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Foundations of the Theory of Signs (1938)

A critique

Abstract: “Foundations of the theory of signs,” published by Charles W. Morris in 1938, deals with the relations between semiotics and science, and those between semiosis and semiotics, among others. Compared with previous research regarding the aspects of semiotics being meta-science, the three dimensions of semiosis, semiotic as organon of the sciences, etc., this article does push forward the development of linguistics and semiotics since the late 1930s. However, its discussions on semiotics being meta-science, the nature and classification of signs, the three dimensions of semiosis, organism in the sign relations, universals and universality of signs, and thing-language are either not logically rigid or inadequate in content and scope. For a piece of work discussing the theoretical foundations of signs, it does not consider sign transformation, a universal and ubiquitous sign activity, which is not consistent with the keyword “foundations” in its title. A critical analysis of these problems involving the aspects mentioned above may not only enrich the visions of triadic sign relations, semiotics, and translation semiotics, but also inspire future semiotic studies and even other new research related to signs.

Keywords: meta-science; pragmatics; semantics; semiosis; syntactics; universality

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1 Introduction

From the 1920s, Otto Neurath (1882–1945), an Austrian philosopher, philosopher of science, sociologist, political economist, and one of the leading figures of the Vienna Circle, had always planned to compile an international encyclopedia of unified science, “talked it over with Einstein and Hans Hahn, (and) had early discussions about it with Carnap and Philipp Frank” (Morris 1960: 517). The idea of compiling the *Encyclopedia* was facilitated by the International Congresses for the Unity of Science organized by members of the Vienna Circle. In 1934, a

preliminary conference was held in Prague, and the next year witnessed the First International Congress for the Unity of Science at the Sorbonne, Paris, with about 170 scholars from over 20 countries.

This congress voted its approval of the planned *Encyclopedia* as proposed by the members from Mundaneum Institute of the Hague and further set up an “Organization Committee of the *International encyclopedia of unified science*,” composed of Otto Neurath, Rudolph Carnap, Philipp Frank, Jørgen Jørgensen, Charles W. Morris, and Louis Rougier. Consequently, the Third International Congress for the Unity of Science held in Paris, 29–31 July 1937, was devoted exclusively to the *Encyclopedia*, and in the next year its first volume was published, containing 10 long articles, such as “*Encyclopedia and unified science*” (Otto Neurath, Niels Bohr, John Dewey, Bertrand Russell, Rudolf Carnap, and Charles Morris), “Foundations of the theory of signs” (Charles Morris), “Foundations of logic and mathematics” (Rudolf Carnap), “Linguistic aspects of science” (Victor F. Lenzen), “Principles of the theory of probability” (Ernest Nagel), “Foundations of physics” (Philipp Frank), “Cosmology” (E. Finlay-Freundlich), “Foundations of biology” (Felix Mainx), and “The conceptual framework of psychology” (Egon Brunswik). As for the *Encyclopedia*, Weiss commented:

The International Encyclopedia of Unified Science is happily inspired by different aims. It is concerned primarily not with results but with method, not with dissection but with unification, not with dogmatic affirmation and restatement but with suggestion and tentative hypothesis. Its writers are for the most part young and productive, interested in the future and desirous of co-operating with one another for the sake of discovering and constructing a perspective and an instrument effective today and tomorrow. (Weiss 1939: 498)

Historian David A. Hollinger criticizes that the *International encyclopedia of unified science* was a less comprehensive account of the sciences of the time than it could have been, and was especially weak in the social sciences (Hollinger 2011: 216–217). Though it carries weaknesses of different sorts, it was still a product of the Vienna Circle to address the “growing concern throughout the world for the logic, the history, and the sociology of science” (Neurath *et al.* 1969: 103), and furthermore it is still influential in global academia, which is affirmed by 66 related articles published from 1938 to 2004 on the topic search on *Medalink Scholar* dated 31 August 2018.

As the *Encyclopedia* is a representative work of the international academic circle of the 1930s, most works included may also be considered a representative work of that period. As for semiotics, the first article “Foundations of the theory of signs” (by Charles Morris), included in the second

issue of its first volume, is wide-spread and influential because of his views on a behavioral theory of signs, semiotics being the science of science, three dimensions or perspectives of syntactics, semantics, and pragmatics, etc. However, considering it from the perspective of semiotics in the broadest sense and that of emerging translation semiotics, this article is still problematic in the following aspects: (1) semiotics being a metascience (namely the science of the science); (2) the nature and classification of a sign; (3) the division of semiosis and/or semiotics into syntactics, semantics, and pragmatics; (4) an interpreter of sign being an organism; (5) universals and universality of signs; and (6) sign transformations.

2 Semiotics being a meta-science

Morris (1938) opens with the sub-topic “Semiotic and Science,” discussing semiotics being a metascience as follows:

Semiotic has a double relation to the sciences: it is both a science among the sciences and an instrument of the sciences. The significance of semiotic as a science lies in the fact that it is a step in the unification of science, since it supplies the foundations for any special science of signs, such as linguistics, logic, mathematics, rhetoric, and (to some extent at least) aesthetics. The concept of sign may prove to be of importance in the unification of the social, psychological, and humanistic sciences in so far as these are distinguished from the physical and biological sciences. And since it will be shown that signs are simply the objects studied by the biological and physical sciences related in certain complex functional processes, any such unification of the formal sciences on the one hand, and the social, psychological, and humanistic sciences on the other, would provide relevant material for the unification of these two sets of sciences with the physical and biological sciences. Semiotic may thus be of importance in a program for the unification of science, though the exact nature and extent of this importance is yet to be determined. (Morris 1938: 2)

But if semiotic is a science co-ordinate with the other sciences, studying things or the properties of things in their function of serving as signs, it is also the instrument of all sciences, since every science makes use of and expresses its result in terms of signs. Hence metascience (the science of the science) must use semiotic as an organon. [...] Semiotic supplies a general language applicable to any special language or sign, and so applicable to the language of science and specific signs which are used in science. (Morris 1938: 2–3)

As seen above, semiotics “has a double relation to the sciences: it is both a science among sciences and an instrument of the sciences.” As Morris narrates later in this paragraph, signs also serve as the objects studied in all sciences, focusing on either the things themselves, the properties of the things in their

functions of use as signs, or the relations between the things standing for something else. Thus, semiotics does keep a triple relation to the sciences: it is a science among sciences, an instrument of the sciences, and the objects of all scientific inquiries in all fields or aspects of all sciences, for instance, in the fields of geology, biology, psychoanalysis, physics, and chemistry, among others.

Consequently, semiotics as a meta-science is not limited to using semiotics only as an organon, but also as an object. The reason for holding this view is simply that a scientific inquiry in any field cannot be conducted without reference to all the symptoms or signs involving either physical or mental aspects. As for “the properties of things in their functions of serving as signs,” Charles Sanders Peirce on another occasion also said:

Viewing a thing from the outside, considering its relations of action and reaction with other things, it appears as matter. Viewing it from the inside, looking at its immediate character as feeling, it appears as consciousness. These two views are combined when we remember that mechanical laws are nothing but acquired habits, like all the regularities of mind, including the tendency to take habits, itself; and that this action of habit is nothing but generalisation, and generalisation is nothing but the spreading of feelings. (Peirce 1892: 20)

Therefore, whether the things themselves are used as signs or the properties of the things are used as signs lies in viewing from the inside or the outside. Last but not least, if semiotics is considered as a meta-science, semiotics is not a science co-ordinate with the other sciences, despite studying things or the properties of things in their functions of serving as signs, for meta-science is a general superordinate on the macro level while other sciences are specific subordinates on the micro level. Only so can semiotics be the instrument of all science, meanwhile supplying a general principle to other sciences.

3 The nature and classification of signs

Morris (1938:4–6) adopts from Peirce the term “semiosis” for his “general” theory of signs, and distinguished four factors: the sign vehicle, the designatum, the interpretant, and the interpreter, which was criticized for “convert[ing] the interpretant into a logically *existent* thing” (Dewey 1946: 87). As for the nature of a sign and the behavioral theory of signs, Morris (1938) goes as follows:

Something is a sign only because it is interpreted as a sign of something by some interpreter; a taking-account-of-something is an interpreted only in so far as it is evoked by something functioning as a sign; an object is an interpreter only as it mediately takes account of something. The properties of being a sign, a designatum, an interpreter, or an interpretant are relational properties which things take on by participating in the functional process of semiosis. Semiotic, then, is not concerned with the study of a particular kind of object, but with ordinary objects in so far (and only in so far) as they participate in semiosis. ... No contradiction arises in saying that every sign has a designatum but not every sign refers to an actual existent. Where what is referred to actually exists as referred to the object of reference is a denotatum. It thus becomes clear that, while every sign has a designatum, not every sign has a denotatum. ... From the point of view of behavioristics, to take account of *D* by the presence of *S* involves responding to *D* in virtue of a response to *S*. (1938: 4–6)

Judged from the words on the nature of a sign and the behavioral theory of signs, Morris not only “convert(s) the interpretant into a logically *existent* thing” (which can also refer to the three correlates of sign vehicle, designatum, interpreter on the section of “dimensions and levels of semiosis” in this article), or a personal user and/or interpreter. Moreover, judged by the words of *presence* and *response*, his framework deviates from a general category of signs to physical signs or linguistic signs (also called tangible signs), ignoring mental signs or intangible signs in his system. Hereby, Morris unconsciously narrows down the referential range of “something” and “something else” in the definition quoted above and Peirce’s frequently-cited version, namely “something standing for something else.”

As for mental signs in the general theory of signs, Peirce himself also elaborated them on different occasions, such as “Every thought is a sign,” “All thought is in signs” (Peirce 1868: 110), as well as “the notion of categories that can be conveyed in one lecture” (*CP*. 1.521) in the horticultural metaphor; Umberto Eco (1932–2016) also talked about it in *The Name of The Rose* (1986: 188); Edmund Husserl also distinguished between physical and mental signs (1970: 250). As for the functions of mental signs in the stimuli-response theory, mental signs function only by transforming into verbal signs (linguistic signs) or nonverbal signs, namely body language. Otherwise, mental signs can be presented and response cannot occur in any way.

In the final analysis, a sign is something standing for something else, and semiotics is the study of all kinds and forms of signs which signify or stand for something in all sign activities. In short, semiotics is the study of all sign activities in the human and/or animal world(s), involving tangible (physical) and intangible (mental) signs. Specifically, tangible signs include verbal/linguistic and non-verbal/non-linguistic signs, while intangible signs refer to the invisible signs used in mental activities, e.g., thinking, pondering,

planning, etc. Furthermore, linguistic signs include dialects, jargons, slangs, argots, words, letters, characters, scripts, braille, textspeak, and all the signs serving as written forms, while non-linguistic signs, are Morse Code, traffic signals, gestures, emotions, facial expressions, eye contact, and body language, among others (Jia 2016, 2018a, 2018b).

4 Syntactics, semantics, and pragmatics

Based on the nature and the classification of signs as indicated above, Morris (1938: 6–42) proposed syntactic, semantic, and pragmatic dimensions and levels of semiosis. Namely, syntactics is “the study of the syntactical relations of signs to one another in abstraction from the relations of signs to objects or to interpreters,” and “is the best developed of all the branches of semiotic” (1938: 13). “Semantics deals with the relation of signs to their designate and so to the objects which they may or do denote” (1938: 21). In reference to the term “pragmatism” first used by C. S. Peirce, Morris coined the term “pragmatics” to refer to “the science of the relation of signs to their interpreters” (1938: 30). In terms of its functions, theoretical and applied, and its three dimensions and levels in scientific inquiries, Morris further divided semiotics into pure and descriptive semiotics, with the former focusing on the signs as “the metalanguage in terms of which all sign situations would be discussed” (1938: 9), i.e., providing the terms and theoretical tools necessary to talk about the three dimensions of semiosis, while the latter was on “the application of this language to concrete instances of signs” (1938: 9), i.e., concerning actual instances of these three dimensions. Of course, he did this unprecedented work with reference to human language and technical terms as an artificial language in scientific inquiries.

Logically, Morris’s three dimensions, fields, or levels of semiosis in terms of language as a sign of signs, (namely, language as meta-sign) are essentially the triadic relations of linguistic signs or the three dimensions of linguistic semiotics and semiosis, of course, not the three dimensions of general semiotics. The reasons for this assertion are simply: (1) the research object of (general) semiotics is “all kinds, forms and presentations of signs” while the objects of syntactics, semantics, and pragmatics are dyadic relations of linguistic signs or simply human language, and only their aspects and qualities, so this division inevitably narrows down the referential range of “sign,” “semiotic,” and “semiosis”; (2) Morris’s division is not applicable to the analyses of referential relations between the signs well beyond linguistic signs, such as Morse Code,

traffic signals, braille alphabet, gestures, body languages, etc.. Furthermore, such a language-based framework of triadic semiotic relations is not universally applicable in general semiotics, so it shall be labelled as three dimensions of linguistic semiotics, and included in the framework of “foundations of the theory of linguistic signs,” not a general theory of sign studies. This may be the reason why Morris himself dropped it in the 1970s.

5 Organism in the triadic relations

Morris (1938) does touch on the topic of organism in the definition of semiosis. He follows Peirce in describing sign activities as “semiosis” in 1971, but defines it differently as “a sign-process, that is, a process in which something is a sign to some organism. It is to be distinguished from semiotic as the study of semiosis” (Morris 1971: 366). In any case, nothing appears all of a sudden. The problem involving organism in this definition can trace back to Morris (1938). In the section dealing with “pragmatics,” Morris argues:

If from pragmatism is abstracted the features of particular interest to pragmatics, the result may be formulated somewhat as follows: The interpreter of a sign is an organism; the interpretant is the habit of the organism to respond, because of the sign vehicle, to absent objects which are relevant to a present problematic situation as if they were present. In virtue of semiosis an organism takes account of relevant properties of absent objects, or unobserved properties of objects which are present, and in this lies the general instrumental significance of ideas. (Morris 1938: 31–32)

Superficially, Morris’s view on the relations between sign, interpretant, and organism seems to be superior to Peirce’s original thought. Though this assertion attracts the attention of international academia, it is criticized logically and theoretically.

Pelc’s critical comments on the concept “organism” in the definition of semiosis in Morris (1971) is also applicable to the paragraph cited above. He asserts that “by putting it this way that something is a sign for some organism, prominence was given to the role of the interpreter in semiosis as a sign process in which something becomes a sign to this interpreter” (Pelc 2000: 426). Then, he further criticizes that “the sign interpreter may only be an experiencing organism, that is, a creature equipped with awareness, and not every living organism or an organ thereof.” The reason for his critical remarks is that “semiosis would not include cases such as the reaction of a mammary gland to the pituitary gland hormone prolactin,” and “to treat an organ as an interpreter

and a substance secreted by some organ as a sign, would be to excessively stretch the scope of the concepts of sign and semiosis” (Pelc 2000: 426).

In my view, “organism” in Morris’s assertion (1938: 21–32) and his definition of semiosis (1971: 366) is not rigid logically though somewhat universal. In this respect, I maintain that the concepts “mind” and “quasi-mind” in Peircean original thought are far better to use in this context. If something is a sign standing for something else, there must be a creature with not only awareness, but the ability to think with and in signs, and the ability to invent and use the signs. Human beings are surely the creature (Peircean concept “mind”) in this respect, serving as the interpreters of signs while creatures beyond human beings may also be equipped with awareness, thinking, and the ability to invent and use signs, hereby they are considered the Peircean concept “quasi-mind.” In addition to the Peircean concepts of mind and quasi-mind, there logically seems to be another concept of “pseudo-mind” in the texts and contexts of fables and fairies, in which some plants (with the cases of Peony and Willow in Chinese legendary works) are personified and speak like humans. Therefore, the subjects of generating signs and their interpretants (and also the interpretants of the interpretants), in terms of general semiotics, should be a sub-system consisting of mind, quasi-mind, and pseudo-mind.

6 Universals and universality

As for the universals of signs, Morris considers it as “a law or habit of usage, a ‘universal’ as over against its particular instances” (Morris 1938: 48). And he further explains that “To say that a given sign vehicle is ‘universal’ (or general) is merely to say that it is one of a class of objects which have the property or properties necessary to arouse certain expectations, to combine in specified ways with other sign vehicles, and to denote certain objects, i.e., that it is one member of a class of objects all of which are subject to the same rules of sign usage” (Morris 1938: 49–50). As for universality of signs, Morris maintains that a sign’s universality, “its being a legisign, consists only in the fact, statable in the metalanguage, that it is one member of a class of objects capable of performing the same sign function” (Morris 1938: 50). To further explain this Peircean legisign-based property of signs, Morris puts universality into the context of pragmatics, by referring to behavioristics as follows:

Hence, while a response in a particular situation is specific, it is a true statement within pragmatics that similar responses are often called out by a variety of sign vehicles and are satisfied by a variety of objects. From this point of view the interpretant (in common with any habit) has a character of “universality” which contrasts to its particularity in a specific situation. There is a second aspect of sign universality distinguishable in pragmatics, namely, the social universality which lies in the fact that a sign may be held in common by a number of interpreters. (Morris 198: 51)

Grounded on the theoretical basis as shown above, Morris distinguishes in the universality appropriate to semiosis five types of universality, namely, generality of sign vehicle, generality of form, generality of denotation, generality of the interpretant, and social generality (cf. Morris 1938: 51–52). This is a work done without a clear reference and standard, and nothing has been done to further elaborate them in any way. So, it is a regret that nothing can be found concerning the distinctions and connections between generality of form and that of sign vehicle, those between generality of form and social generality, and those between generality of sign vehicle and social generality. Moreover, I wonder if these universalities vary with the ethnic cultures and the change of linguistic signs. If they do vary in any sense, can they still be regarded as universalities? For instance, English and Chinese belong to different language types, with the former being inflected for person, tense, voice, and mood while the latter being not so inflected morphologically. Are they equipped with the same generality of forms?

Besides the five types of universality, is it possible to have generality of semiosis, generality of semiotic transformation mechanism, generality of sign generation, generality of sign production, generality of sign evolution, if referred to the laws and habits of sign transformation or translation semiotics? To some extent, the answers to these questions are Yes! If the issue is considered from other perspectives, other findings may be made.

7 Sign transformation

In terms of content, Morris (1938) focuses on the aspects and dimensions of *semiosis* in the general sense. As Morris defines: “Semiosis is a sign-process” (Morris 1971: 366). In other words, semiosis is a sign-activity in which something used as a sign stands for something else. Signs here refer to all forms and kinds of signs, not only limited to linguistic signs or the human signs. Since Morris (1938) deals with the aspects of a sign-process, or a sign-activity, this does not

ignore the sign processes or sign activities in the encoding and decoding stages of semiotic transformations.

From the perspective of translation semiotics, semiotic transformation starts with the encoding stage, where the author or utterer uses and forms the signs to convey his or her ideas according to the semiotic conventions in his or her society and his or her intentions (dominantly and essentially the purposes of the signs s/he uses). In this stage, the author or utterer uses something as a sign to present something else. Following the encoding stage, an interpreter follows the triadic relations of sign–object–interpretant to decode the sign text encoded and delivered by the author or utterer. Though it is still a sign-process, it goes from using something as a sign to standing for something else, namely presenting his or her ideas, to using this something-else as a sign to, in turn, stand for or present another something-else, and so on, the so-called degenerated sign-process. In this degenerated sign-process, the interpreter starts from the stage of interpreting the sign text by means of his virtual signs moving into the stage of using the signs in the target sign system to present the source sign text by following the conventions of sign usage in his or her society. This semiotic transformation of three stages illustrated above is called translational semiosis by Dinda L. Gorrée, though it is redundant to some degree. In any case, for an article titled “Foundations of the theory of signs,” focusing especially on semiosis in a general sense, sign transformations should not be missed. Even only considered in this respect, Morris (1938) is inadequate.

In the final analysis, I have two other points to add. One point is that while dealing with the semantic dimension, Morris takes static and logic rules to govern dynamic sign-activities, which violates the objective laws of sign generation, sign development, and its usage rules. When the primitives mastered the signs as languages and designed the written systems to present their ideas, the human sign system was imperfect, without the ready-made usage rules as presented now. The rules available today are rational and logical, resulting from the observance of and the generalization from daily sign activities. Therefore, these rules are only applicable to the description and explication of sign usages and the problems involving sign-activities, but not otherwise. The other is the classification of thing-language or thing-sentences. In terms of semiotics being the study of signs in the broadest sense, thing-language or thing-sentences are simply sign-activities. If so, any language in the sense of semiotics is necessarily divided into thing-sentences and non-thing-sentences, which is to some degree too absolute and impossible in the sense of semiotics as the study of all forms and kinds of signs. This assertion is obviously made with reference to linguistic signs. Morris’s doing so also narrows down the referential range of semiotics and signs. The remark regarding thing-language

and thing-sentences is not consistent with the view on metalanguage and semiotics as a meta-science as mentioned earlier in the text. If we turn to talking about grammar, mathematics, traffic signals, traffic symbols, Morse Code, sign language, braille alphabet, etc., there will appear the problem involving the signs in the broadest sense. For instance, talking about the grammatical rules or the usage of a word in one language, the word is used as a sign in the sense of metalanguage; talking about traffic signals or symbols (simply thing-events), traffic symbols are no doubt signs. Thus, a discussion on the signs of this sort lies in either the thing itself or the essential constituent(s) of the thing. Therefore, considered in terms of the syntactic dimension of linguistic semiotics, is it more feasible to divide the thing-language into the thing, the quasi-thing, and the pseudo-thing?

8 Conclusion

“Foundations of the theory of signs” can be considered a pillar work of linguistics and semiotics since the late 1930s, especially in the fields of syntactics, semantics, and pragmatics as three branches of linguistics. Before 1938, when it was published in the first volume of the *International Encyclopedia of Unified Science*, few semioticians and linguists touched on topics like semiotics as a meta-science, the syntactic, semantic, and pragmatic dimensions of semiotics and semiosis, universals and universality of signs, interrelation and unification of semiotic sciences, and semiotics as an organon of the sciences. Starting with the insufficiency and inadequacy of the discussions on semiotics being a meta-science, the nature and classification of signs, the syntactic, semantic, and pragmatic dimensions of semiosis, organism in the relations between sign-interpretant-interpreter, universals and universality of signs, thing-language, and thing-sentence, the present paper has examined these aspects from the perspectives of general semiotics as well as translation semiotics.

Theoretically, semiotics as a meta-science should not be confined to only serving as an organon, but also as a principle and even a science of all scientific objects, for which the reason is simply that a scientific inquiry cannot be conducted without reference to all the symptoms, physical or mental. Judging from his words on the nature of a sign and the behavioral theory of signs, Morris not only “convert[s] the interpretant into a logically *existent* thing,” or a personal user or interpreter, but deviates from a general category of signs to physical signs or linguistic signs, ignoring mental signs in his system. Morris’s

three dimensions of semiosis in terms of language as a sign of signs are essentially the triadic relations of linguistic signs, not the dimensions of semiotics in a general sense, so not applicable to the referential relations between the signs well beyond linguistic signs either, so such a language-based framework is not universally applicable in general semiotics. His view on the relations between sign, interpretant, and organism is not rigid logically though somewhat universal, because a sign interpreter may only be an experiencing organism, namely, a creature equipped with awareness, not every living organism or an organ as criticized in Pelc (2000). He distinguishes in the universality appropriate to semiosis five types of universality. However, they are not sufficient because it is possible to have generality of semiosis, generality of semiotic transformation mechanism, generality of sign generation, generality of sign production, and generality of sign evolution, if referred to the laws and habits of sign transformation or translation semiotics. Since semiosis is a sign-activity in which something used as a sign stands for something else, with signs referring to all forms and kinds of signs, and since Morris (1938) deals with the aspects of a sign-process, or a sign-activity, he shall not ignore the sign processes or sign activities in encoding and decoding stages of semiotic transformations. In the broadest sense, thing-language or thing-sentences are simply sign-activities, so any language in the sense of semiotics is necessarily divided into thing-sentences and non-thing sentences, which is to some degree too absolute and impossible in the sense of semiotics as the study of all forms and kinds of signs. Considered in terms of the syntactic dimension of linguistic semiotics, it is more feasible to divide the thing-language into the thing, the quasi-thing, and the pseudo-thing. Methodologically, Morris takes static and logic rules to govern dynamic sign-activities, which violates the objective laws of sign generation, sign development and its usage rules.

In conclusion, the critical analyses of the above aspects can serve as the revised content of the theoretical foundations for semiotics and semiosis. In terms of its significance, this critical analysis may not only enrich the visions of triadic sign relations, semiotics, and translation semiotics, but also inspire future semiotic studies concerning the nature of semiotics, its relation to the sciences, generality of signs, thing-language, sign transformations, and even new research on the history of syntax, semantics, and pragmatics, translation studies, and other studies relevant to signs.

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