theme of transferred sense, and of the dialectic between proper and improper signification and predication (§§ 31, 32, 33). As to the second, while not denigrating natural language as such, Hoffbauer nevertheless did not think it could ever be a perfect system of signs (§ 20). His focus is on the power of ideal sign systems, and his orientation, in the dissertation, was not just logical but logicistic.

A quick glance at the range of topics in the dissertation gives an idea not just of the internal dialectic of Hoffbauer's semiotics of terms and of the scope of his project but of its self-imposed limitations. Hoffbauer accepts the classic distinction between arbitrary, or conventional, and natural signs (§§ 1, 2). He recognizes the centrality, though certainly not the exclusivity, of the semiotics of terms (§§ 4, 5). He agrees with the (for him) Leibnizian distinction between intuitive and symbolic knowledge (§ 6). He shows that signs can be decomposed into material and formal components and tries to show that the distinction between primitive and derivative signs is necessary and epistemologically grounded (§ 6). He is fully cognizant of the material embodiment of signs (§ 7) and that certain sense modalities are to be preferred to others (§ 8). He is well aware that language can not make up a system of signs (§§ 13, 20), which is better exemplified by the Arabic number system (§ 14). He quite rightly sees that both the material and the formal elements of signs are amenable to independent analysis (§§ 7, 16, 17, 18). He places his own account of the semiotics of terms within the context of a universal characteristic and he makes some apt and pointed comments on the semiotic scope, importance, and limitations of such a project (§ 21). Although his discussion of hieroglyphic signs is somewhat dated and rather quaint, he is well aware of the nature and importance of figured discourse and alternative semiotic schemata, and, more importantly, he sees the great heuristic value of systems of calculation, expressed algebraically or diagrammatically, for discovery (§§ 22, 26, 28, 29, 30). Indeed, in the last sections of his dissertation, he touches on the now central issues of metaphor

and figured discourse (§§ 31, 32, 33). On all these topics he has something interesting and percipient to say, even though by now the discussion has been pushed beyond Hoffbauer's own analyses and horizons.

III

Hoffbauer considered language fundamentally defective as a model of a sign system, and he was accordingly not tempted to thematize signs and sign processes along linguistic lines, as in the structuralist tradition deriving from Saussure's *Course in General Linguistics*. A system of signs was subject to certain conditions that language, with its ambiguities, vaguenesses, and *ad hoc* historical development, simply could not satisfy. This is a position that has had its representatives in later work in the analytic philosophy of language and also in certain strands of semiotics. But it is clearly present in Leibniz, to whom Hoffbauer and the tradition in which he was educated were deeply indebted both as to content and as to scope. For Leibniz, "the natural languages are of very great value in reasoning, but full of innumerable equivocations and unable to function in a calculus: for if they were able to do this, errors in reasoning could be uncovered from the very form and construction of the words, namely, as solecisms and barbarisms. Hitherto only the arithmetical and algebraic notations have offered this admirable advantage. For in these fields all reasoning consists in the use of characters, and a mental error and an error of calculation are identical" ('On the Universal Science: Characteristic,' in Schrecker 1965, 18).

Hoffbauer's dissertation belongs, with certain reservations, to be sure, within the conceptual space of Leibniz's never completed attempt to work out a universal characteristic (see Burkhardt 1980, 186-205, 275-378). Hoffbauer, too, recognized and discussed the heuristic power of algebraic forms of reasoning and symbolization, and he had a keen sense of the importance of the analysis of mathematical systems for semiotics. Mathematics was not to furnish the paradigm for semiotic analysis, but a reflection upon what kind of work a mathematical system could do would reveal to us in clear and distinct ways what the manipulation of signs does for the building up of knowledge. Thus, Hoffbauer recognized the importance of Euler's and Lambert's contributions to the development of appropriate notation systems and the diagrammatic formulations of logic and of incipient set theory, and he understood the heuristic fertility of place-value notation systems, even if he did not engage in a 'semiotics of zero' as Brian

Rotman attempted in his *Signifying Nothing* (1987). He saw and attempted to show the mutual relations and relative strengths of the algebraic and geometrical formulations of the same insights (§§ 26-30). Although his points are well taken indeed, in the final analysis Hoffbauer's position parallels Leibniz's own, as expressed in a letter to Walter von Tschirnhaus from Nov. 1684, that "symbolics" has algebra as "only a very particular and limited example" (in Loemker 1969, 276).

Still, Hoffbauer in many places in his dissertation echoes, perhaps faintly, one of Leibniz's most cherished tenets that "apart from numbers, we have no other *convenient characteristic symbols which correspond to concepts*" (Schrecker 1965, 11). The goal of a philosophical grammar (Schrecker 1965, 12), which so occupied Leibniz in various ways and at various times in his life, would allow us, he thought, to resolve all disputes by saying, "*let us calculate*" (Schrecker 1965, 12). Such a project is based upon the possibility, in some form, of reducing complicated reasonings to "simple *calculations*" and "words of vague and uncertain meaning to determinate *characters*" (Schrecker 1965, 12). The *ars characteristica* of which Leibniz was so proud, and which he first addressed in his own 1666 dissertation *De Arte Combinatoria*, was to be "nothing but the supreme elevation of reason and, through the introduction of *symbols and signs*, the *most compendious use* to which human reason can be put" (Schrecker 1965, 15). Hoffbauer's discussion in §§ 26-30 is situated within the framework of this 'compendious use' of human reason, but he keeps his distance from the position that a universal or philosophical language was ultimately attainable (§ 21; see Asbach-Schnitker 1984 for an easily accessible discussion).

Hoffbauer accepted Leibniz's contention, continued in the post-Leibnizian tradition, that there are primitive signs and notions and that one of the tasks of philosophy, or of a philosophical semiotics, is to discover them, set them into systematic relation to one another, and establish the various combinations into which they can enter (§§ 8, 9, 12, 15, 16, 19). In his 'The Art of Discovery' (1685, in Wiener 1951, 50-58) Leibniz specified the issue of primitive terms in the following way: "I therefore discovered that there are certain primitive Terms which can be posited if not absolutely, at least relatively to us, and then all the results of reasoning can be determined in numerical fashion, and even with respect to those forms of reasoning in which the given circumstances or data do not suffice for an absolute answer to the question, we could still determine mathematically the degree of probability" (Wiener 1951, 51). "The road open to us consists of making

use, as mathematicians do, of characters, which are appropriate to fix our ideas, and of adding to them a numerical proof" (Wiener 1951, 52).

The distinction between primitive and derivative signs and notions lies deep in Leibniz's thought and makes up one of Hoffbauer's main assumptions and analytical tools. Much of Hoffbauer's discussion seems to be a kind of commentary on such a passage as the following: "Having pondered this matter more deeply, it became clear to me long ago that all human ideas (*cogitationes*) can be resolved into a few as their primitives (*primitivas*). If characters were assigned to these primitives, characters for derivative notions could be formed therefrom, and from these it would always be possible to discover the primitive notions (*notiones primitivae*) which are necessary ingredients; in short, it would be possible to find correct definitions and values and, hence, also the properties which are demonstrably implied in the definitions" (in Schrecker 1965, 18-19). This ideal was taken up again in the 20th century, in both the psychological and linguistic modes. Logical atomism, strands of the various attempts to construct a scientific language, and so forth, were exemplifications of this theoretical desire, eventually to shatter with the realization of the ultimacy of natural languages in our thematization and constitution of the world.

IV

The comprehensiveness of Leibniz's semiotic investigations is mirrored in the range of examples in Hoffbauer's work and points toward the scope of semiotics as the general theory of signs. "Under the term sign I comprehend words, letters; chemical, astronomical, and Chinese figures; hieroglyphs; musical, cryptographic, arithmetic, algebraic notations; and all other symbols which in our thoughts we use for the signified things. When the signs are written, drawn, or carved, they are called characters. They are the more useful, the more they express the concept of the signified thing, so that they can serve not only for representation, but also for reasoning" (Schrecker 1965, 18).

Following the Baconian notion of an intellectual *organon*, later taken up again by J.H. Lambert in his *Neues Organon* (1764), to which Hoffbauer was also indebted, Leibniz contended that "this characteristic art, of which I conceived the idea, would contain the true organon of a general science of everything that is subject matter for human reasoning, but would be endowed throughout with the demonstrations of an evident calculus"

(Schrecker 1965, 19). Leibniz, Hoffbauer shows, proposes to use the example of mathematics in the formation of his calculus, and here is indeed one of the key, though not exclusive, choices: between natural languages and mathematics as paradigm sign systems. Leibniz does not hesitate to commit himself in his definition, or compact description, of his "characteristic art": It is "the art of using signs in a kind of rigorous calculus, as generally as possible" (Schrecker 1965, 19). Language ultimately, as both Leibniz and Hoffbauer show, cannot be used in this way, but it is clear that the desire to attain a mathematics-like formalization of sign systems lies deep in the semiotic project as such and has reemerged in the work of René Thom (see Thom 1983).

In his 'Preface to a Universal Characteristic' from 1678-79 Leibniz wrote that "there is nothing that cannot be numbered" (in Ariew and Garber 1989, 5). The reason is that, as Leibniz put it, "number is, as it were, metaphysical shape, and arithmetic is, in a certain sense, the Statics of the Universe, that by which the powers of things are investigated" (Ariew and Garber 1989, 5). The task was to assign each thing its own characteristic number. While acknowledging that others have tried to pursue the goal he himself sees as paramount, Leibniz still thought that "no one has put forward a language or characteristic which embodies, at the same time, both the art of discovery and the art of judgment, that is, a language whose marks or characters perform the same task as arithmetic marks do for numbers and algebraic marks do for magnitudes considered abstractly. And yet, when God bestowed these two sciences on the human race, it seems that he wanted to suggest to us that a much greater secret lies hidden in our intellect, a secret of which these two sciences are but shadows" (Ariew and Garber 1989, 6).

Leibniz had hoped to "devise a certain alphabet of human thoughts" (see Burkhardt 1980, 195-198) and "through the combination of the letters of this alphabet and through the analysis of words produced from them" to be in a position to discover and judge all things (Ariew and Garber 1989, 6-7). He notes, however, that at the time he was thinking up the idea of a *characteristica universalis* he had not "sufficiently grasped the magnitude of the project" (Ariew and Garber 1989, 7), certainly an understatement of the first order, as was also his idea that a cooperative effort of producing characteristic numbers for all ideas would take from two to five years (Ariew and Garber 1989, 8).

Echoing a previous analogy, Leibniz thought that "once the characteristic numbers of most notions are determined, the human race will have a new kind of tool, a tool that will increase the power of the mind much more than optical lenses helped our eyes, a tool that will be as far superior to microscopes or telescopes as reason is to vision" (Ariew and Garber 1989, 8). This "North Star," functioning as an intellectual compass, would be of great use "for swimming in the sea of experiments" (Ariew and Garber 1989, 8). Indeed, "what other consequences will follow from this tool are in the hands of the fates, but they can only be great and good. For although people can be made worse off by all other gifts, correct reasoning alone can only be for the good" (Ariew and Garber 1989, 8). Leibniz speaks, self-critically, of the "wonderful interconnection of things" that makes it "extremely difficult to produce the characteristic numbers of just a few things, considered apart from the others" (Ariew and Garber 1989, 9). Still, he thought, "when we have the true characteristic numbers of things, then at last, without any mental effort or danger of error, we will be able to judge whether arguments are indeed materially sound and draw the right conclusions" (Ariew and Garber 1989, 10). Hoffbauer's criticism of Leibniz is foreshadowed in Leibniz's own self-criticism.

In his 'The Horizon of Human Doctrine,' a text written after 1690, Leibniz asserted that "the entire body of the sciences may be regarded as an ocean, continuous everywhere and without a break or division, though men conceive parts in it and give them names according to their convenience . . . there are sciences about which something is known only by chance and without a plan. One of them is the art of combinations which for me has as much significance as the science of forms or formulas or else of variations in general; in a word it is the Universal Specious or Characteristic" (Wiener 1951, 73-74). Leibniz continues, in a passage of deep scope and feeling: "Now since all human knowledge can be expressed by the letters of the Alphabet, and since we may say that whoever understands the use of the alphabet knows everything, it follows that we can calculate the number of truths which men are able to express, and that we can determine the size of a work which would contain all possible human knowledge, in which there would be everything which could ever be known, written, or discovered; and even more than that, for it would contain not only the true but also the false propositions which we can assert, and even expressions which signify nothing. This inquiry helps us to understand better how little man is in comparison with infinite substance, since the number of all the truths which all

men together can know is quite mediocre, even if there were an infinity of men who for all eternity should exalt themselves in the advancement of the sciences . . ." (Wiener 1951, 76). There are grounds for Hoffbauer's own self-proclaimed modesty in Leibniz himself. Further extensive discussion of Leibniz's semiotic project can be found in Burkhardt (1980) and Dascal (1978 and 1987).

V

Hoffbauer's philosophical framework, rooted as it is in the German objectivist tradition, is fundamentally not one of communication but of signification. While he was aware of Locke's contention that language is "the great Instrument, and common Tye of society" (Locke 1975, 402), this dimension is only hinted at and not foregrounded in his discussion. Besides the mere physical ability to produce articulate sounds, which even parrots have, Locke had noted that it was further necessary that man "*be able to use these Sounds, as Signs of internal Conceptions*; and to make them stand as marks for the *Ideas* within his own Mind, whereby they might be made known to others, and the Thoughts of Men's Minds be conveyed from one to another" (Locke 1975, 402). Here Locke, more than Hoffbauer, foregrounds the communicative and social matrix of language. Hoffbauer does not deny this matrix; he simply notes that it goes without saying (§ 5) and is presupposed in all that he says.

Hoffbauer's epistemology is fundamentally Lockean. Sensations are stronger than images or notions, but we still need signs to fix not just our notions but also our sensations (§ 5). Clear and distinct ideas are not given without the aid of signs (§ 11), and in this sense Hoffbauer is not a Cartesian and does not point toward a Cartesian theory of knowledge with its emphasis on intuition and consciousness. From the comments scattered throughout the dissertation it is clear that Hoffbauer saw no reason to question the principle of association, whether association between ideas or association between sensations. But the principle is rather assumed than argued for (§ 5). As noted earlier, however, there is no genetic standpoint in Hoffbauer's analyses, as there was in Locke and certainly in Hume, who played no role in his dissertation.

Hoffbauer does, though, echo Locke's position that "the Original of all our Notions and Knowledge" is evidenced in the great dependence "our *Words* have on common sensible *Ideas*" (Locke 1975, 403) which by exten-

sion come to signify objects and themes far removed from their original domain of application (§ 20). Indeed, because of both the creative extension and lability of linguistic senses, Locke can specify the motives for his investigations into words in a way that corresponds actually to the innermost thrust of Hoffbauer's work: "We shall the better come to find the right use of Words; the natural Advantages and Defects of Language; and the remedies that ought to be used, to avoid the inconveniences of obscurity or uncertainty in the signification of Words, without which it is impossible to discourse with any clearness or order concerning Knowledge" (Locke 1975, 404).

VI

Hoffbauer was greatly concerned with the matrix of the theory of terms (§ 4) and its role in aiding the logic of invention — if not the 'logic of discovery' (§ 25, 26). Hoffbauer was talking about a semiotic disposition of the phantasm, the manipulation of symbolic schemata and representational schemes. This is the import for him of the work of Euler and Lambert, which is discussed in the text in some detail and whose diagrammatic formulations are also presented. One of Hoffbauer's main theses is that a proper symbolic representation is necessary for invention or discovery. Here he certainly anticipates Peirce, but without his profound historical erudition and deep epistemological culture. Peirce transformed in the semiotic key the Kantian doctrine of the schematism. All thought for Peirce was 'in signs,' for every element of consciousness had the character of a sign: "Whenever we think we have present to consciousness some feeling, image, conception, or other representation, which serves as a sign" (CP 5.283).

Peirce's epistemology, furthermore, while admitting the determinative role of association theory—which he traced to the weightiest results of British empiricism—was not focussed upon some search for 'primitives,' or for primary impressions, or for atoms of meaning. Peirce's starting point was the perceptual judgment that exemplified the nature of abduction, a cognitive leap that, as Peirce showed in one of his perspicuous analyses, had no absolute beginning. Its representation or expression in language was essentially and irretrievably vague. Absolute precision in perceptual experience was neither to be sought for nor was it attainable. Experience was a continuum, without sharp breaks, cuts, segments. The model of experience

underlying Hoffbauer's analysis is derived fundamentally from Wolff and from Locke and lacks the complexities and richness of later phenomenological descriptions. I have discussed this issue of semiotic models of consciousness and perception elsewhere (Innis 1988).

Hoffbauer's definition of a sign (§ 1) stands in the classic tradition of Augustine: A sign is that, knowing which, we know something else. It makes the present absent. This is the process of signification, however, not the process of reference. The epistemological problem of reference and of truth is not really dealt with in Hoffbauer's dissertation. He is concerned with the ground of the sign, with its intrinsic capacity or power to be a *representamen*. It is the representative and heuristic power of signs that is his main theme.

As to the issue, raised by Hoffbauer in § 5, of whether we can have notions without signs, it all depends on how one defines a notion. If a notion is a mental sign, not something 'caused' by the external world and thus a mere effect *qua tale*, the equivalence is axiomatic. The early definition of the sign in Hoffbauer's formulation allows a notion to be a sign in either case: but it would primarily be a natural sign of its 'object,' which would be its 'meaning.' Nevertheless, it seems necessary to distinguish between signification in the form of perception and perceptual meaning and signification in the form of conception. As I have already noted, Hoffbauer has no explicit theory of concept formation or theory of the concept as such. In the dissertation, concepts are taken as given and are understood in the eclectic fusion of Leibnizian, Lockean, and Wolffian conceptual frameworks.

If one compares Hoffbauer's project with the philosophical benchmark of Peirce's later much more fully developed sign theory, one sees a mutual dedication to the logical approach, a focussing upon logical grammar, upon a typology of signs, upon a comparison of their representational powers, their cognitive roles and scope. Hoffbauer, however, puts little emphasis on interpretation, on semiosis as a process (an unlimited process), or on the continuous generation of interpretants. The sign theory thematized in his dissertation does not include a phenomenology of knowledge nor an examination of the ultimate categories within which the mind is to be conceptualized. The phenomenological bite of Peirce's post-Kantian application of the categories to consciousness is not present in Hoffbauer, who at no point did, or, in fact, because of his dependence on his mentor Eberhard who was a bitter enemy of the Kantian philosophy, was even able to, cite Kant.

Peirce's dependence upon Kant's first critique and the astounding, and in places debilitating, lack of any such dependence in the case of Hoffbauer accounts for the phenomenological flatness of Hoffbauer's analyses. The epistemology latent in his dissertation is objectivistic and nominalistic, although if he had adverted to the role of apperception in the philosophy of Leibniz, he would even on that basis have had a different access to a thematization of subjectivity and subjective operations. There is, however, little evidence that he was familiar with the greater part of Leibniz's works, although there were two editions of the complete works available when he wrote his dissertation.

Later work in semiotics, as in, for example, the writings of Umberto Eco, has attempted to avoid the reification of signs, i.e., their transformation into 'substances' or rigid entities. Eco (1979) speaks of 'sign-functions' rather than of 'signs.' This type of thinking, though not foreign to Hoffbauer's inner meaning, was nevertheless not exploited by Hoffbauer, who operated with a generic definition of a sign and then proceeded to assume that there were linguistic, arithmetical, geometrical signs, and so forth. But while Eco's focus is upon signs as social facts and part of the signifying work of culture, Hoffbauer's was fundamentally upon the representative power of signs and their heuristic fertility. Again, Eco, along with many other semiotic projects, has tried to argue that signs are not mirrors of an antecedent reality which is merely captured or reflected in the signs or sign systems. They are constitutive of the object domain or of the reality 'coming to presence' in the signs or systems of signs. Hoffbauer does not focus upon the generative processes of sign production. In a certain sense he is concerned with the function of signs in 'making our ideas clear,' not in the actual generation of ideas. He does not see that the analysis of signs has to focus not just on their objective, representational structure and power, but on the semiotic matrix of consciousness and subjectivity.

The heuristic function of signs is a constant theme in Hoffbauer's dissertation. He shows very clearly that and how the formal disposition and transformations of signs aid invention, the paradigm cases being algebraic and geometrical invention. In this sense, as I noted earlier, Hoffbauer specified the role of symbolic schemata which function as phantasms in the Scholastic sense, and which Lonergan (1958, 17-19) in his brilliant phenomenology of the act of insight also pinpointed as absolutely necessary for the emergence of the act of understanding. The same point has been made before in the study of mathematical heuristics (see Polya 1957) and

permeates Rudolf Arnheim's discussions of 'visual thinking' (Arnheim 1969) and the penetrating book of Mark Johnson (1987). Hoffbauer's account of the heuristics of symbolic schemata is an acknowledgment of the central role of *dispositio phantasmatum*, in the Scholastic sense, and one of his most valuable and permanent contributions to semiotics. Indeed, he shows a close connection between diagrammatic thinking and figured discourse, for they both involve a kind of iconic representation. The Peircean idea of the identity of relations between sign and object in diagrammatic representations is limned also by Hoffbauer and is one of the foci of the later sections of the dissertation (§ 31-33).[4] The treatment of hieroglyphs is embedded in the 18th century discussions, and on this theme one can consult David (1965) and Formigari (1970).

VIII

Seen in the proper light and within the limitations resulting from the author's age, status, and historical period, Hoffbauer's *opusculum* traces one of the historical vectors of a philosophical semiotics and allows us to see how a precisely defined sign theory belongs to the subject matter of philosophy as such. In spite of its limited scope, it offers us some interesting and provocative discussions of 'certain topics pertaining to the general theory of signs.' We must not measure it against standards that it admittedly cannot live up to. The two great traditions of modern semiotics, deriving from Peirce and Saussure, have, to be sure, gone far beyond Hoffbauer's horizon of analysis. But many of the themes, if not the analyses, of their projects are delineated in his dissertation and intersect with it in many ways. Reading it, then, is not merely an act of historical piety, but an opportunity to think through once again certain central and permanent problems of the general science of signs.

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Note on the translation

Hoffbauer's Latin is a kind of degraded Scholastic Latin, by no means elegant or polished. It is for the most part, though not always, simple, but not simpleminded. The deceptive simplicity of the language should not lead us to assume simplicity of content. The basic principle followed in this translation is to give a relatively straightforward rendering of the content and, to a certain degree, the tone and feel of the Latin text, which is also being printed along with the translation. I have made no attempts to prettify the text nor to give it a zip and bite it simply does not have. As a result the inner terminological, that is, Latinate, space of Hoffbauer's *opusculum* has been retained. My main goal has been to furnish a workable, usable text to help those with weak or nonexistent Latin. Consequently, I have stayed as close to Hoffbauer's text as possible and have not tried to update anachronistically the vocabulary and technical terms, many of which belong anyway to the terminological heritage of philosophy and semiotics.

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Notes

1. Beck's book contains a very valuable and, in spite of its name, extensive 'informal bibliography,' which can be consulted for guidance.

2. See Franke (1979) and Hardenberg (1979) and the literature cited there. Cassirer has a long discussion of the 'fundamental problems of aesthetics' in his (1932, 275-360, with pages 338-360 being on Baumgarten). Lessing does not figure in Hoffbauer's dissertation.

3. See Eschbach and Eschbach-Szabó (1984) for references to recent literature on the semiotic contributions of Lambert. The work of Gerold Ungeheuer cited there is especially to be recommended.

4. Lambert, who figures prominently in these sections of the dissertation, is the proximate source of this position for Hoffbauer. In his comprehensive article on the history of semantics in *The Encyclopedia of Philosophy* Norman Kretzmann writes: "The fundamental criterion employed by Lambert in his evaluation of sign systems in general and of natural languages in particular was the interchangeability of 'the theory of sign' and 'the theory of objects' signified, the degree of interchangeability marking the extent to which signs approximated the fundamental idea of being 'scientific' . . . he cited musical notation as an example of a particularly close approximation. It seems evident that this fundamental criterion, which with its many corollaries pervades Lambert's philosophy of language, constituted his adaptation of Leibniz's doctrine of 'expression'" (VII, 386-387).

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