Neoplatonism, Text and Logic

Dino Buzzetti
formerly
University of Bologna

0. The purpose of this paper is to expound a possible approach to finding a mathematical model for the the relationship between syntax and semantics. Its method consists in employing the 'indicative shift,' an operation on names introduced by Louis Kauffman,[1] to formalize the emanation of 'Nous,' or 'Intellect,' from the Neoplatonic 'One,' and in applying a logic of self-reference to the intrinsic formal structure of the Neoplatonic 'Nous.' A mathematical model of the conceptual relationships occurring in Neoplatonic metaphysics can provide a solution to our problem, for it would imply indetermination and codependency, just as is required by a proper analysis of the relationship between syntax and semantics, as we shall see here in more detail.

I. **Neoplatonism**

1. Neoplatonism is a philosophical doctrine that can be described as a comprehensive outlook of the whole of existing reality. It was originated by Plotinus (ca. 204/5 - 270 CE), who understood it as a reinterpretation of Plato's thought.[2] A significant and 'decisive step' of Plotinus' original and enlivening interpretation of Platonic doctrines was his 'identification of metaphysical realities with states of consciousness.'[3] Therefore 'we may distinguish three aspects of Neoplatonism, which we may term respectively its metaphysical, exegetic and religious or experiential aspects.'(2) It is worth noticing, however, that the underlying conceptual structure of the Neoplatonic system remains inherently the same and that its internal relations can therefore be equally and formally deployed in each one of its different discursive domains – namely the metaphysical, hermeneutical, psychological and religious one.

To our purposes, a significant contention, in this respect, is the statement found in an anonymous 6th-century manual of Neoplatonic philosophy, describing, from an exegetical point of view, Plato's preferred literary form:

> the dialogue is a cosmos and the cosmos a dialogue.[4]

What this statement tells us is that the structure of the universe is the same as the structure of a text and that we can legitimately transpose a metaphysical conceptual relationship into a textual context. But more interestingly, this assertion calls into play the relationship between the observed reality and the observer's point of view as a codepentent, self-reflexive and holistic relationship, which recalls John Archibald Wheeler's notion of a self-observing universe, such as depicted in the famous Wheeler's

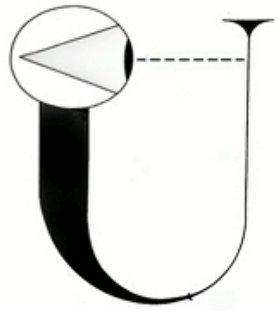
[1] Cf. L. H. Kauffman, 'Categorical Pairs and the Indicative Shift,' in *Applied Mathematics and Computation*, 218 : 16 (2012), 7989-8004.

[2] Plotinus, *Enneades*, V.1.8, 10-14 Henry-Schwyzer: *Καὶ εἶναι τοὺς λόγους τούσδε μὴ καινοὺς μηδὲ νῦν, ἀλλὰ πάλαι μὲν εἰρῆσθαι μὴ ἀναπεπταμένως, τοὺς δὲ νῦν λόγους ἐξηγητὰς ἐκείνων γεγονέναι μαρτυρίοις πιστωσαμένους τὰς δόξας ταύτας παλαιὰς εἶναι τοῖς αὐτοῦ τοῦ Πλάτωνος γράμμασιν* (And these statements of ours are not new; they do not belong to the present time, but were made long ago, albeit not explicitly, and what we have said in this discussion has been an interpretation of them, relying on Plato's own writings for evidence that these news are ancient).

[3] R. T. Wallis, *Neoplatonism*, London, Duckworth, 1972, p. 5.

[4] [Elias ?], *Prolegomena philosophiae Platonicae*, 16.3, p. 31 Westerink.

Eye (Fig. 1). Even if we woud not be prepared, with sir Arthur Eddington, 'to accept the view that the substratum of everithing is of mental character,'[5] it should not be so hard to admit of a codependent relationship between the observer and the observed reality.



– Fig. 1 –

2. The structure of the whole of reality in the Neoplatonic system can be schematized as in Fig. 2. The chief division is between sensible and supersensible reality, each of which is further subdivided into three hypostases, or essential principles – the One, Intellect, and Soul, for transcendent reality; the Animate, the Corporeal, and Prime Matter, for physical reality. Hypostases are not altogether separate levels of being. On the contrary, 'that the summit of each hypostasis overlaps the hypostasis above' is 'a feature [...] of Neoplatonism.'[6] The hyposthases proceed by emanation one from the other, all originating ultimately from the One. For 'the One is the potency of all things' and 'only from It originate all things that exist.' But 'it has to be said that all that originates from It comes into being without any movement in It,'[7] and so without any intentional act of creation or exertion of the will. Lower hypostases proceed and detach themselves as an image of the upper neighbouring one by contemplating themselves in it as in their cause.[8] Hypostases can then be seen in relation to each other as severing themselves from their original unity into two distinctly subsisting entities or, vice versa, as two distinctly subsisting entities partially overlapping that unite and, from a certain point of view, can be seen as identical in as much as they share a common 'mean term,' or form.[9] The former relation is a dynamic one, and describes the *procession* of an hypostasis from another, or the production and independent subsistence (**ὕπαρξις**) of an effect potentially contained in its prior existing cause (Fig. 3). The latter is a static one, and describes the *paticipation* of two distinct hypostases into a common form, or 'mean term,' that makes them overlap and, with respect to it, in some way identical (Fig. 4). In

Supersensible World	**One** (τὸ ἓν)	
	Intellect (ὁ νοῦς)	
	Soul (ἡ ψυχὴ)	
	Animate (τὸ ζῷον)	
	Corporeal (ἡ σωματότης)	
Sensible World	**Matter** (ἡ ὕλη)	

– Fig. 2 –

[5] A. S. Eddington, *The Nature of the Physical World*, Cambridge, The University Press, 1928, p. 281.

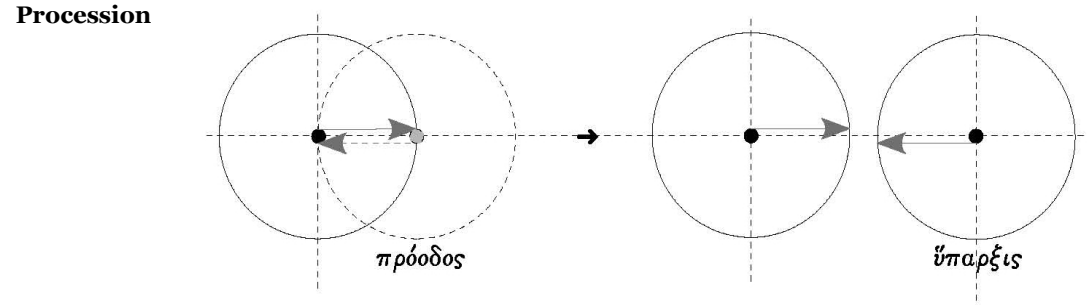
[6] A.C. Lloyd, *The Anatomy of Neoplatonism*, Oxford, Clarendon Press, 1990, p. 169.

[7] Plotinus, *Enn.*, V.1.7, 9-10, 22-23 Henry-Schwyzer: *τὸ ἓν δύναμις πάντων* [...] *ἐξ αὐτοῦ δὲ πάντα <ἐν τοῖς οὖσιν ἂν ἦν>*. Ibid., V.1.6, 22-23: *Τὸ οὖν γινόμενον ἐκεῖθεν οὐ κινηθέντος φατέον γίγνεσθαι.*

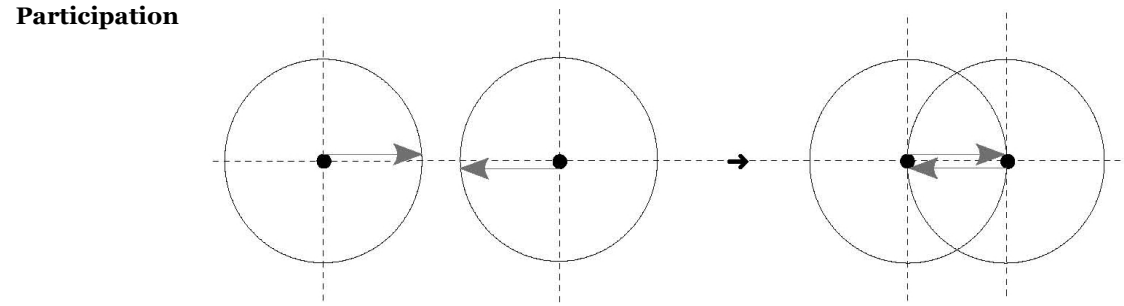
[8] Ibid., V.1.6, 46-48: *Ἀλλὰ ψυχῆς μὲν ἀμυδρὸς ὁ λόγος — ὡς γὰρ εἴδωλον νοῦ — ταύτῃ καὶ εἰς νοῦν βλέπειν δεῖ· νοῦς δὲ ὡσαύτως πρὸς ἐκεῖνον* [ἓν], *ἵνα ᾖ νοῦς* (But the thought of the Soul is dim; and being an image of the Intellect, the Soul must look at it, just as the Intellect must look at the One, to become the Intellect).

[9] 'Iamblichus' Law of Mean Terms' is, according to R. T. Wallis, 'a principle of great importance' in Neoplatonism: 'the essence of the law in question is that two dissimilar terms must be linked by an intermediary having something in common with each of them' (*Neoplatonism*, cit., p. 131).

these two figures, we have used the spatial metaphor of the 'overlap' between the hypostases to obtain the diagrams that represent the two cardinal relations that connect

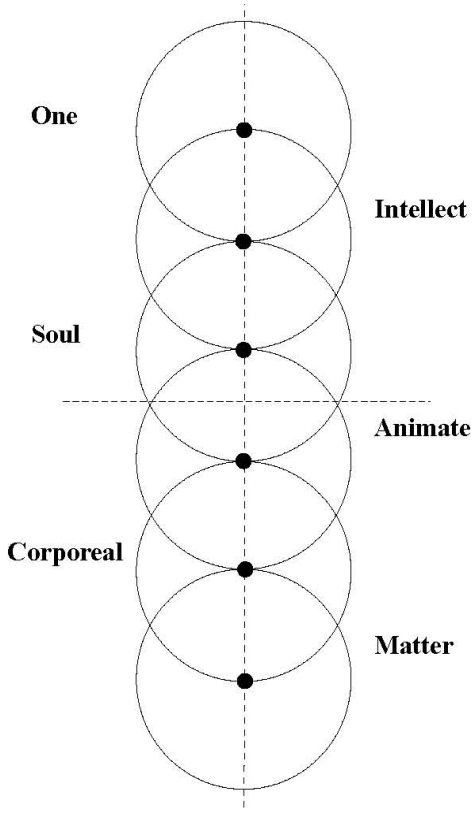


– Fig. 3 –



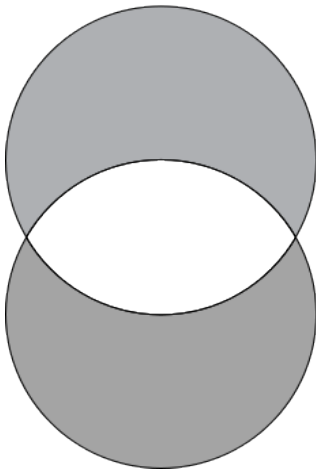
– Fig. 4 –

them together. The same kind of diagram can be used to represent the overall structure of the Neoplatonic metaphysical system, as shown in Fig. 5 below.



– Fig. 5 –

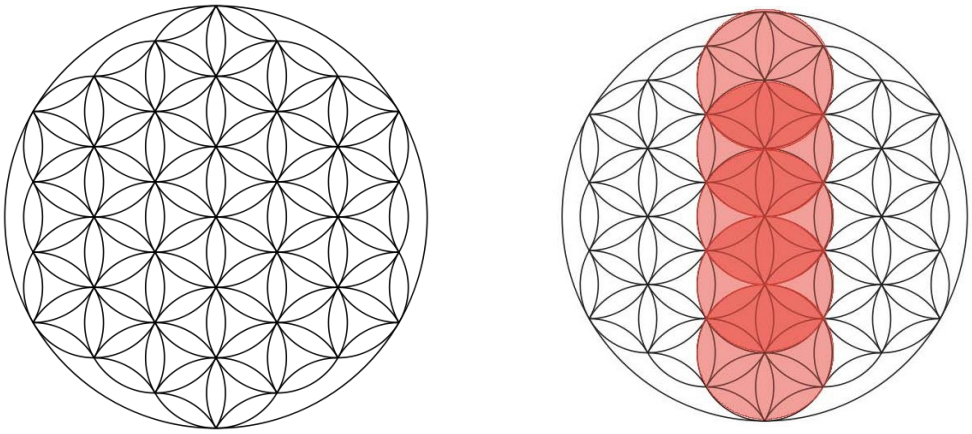
3. Such a diagram of the metaphysical Neoplatonic system has interesting properties of its own. The shape of the overlapping area is that of the *vesica piscis*, or *mandorla* (Fig. 6), which has since long been made the object of mystical speculation and, among scientists, of persisting beliefs in the geometric underpinnings of the cosmos. The *vesica piscis* is one of the simplest forms of the so-called 'sacred geometry' and one of its elemental symbols. It concurs in the creation of the 'flower of life,' in itself another highly symbolic geometrical construction. Our diagram of the Neoplatonic metaphysics can be easily superimposed upon it, as it can be seen in Fig. 7, below. The following illustrations (Fig. 8) show another remarkable case of arresting superposition of the Neoplatonic scheme with the Kabbalistic 'tree of life,' a



– Fig. 6 –

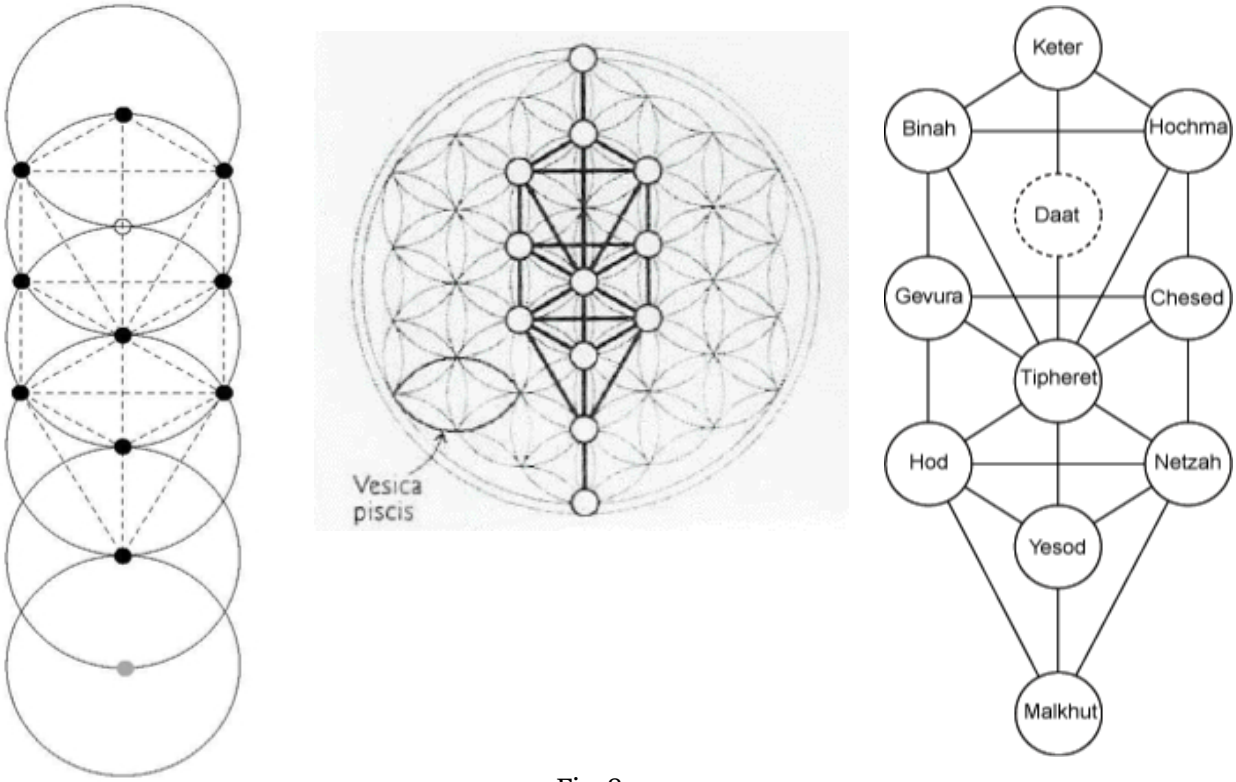
mystical symbol interpreted as a map of creation and a full model of reality. 'The affinity between the Kabbalistic views [...] and the Neoplatonic theology was emphasized by Gershom Scholem, who understood some of its expressions in purely Neoplatonic terms.'[10] Some reservations, though, have actually been raised about his 'explicit Platonic proclivity.'[11]

(a) (b)



– Fig. 7 –

(a) (b) (c)



– Fig. 8 –

[10] M. Idel, 'Jewish Kabbalah and Platonism in the Middle Ages and Renaissance,' in L. G. Goodman, *Neoplatonism and Jewish Thought*, Albany NY, SUNY Press, 1992, 319-51, pp. 338-39.
[11] Id., 'Some Concepts of Time and History in Kabbalah,' in E. Carlebach et al. (eds), *Jewish History and Jewish Memory: Essays in honor of Yosef Hayim Yerushalmi*, Hanover NH, University Press of New England [for] Brandeis University Press, 1998, p. 184.

4. The basic structure of Neoplatonic metaphysics can be further analysed in its constituent elements and relations. The more precise conceptualization of the formal relationships between the hypostases is due to Iamblichus, whose specialized notions and terminology were whole-heartedly accepted by his successors. The essential structure of Iamblichus' metaphysics has been schematized in the following way:[12]

THE BASIC STRUCTURE OF IAMBLICHUS' METAPHYSICS

Arrows represent procession or irradiation, > *participation by*

Imparticipable intellect

↓

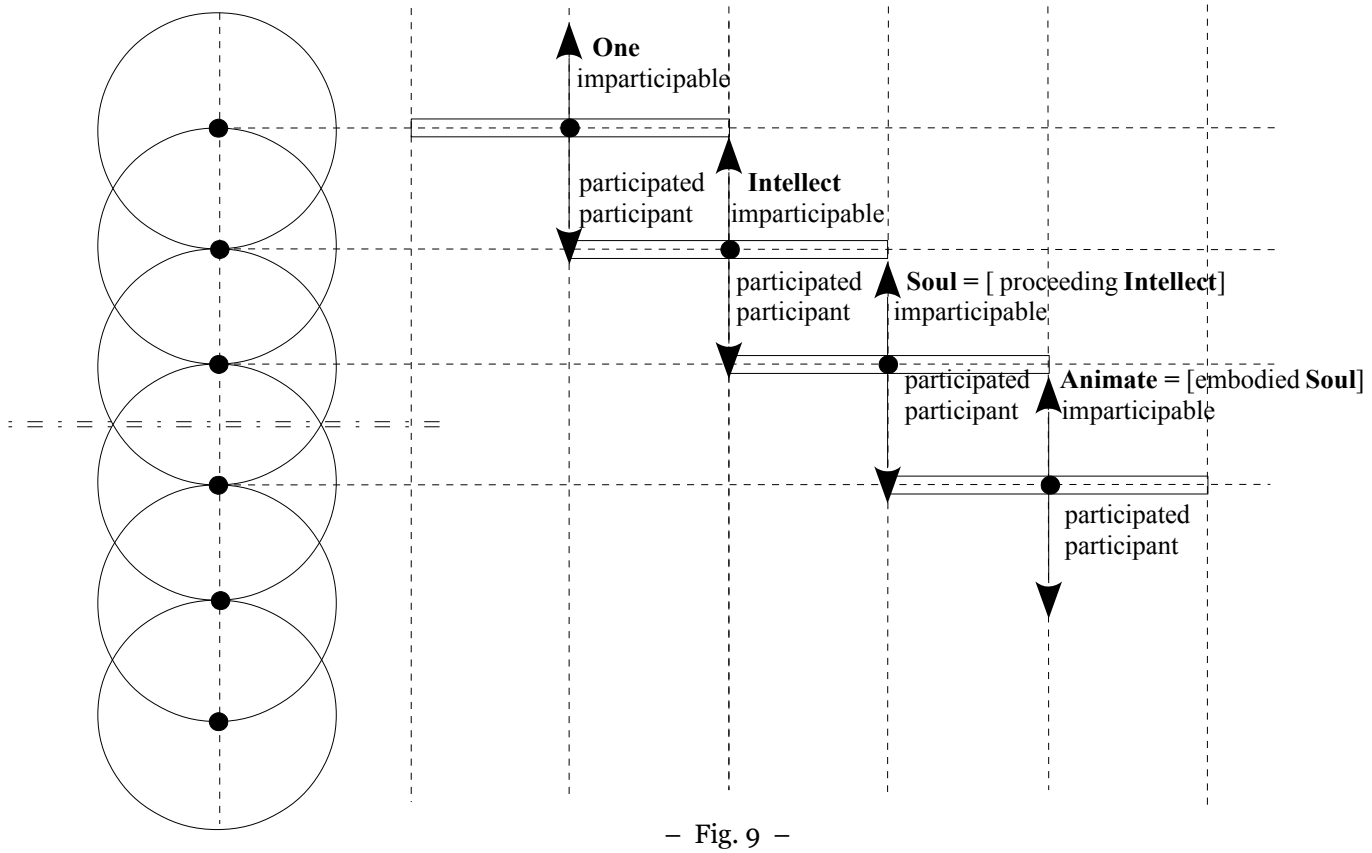
{(Participated intellect > Imparticipable soul) = Participant Intellect} → Proceeding intellect

↓

{(Participated soul > body) = Participant soul} → Proceeding soul

NOTE: This omits the procession of Soul as a hypostasis from Intellect as a hypostasis, which is a complementary point of view representing what Plotinus (VI 2 [43] 22, 26–8) called the *external* activity of Intellect. Here the proceeding intellect is the *intellectus in habitu* and *possibilis* (Simplicius, *In De an.* 311, 29), the proceeding soul the non-rational soul.

According to Iamblichus, hypostases have a non-overlapping, or *imparticipable* part and an overlapping, or *participated* part. In this scheme, the overlapping part of the Intellect is participated by the imparticipable Soul and can be described as *participant* Intellect.

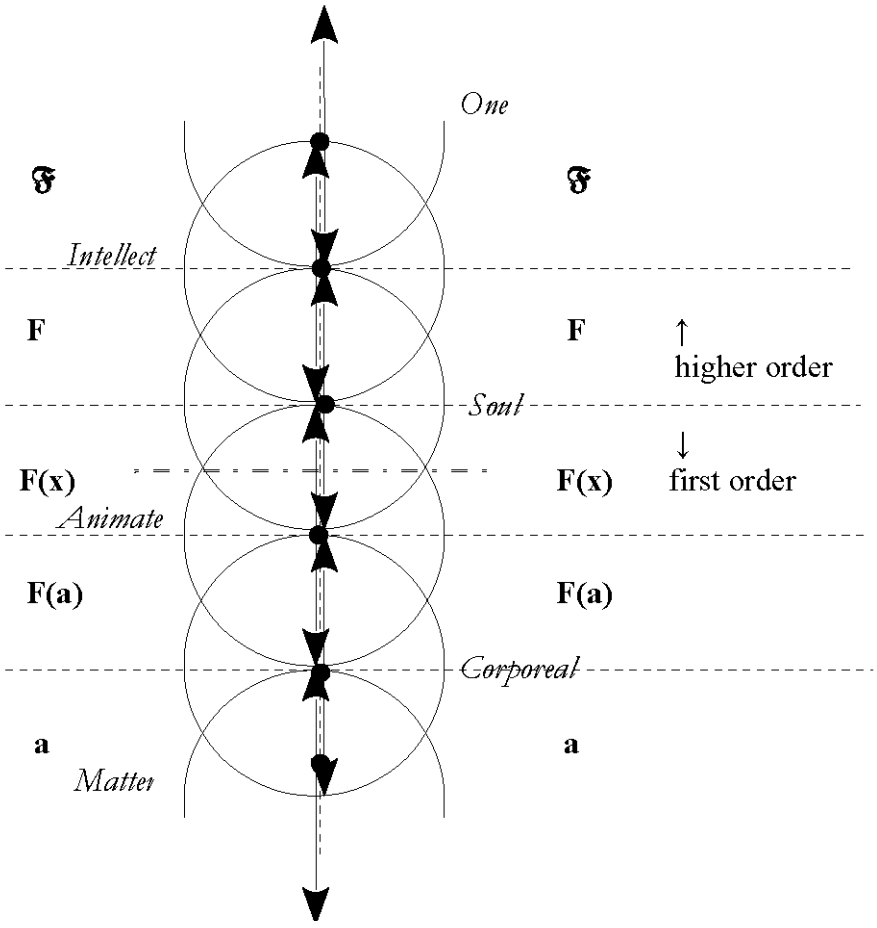


– Fig. 9 –

[12]A. C. Lloyd, 'The Later Neoplatonists,' in *The Cambridge History of Later Greek and Early Medieval Philosophy*, Cambridge, Cambridge University Press, 1967, p. 301.

The imparticipable Intellect proceeds to the participant Intellect, which in turn can be described as *proceeding* Intellect. The participated and participant intellect can be seen as staying, respectively, in a passive or active participation relationship with the Soul. The imparticipable Soul proceeds from the proceeding Intellect, and so on to the lower hypostases. All these relations can be visualised, using our diagrams, as in Fig. 9 .

5. The several hypostases of this hierarchical comprehensive structure of reality requires different logical forms to be described. From a metaphysical point of view, each hypostasis is the subject, or substrate, of ontologically different forms. These forms are properties of their respective hypostases, and can be talked about as their attributes and expressed as predicates of their names. As we have a metaphysical hierarchy of hypostases and their respective forms, we also have a corresponding hierarchy of expressions to describe and talk about them. The appropriate language to describe this metaphysical structure is a



– Fig. 10 –

hierarchical language comprising different logical types. In Fig. 10 we exemplify the various expressions that can be used to symbolize the different semantic categories required to designate each specific ontological entity. As forms proceed from the higher hypostases and can be irradiated throughout to the lower ones, we equally have corresponding expressions used at different levels of predication to designate their matching ontological forms. We can use the standard formal language of first-order logic to designate entities and forms at the level of corporeal things and animated bodies. We need a higher-order language and a second-order form of predication to talk about forms in the imparticipable Soul, and still an upper-order language to express forms and

relations in the Intellect. Transfinite notions seem appropriate to designate forms in the Intellect.

Different logical types are then seemingly required for the expression of forms at different ontological levels. But the hierarchy of types is not open: it ends up at the level of the imparticipable Intellect, or *nous*. We may notice that it works to talk about the lower hypostatic levels and to express discursive thought, but that it does not work to talk about higher hypostatic levels and to express non-discursive thought, such as is required to expose how the imparticipable *nous* actually thinks. So, why is the hierarchy of types not open? Why does it go up only to the third degree, and why does it get barred when it reaches the One?

6. A possible answer can be found by making use of the *indicative shift* operator introduced by Louis Kauffman. This operator is 'a construction for indirect self-reference' that 'formalizes an operation on names that can also be regarded as an *expansion* of a name in the sense that if "A" is the name of A then the expansion E"A" refers to A"A", the result of appending the contents of the name to the name.' If we 'adopt the symbol # for the shift,' and *a* is the name referring to *b*, we have:

$$a \longrightarrow b$$

and

$$\#a \longrightarrow ba.$$

If we assume that 'A' is the name of A and that the name points to its content, as in

$$\text{'A'} \longrightarrow A$$

then,

$$\#A \longrightarrow A\,\text{'A'}$$

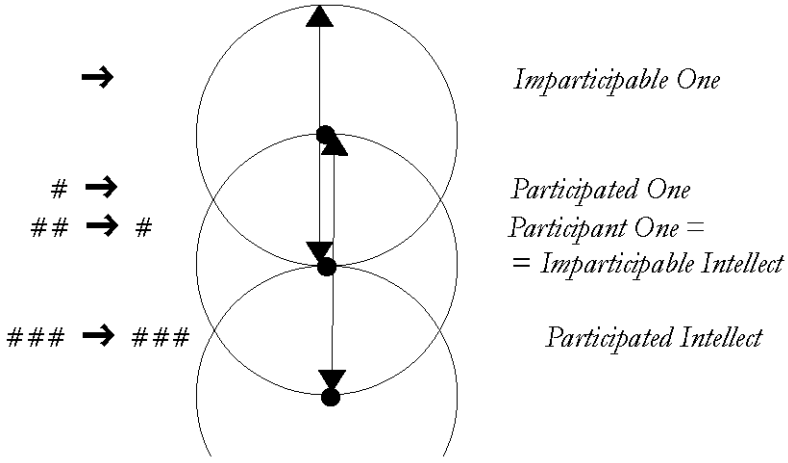
and 'self-reference results when one expands the name of the expansion operator':[13]

$$\#\,\text{'\#'} \longrightarrow \#\,\text{'\#'}.$$

We can then use the indicative shift to represent the transition from the void to self-reference, as shown here below:

$$\longrightarrow$$
$$\# \longrightarrow$$
$$\#\# \longrightarrow \#$$
$$\#\#\# \longrightarrow \#\#\#.$$

Now, we can use this derivation to formalize the procession of the Intellect from the One, as in Fig. 11. Here we start with a formula expressing the void, being itself nameless or referred to by no name. This formula can be easily interpreted as the Neoplatonic One, utterly unspeakable, referring to itself. The One, conceived of as imparticipable is absolutely transcendent and beyond any kind of ontological or conceptual distinction. In this sense it can be seen as void and deprived of any feature and characterization whatsoever. The next formula can be seen as referring to a *henad*, or to a participated aspect of the One. A henad can be thought of as a



– Fig. 11 –

[13] Kauffman, 'Categorical Pairs,' cit., p. 7989-91.

'mean term,' or an ontological property that allows paticipation between the One and the Intellect. As a mean term, ontological or conceptual, a henad can be seen as belonging to the One, i.e. as *participated* One, or as belonging to the Intellect, i.e. as Intellect *imparticipable* by the immediately lower hypostasis, the Soul. It is to this double aspect of the henad conceived of, on the one hand, as a property or a predicate of the One, and on the other, as a property or a predicate of the Intellect, that we can respectively refer the second and the third formula, "# —➢ " and "# # —➢ # ", of our formal derivation. As belonging to the One, the henad is 'ineffable,' while on the contrary, as belonging to the Intellect, the henad is altogether 'intelligible.'[14] The double aspect of the henad constitutes the ontological structure that explains the 'overlap' of the two hypostases, the One and the Intellect. In its turn, the last formula refers to the Intellect *participated* by the Soul and expresses its self-referential nature, for the Intellect is at once 'what is thinking (*νοοῦν*) and what is being thought (*νοούμενον*).' The Intellect is a unity that consists of an intrinsic duality, it is 'one and the same, because it is one with itself,' and it 'is two things,' because it is 'thinking' and 'thought'; but these two things 'are simultaneous and exist together,' for they imply each other by being mutually related and by being the same, one referring to the other, and in fact the same thing referring to itself.[15]

7. The activity of the Intellect is thought, and it is thought thinking of itself. Thus the Intellect thinks everything at once: 'it thinks not by seeking, but by having,' for 'it has everything' in itself and 'in eternity'; it has no past, nor future, 'it only is, and its "is" is for ever'; it is not in time, like the Soul, and it does not think 'one thing after another,' dwelling on them in time, thus 'letting some things go and attending to others.'[16] Accordingly, the activity of the Intellect can be described as a kind of 'non-discursive' thougt.[17]

Non-discursive thought, such as the kind of thought Plotinus is concerned with, has been described by Antony Lloyd as 'a type of thought which would be *simple*, that is, contain no complexity.' And from its simplicity 'three properties' are to be deduced: non-discursive thought involves (a) 'no transition from concept to concept'; (b) 'no distinction between the thinker or the thinking on one side and the object of his thinking or the thought on the other side';[18] and (c) 'thinking of everything at once.'(267) The lack of distinction between the act and the object of thought, makes it a self-referential kind of thought. But this lack

---

[14] Proclus, *Instututio theologica*, 162, 1-3 (p. 141, 28-30) Dodds: *Πᾶν τὸ καταλάμπον τὸ ὄντως ὂν πλῆθος τῶν ἑνάδων κρύφιον καὶ νοητόν ἐστι· κρύφιον μὲν ὡς τῷ ἑνὶ συνημμένον, νοητὸν δὲ ὡς ὑπὸ τοῦ ὄντος μετεχόμενον* (All those henads which illuminate true Being are secret and intelligible: secret as conjoined with the One, intelligible as participated by Being).

[15] Plotinus, *Enn.*, V.1.4, Henry-Schwyzer 30-32, 40: *Ἅμα μὲν γὰρ ἐκεῖνα καὶ συννυπάρχει καὶ οὐκ ἀπολείπει ἄλληλα, ἀλλὰ δύο ὄντα τοῦτο τὸ ἓν ὁμοῦ* [...] *νοοῦν καὶ νοούμενον*. [...] *Ταὐτὸν δέ, ἐπεὶ ἓν ἑαυτῷ* (For they are simultaneous and exist together and one does not abandon the other, but this one is two things at once [...] what is thinking and what is being thought. [...] But also one and the same, because it is one with itself).

[16] Ibid., V.1.4, Henry-Schwyzer 16, 17-19, 21-22: *νοεῖ δὲ οὐ ζητῶν, ἀλλ' ἔχων*. [...] *ἐν αἰῶνι πάντα, καὶ ὁ ὄντως αἰών* [...] *τὰ μὲν παριείς, τοῖς δὲ ἐπιβάλλων*. *Καὶ γὰρ ἄλλα καὶ ἄλλα* [...] *Ἔχει οὖν <ἐν τῷ αὐτῷ> πάντα* [...] *καὶ ἔστι μόνον, καὶ τὸ "ἔστιν" ἀεί* (it thinks not by seeking, but by having. [...] all things are in eternity, and the true eternity [...] letting some things go and attending to others. And in fact one after another [...] It has therefore everything <in itself> [...] and it only is, and its "is" is for ever).

[17] Cf. A. C. Lloyd, 'Non-Discursive Thought: An enigma of Greek philosophy,' in *Proceedings of the Aristotelian Society*, New Series, 70 (1969-1970), 261-274; and Id., 'Non-propositional Thought in Plotinus,' in *Phronesis*, 31:3 (1986), 258-65.

[18] Id., ' Non-Discursive Thought,' cit., p. 263.

of distinction should not be understood as an absolute identity. It can be conceived of as a *distinctio formalis a parte rei*, a special kind of distinction introduced by Duns Scotus:[19] due to the particular ontological nature of the Intellect, a formal distinction implies the identity of the Intellect with each one of the 'objective forms or formalities' that belong to it and that can be thought of, at the same time, severally and distinctly from it. The kind of identity that holds between the Intellect and its formalities, though, does not apply to other entities ontologically different and non-self-referential, such as perceivable and sensible objects.

The reason for the identity of the Intellect and its forms can be traced back to the circumstance that the object of thought 'is an intentional object—however we wish to analyse that notion.' And the peculiarity of an intentional object is that, contrary to objects that exist in the realm of sensible perception, their essence or act of being is the same as their representative nature or act of representing. An intentional object cannot be identified with 'what is being referred to' by a name 'in the logician's technical sense of "refer",' and 'it is not possible there to say,' dealing with an intentional object, 'what is being thought of, unless we say that it is identical with what is being thought.'[20] The act and the object of thought are here identical, and self-reference is implied throughout. But self-reference can be dealt with formally by means of the indicative shift, as Louis Kauffman has convincingly shown: 'The completion of the naming process for the process of naming is self-referential. When we refer to ourselves in language we refer to our own ability to make and complete the act of naming.'[21] So the behaviour of an intentional object does not seem so elusive as Antony Lloyd purports it to be and, as he acknowledges too, what we ought to say about it 'must also be distinguished from the alternative of merely denying that there is' in actual fact 'an object' of this kind. Moreover, as Kaffman invites us to do, we can further argue that the notion of the Intellect thinking of itself may be adequately expressed by rephrasing a statement of Heinz von Foerster[22] in the following way: 'The Intellect thinking of itself is the thought of relation between the Intellect and its thinking of itself.' Is then non-discursive thought such an 'enigma,' as professor Lloyd described it in the very title of his paper?

This analogy between the Neoplatonic Intellect and von Foerster's self-observing systems is not far-fetched, for as von Foerster reflects on self-observation, Plotinus reminds us that 'we know ourselves [...] by our becoming identical with the Intelligence (*νοῦς*),'[23] by thinking as the Intellect thinks of itself. And

> to become *νοῦς* is to acquire self-knowledge, for *νοῦς* not only has self-knowledge, he is self-knowledge [...] This, then, is true self-knowledge: to become *νοῦς χωριστός*, in whom there is no

[19] 'While the *distinctio realis* exists between two really different things, and the *distinctio rationis* multiplies our concepts of one and the same thing, to enable us to consider it from different (*d. rations cum fundamento in re*) or identical (*d. rations sine fundamento in re*) standpoints, the *distinctio formalis a parte rei* points, in one and the same individual substance, to the objective forms or formalities that are realized in it, and really in it, *independently of any intellectual act of ours*. Having once established this *distinctio formalis a parte rei*, Scotus makes extensive use of it in his metaphysics' (M. De Wulf, *History of Medieval Philosophy*, 3rd. edn., London, Longmans, 1909, pp. 372-73).

[20] Lloyd, 'Non-Discursive Thought,' cit., p. 271.

[21] Cf. Kauffman, 'Categorical Pairs,' cit.

[22] 'I am the observed relation between myself and observing myself' (H. von Foerster, *Understanding Understanding: Essays on cybernetics and cognition*, New York, NY, Springer, 2003, p. 257); and Kauffman comments: 'We encourage the reader to expand further on these themes' ('Categorical pairs,' cit., p. 8003).

[23] Plotinus, *Enn.*, V.3.4, 4-7 Henry-Schwyzer: *γινώσκομεν δὲ αὐτοὺς* [...] *ἐκεῖνο* [*νοῦς*] *γινόμενοι*.

> difference between knower, object known, and the act of knowledge. [...] When I become that which is self-knowledge I know myself.[24]

8. But what are the most engaging formal properties of a non-discursive, self-referential form of thought? A first and foremost character is the collapse of the distinction between object language and metalanguage, or between different semantic categories or logical types within a many-tiered object language allowing higher-order predication. Non-discursive thought does not admit of a theory of types. But the collapse of the hierarchy of logical types has a peculiar character. Usually, defenders of first-order logic as the only genuine kind of logic reject higher-order predication and reduce the expressive power of the object language to a single level of assertion, the lowest one. They admit of a metalanguage totally separate from the object language. The semantic and ontological counterparts of this position are an exclusively referential semantics and the rejection of abstract or metaphysical entities. The world is made only of concrete objects and everything else is the result of linguistic constructions, or purely nominal definitions, whose meaning has to be resolved in terms of primarily referring expressions.

The collapse of logical types in non-discursive thought is of a totally different nature. It is a reduction to the top level of the hierarchy, beyond which there is only the totally ineffable and undefinable. The semantic and ontological consequences are completely different. In this language we can only express what we 'think' and not what we 'think of or about' something, unless we identify 'act and object of thought.'[25] Objects of thought can be conceived of as 'intentional objects' that cannot be referred to in the ordinary denotational sense, but only conveyed as the meaning or sense – as opposed to reference – of the corresponding expressions. Ontologically, they can be thought of as ideas or metaphysical supersensual entities. We have a sort of collapse to the top level of the logical and ontological hierarchy instead of a collapse to the bottom level, assumed as unique, of existing reality.

The Neoplatonic system, then, admits of two kinds of thought and logic, a discursive and a non-discursive one. The discursive kind of logic, in the Neoplatonic system, comprises a theory of logical types, adequate to the expression of ontological hypostases and forms up to the level of the participated Intellect. The non-discursive kind of logic is suited to the expression of forms and relations at the level of the imparticipable Intellect. And whereas by collapsing to standard first-order logic we can only admit of a purely denotative and referential semantics, a kind of semantics that in a somewhat derogatory way has been labelled the '"Fido"-Fido' theory of meaning,[26] by adopting Neoplatonic discursive and non-discursive logic we can apply a fully-fledged and comprehensive range of semantical categories.

As we have seen, Plotinian non-discursive thought can be dealt with formally by a logic of self-reference. The discursive *vs* non-discursive opposition seems to vanish, but for the specific formal and operational properties of the respective systems. Just to mention one of these features, we may refer to an aspect of Spencer-Brown's 'calculus of indication,' a

[24] Ph. Merlan, *Monopsychism, Mysticism, Metaconsciousness: Problems of the soul in the Neoaristotelian and Neoplatonic tradition*, The Hague, Martinus Nijhoff, 1963, pp. 80-81.
[25] Lloyd, 'Non-Discursive Thought,' cit., p. 271.
[26] Cf. G. Ryle, 'The Theory of Meaning,' in C.A. Mace (ed), *British Philosophy in Mid-Century: A Cambridge symposion*, London, Allen and Unwin, 1957, pp. 239-64.

'formalism to represent the act of *distinction*.'[27] As Louis Kauffman put it, 'self-reference and the idea of distinction are inseparable (hence conceptually identical).'[28] In this context, a self-referential process can be conceived of 'as self-indication,' (123) or as 'a form that *reenters* its indicational space,' a form in other words 'that informs itself.' Invoking a geometrical analogy, we may compare self-indication to a Klein bottle, a sort of self-reentering bottle 'where inside and outside become hoplessly confused.' (122) In this calculus, every indication is expressed by 'the same name or token,' a name that can be understood in two ways: either as an operation or 'act of distinction,' or as the 'value' of that very operation. Consequently, 'the only explicit symbol of the calculus,' the mark of distinction, 'acquires a double sense,' (111) and this means that in the calculus of indications 'operators and operands are interchangeable.' This formal property of the calculus leads to a collapse of logical type distinctions. We enter, thus, the 'enchanted land' of 'self-referential forms'[29] and, relying on them, we can try to formalize that kind of non-discursive, self-referential thought, that is the proper distinctive character of the Neoplatonic Intellect.

In a few words, it seems as if we could make use of a system endowed with such formal properties to find an adequate way of dealing with the relationship between syntax and semantics as embodied in a text.

II. Text, syntax and semantics

1. According to John Haugeland, a defender of GOFAI (Good Old-Fashioned Artificial Intelligence),[30] and an advocate of 'the *sufficiency* of physical symbol systems for producing intelligence,'[31] there is no difficulty whatsoever in connecting syntactic structures to semantic ones. From this point of view, what is assumed as the guiding principle of a formalist analysis of language is a memorable 'phrase' with a 'memorable name,' the so-called 'Formalists' Motto': 'If you take care of the syntax, the semantics will take care of itself.'[32] But the awareness of a more problematic relationship between syntax and semantics comes to the fore just as we deal, quite surprisingly, with the digital representation of a text.

From a computational point of view, text is defined as 'information coded as characters or sequences of characters.'[33] The basic type of data to represent a text thus consits in a string of coded characters. The means to assign a structure to the string of characters representing a text is provided by markup, a technique that can be defined as 'the use of embedded codes, known as tags, to describe a document's structure.' In other words, markup is 'the denotation of specific positions' in a string of characters 'with some

[27] F. J. Varela, *Principles of Biological Autonomy*, New York/Oxford, North Holland, 1979, p. 106-07; cf. G. Spencer Brown, *Laws of form*, London, Allen & Unwin, 1969.
[28] L. H. Kauffman, 'Self-reference and Recursive Forms,' in *Journal of Social and Biological Structures,* 10:1 (1987), 53–72, p. 53.
[29] Id. and F. J. Varela, 'Form Dynamics,' in *Journal of Social and Biological Structures*, 3:2 (1980), 176-206, p. 200.
[30] 'What I shall call Good Old-Fashioned Artificial Intelligence—GOFAI for short [...] rests on a particular theory of intelligence and thought—essentially Hobbes idea that ratiocination is *computation*' (J. Haugeland, *Artificial Intelligence: The very idea* [1985], 1st pbk. ed., Cambridge MA, MIT Press, 1989, p. 112.
[31] A. Newell and H. A. Simon, 'Computer Science as Empirical Inquiry: Symbols and search,' in *Communications of the ACM*, 19:3 (1976), 113-126, p. 118.
[32] Haugeland, *Artificial Intelligence*, cit., p. 106.
[33] A. C. Day, *Text Processing*, Cambridge, Cambridge University Press, 1984, p. 1.

assigned tokens.'[34] Now, recalling a distinction introduced by the Danish linguist Louis Hjelmslev, we may say that the string of characters constitutes the *expression* of a digital text and that the information it conveys constitutes its *content*.[35] Accordingly, the syntactic structure of a digital text consists in the structure that the markup assigns to a string of characters by denoting in it some specific positions, whereas its semantic structure 'is not always reducible to character positions' within the text. Thus, the 'formalists' motto,' that rests on the assumption of a one-to-one correspondence between syntactic and semantic structure, clearly breaks down. So, the digital representation of the text forces us to give up this very simplistic assumption about the relationship between syntax and semantics and to ponder more heedfully on a general fact that characterizes this relation.

2. Language, in general, admits of synonymous and plysemic expressions. Synonymy can be defined as 'more than one form having the same meaning,' and polysemy as 'the same form having more than one meaning.'[36] The same meaning can be expressed in more than one way, just as the same expression can be interpreted differently and can be assigned more than one meaning. If you take a decision about the syntax and single out an expression, its meaning remains indeterminate and the choice among a number of possible interpretations is left completely open. On the other hand, if you take a decision about the semantics and fix the import of what you want to say, the way it can be expressed remains indeterminate and the choice among a number of possible expressions is left equally open. The result of a choice is an act of distinction, either about the syntax or about the semantics, and as soon as it is done, the process goes on on the other side. So, the relation between the expression and the content or, for that matter, between syntax and semantics, is a codipendent indetermination relationship, and in order to relate them formally, a suitable model of this kind of relationship has to be found.

Now, as it happens, the markup can be exploited precisely to analyse this indetermination relationship. Markup expressions behave as diacritics[37] and as diacritical expressions can exert an inherent self-referential function, simply by acting as a discriminating mark, that exhibits self-reflexively what can only be shown and cannot be said in the object language. In their self-referential capacity, markup expressions are ambiguous and ambivalent. They are in themselves particular expressions of the text, and belong to it, but at the same time they are endowed with a kind of self-describing metalinguistic force, that relates some semiotic elements of the text to other semiotic elements of the same text. They can thus be considered as an instance of 'reentrant forms,' capable of being considered as a value, or a form of expression, on the one hand, and as a 'prescription,'[38] or a rule, acting on these very values or expressions on the other: taken as values, or forms of expression, they belong to the text; on the other hand, taken as operators, they can be understood as rules, expressed in the object language, to draw inferences about specific elements of the expression, or the content of the text.

---

[34] D. R. Raymond et al., 'Markup Reconsidered,' Paper presented at the First International Workshop on Principles of Document Processing, Washington, D.C., October 22–23, 1992, http://www.darrellraymond.com/markup.pdf (accessed 2 May 2012).

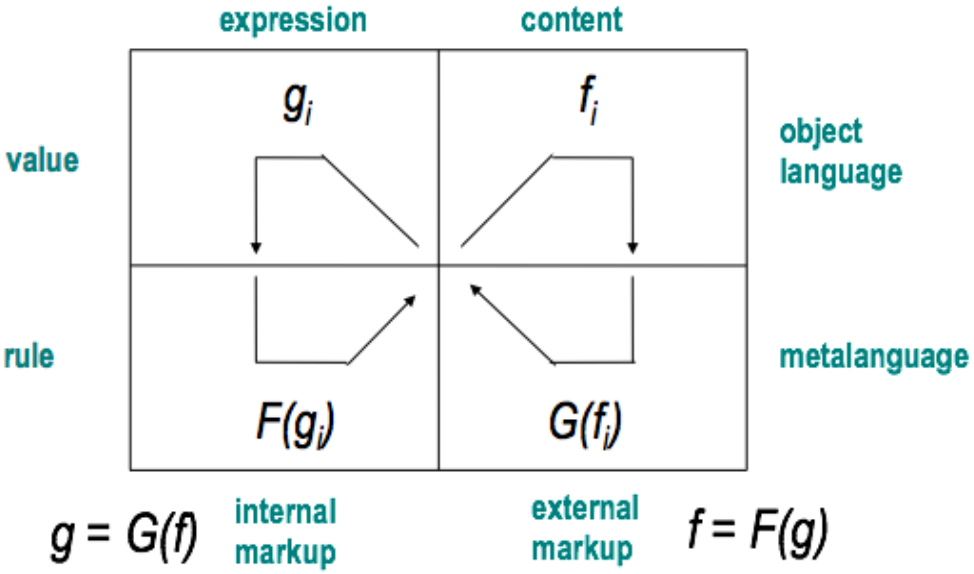
[35] See L. Hjelmslev, *Prolegomena to a Theory of Language*, tr. F. J. Whitfield, rev. Engl. ed., Madison WI, The University of Wisconsin Press, 1961.

[36] G. N. Leech, *Semantics: The Study of Meaning*, Harmondsworth, Penguin Books, 1974, pp. 101-102.

[37] Cf. D. Buzzetti, *Diacritical Ambiguity and Markup*, in Id., G. Pancaldi, and H. Short (eds), *Augmenting Comprehension: Digital Tools and the History of Ideas*, London-Oxford, Office for Humanities Communication, 2004, pp. 175-18; and Id., *Digital Editions and Text Processing*, in M. Deegan and K. Sutherland (eds), *Text Editing, Print, and the Digital World*, Aldershot, Ashgate, 2009, pp. 45-62.

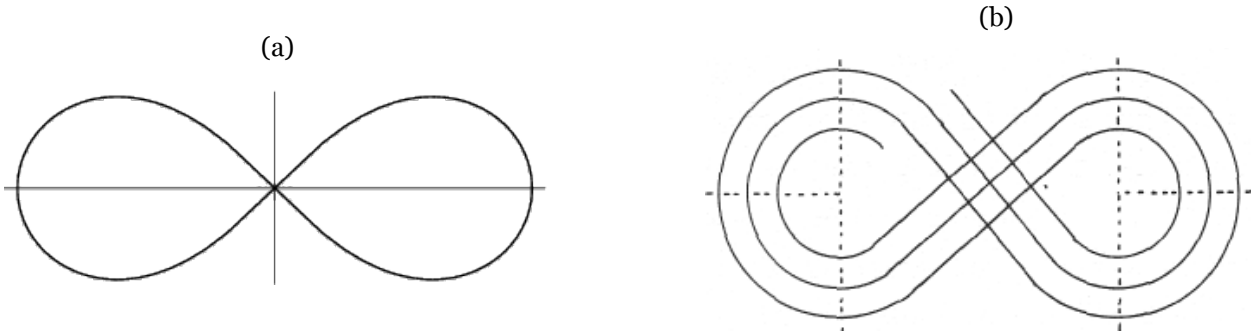
[38] Varela, *Principles of Biological Autonomy*, cit., p. 124.

Based on these observations, a 'dynamic model' of the relationship between syntactic and semantic structures of a text can be devised. A first attempt to obtain such a model can be discribed by means of a diagram (Fig. 12):[39]



– Fig. 12 –

This diagram can be thought of as a kind of multidimensional matrix, whose elements are connected by a series of operations. The process resulting from this series of operations is a kind of loop, or continuing spiral, as shown in Fig. 13.



– Fig. 13 –

3. But this model is not complete and it can be improved by taking into accont some essential Neoplatonic insights. As we have seen, the basic formal structure of the Neoplatonic system holds in each of its specific discursive domains. Plotinus himself is aware of this basic aspect of his theoretical construction. Referring to the three primary hypostases – One, Intellect, and Soul – he affirms explicitly: 'And just as in nature there are these three degrees, so we ought to think that they are present also within ourselves.'[40] There is, then, an essential homology between the metaphysical and the psychological

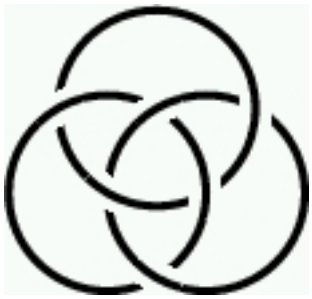
[39] For a more detailed description, see D. Buzzetti, *Digital Text Representation: Expression and Content*, in A. D. Ford (ed), *Contexts: Proceedings of ANPA 31*, [London], ANPA, 2011, 124-145, pp. 134-36.

[40] Plotinus, *Enn.*, V.1.10, 5-6 Henry-Schwyzer: *Ὥσπερ δὲ ἐν τῇ φύσει τριττὰ ταῦτά ἐστι τὰ εἰρημένα, οὕτω χρὴ νομίζειν καὶ παρ' ἡμῖν ταῦτα εἶναι.*

structure. And also in the religious and hermeneutic domains we can find the same structural arrangement. The overall formal structure of the system is holistic and all its structural components are codependent. The same kind of codependency holds, therefore, among the specific elements and notions of all its different domains. The very same structural homology can be extended to textuality: the hermeneutic domain is clearly textual, and the isomorphism between the metaphysical and the textual realms is expressly stated in the maxim 'The dialogue is a cosmos and the cosmos a dialogue.'[41] Apparently, then, we can rely on a model gathered from the formal structure of the Neoplatonic system to analyse the indetermination relationship that holds between textual syntactic and semantic structures.

Now, the relationship between syntax and semantics cannot be properly understood without taking into account, as Peirce reminds us, a 'triadic relation'[42] between a sign, the object it refers to, and an interpreter. According to Peirce, 'a sign endeavours to represent, in part at least, an Object [...] but to say that it represents its Object implies that it affects a mind'[43] – or a mind-like interpreting system anyway. This means that a 'sign' or, more generally, what he calls a '*representamen*,' is 'a subject of a triadic relation *to* a second, called its *object*, *for* a third, called its *interpretant*.' In this sense, the meaning of 'the word *representation*' is confined to 'the operation of a sign,' or to 'its *relation* to the object *for* the interpreter of the representation.'[44] An adequate model of the relationship between syntax and semantics should therefore take into account Peirce's 'thirdness,' which 'is what it is, owing to things between which it mediates and which it brings into relation to each other.'[45] A third, or an *interpretant*, then, 'has a mode of being which consists in the Secondness,' or the *object*, 'that it determines' for a *representamen* or a *sign*.[46] It is worth noticing, though, that a Peircean interpretant is not an interpreter, but rather the sense made of the sign. So, with a more familiar terminology, we may speak of the *sign*, or the information carrier, the *sense* made of the sign, and the *reference* the sign stands for, as the three necessary elements of a semiotic relation.

The sign, the object, and the interpretant, as conceived by Peirce, are strictly connected and interlaced, just as the 'symbolic,' the 'real,' and the 'imaginary' orders defined by Lacan,[47] with which they can be easily aligned. The close interconnection 'of the real, the symbolic and the imaginary,' as exposed by Lacan 'in their basic circularity,' is 'presented by means of the Borromean knot,' which 'defines itself as the way in which we *imagine* the *real* effect of the *symbolic*.'[48] (Fig. 14). The Borromean 'knot,' though, is not properly a knot, but rather an interlacing of three separate rings. Actually, a better representation of this interconnection can be provided by a trefoil knot, as shown in Fig. 15.

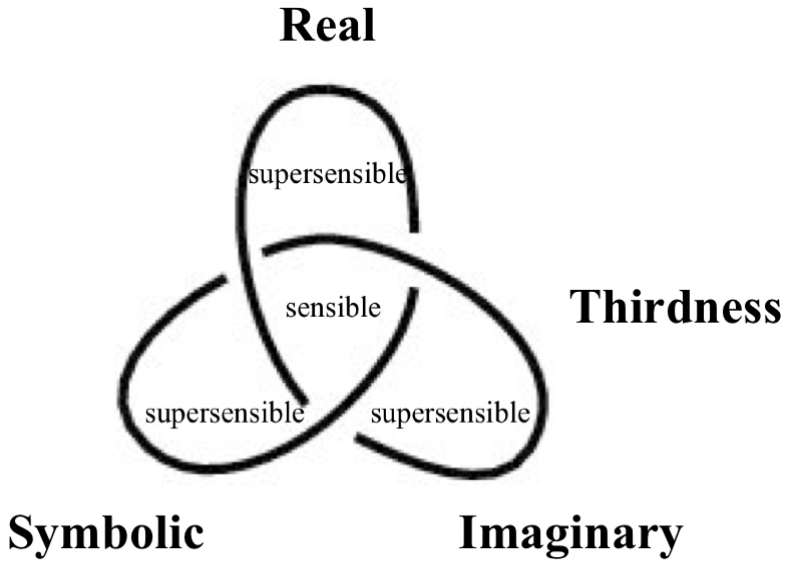


– Fig. 14 –

We can try to interpret the trefoil knot, that can be assumed as an adequate model of the threefold relationship between sign, sense, and reference, from a Neoplatonic point of

[41] See above, note 4.
[42] Ch. S. Peirce, 'A Syllabus of Certain Topics of Logic,' EP 2:272-3, 1903.
[43] Id.,'Some Amazing Mazes, Fourth Curiosity,' CP 6.347, c. 1909.
[44] Id., *Lowell Lectures*, CP 1.540-542, 1903.
[45] Id., 'A Guess at the Riddle,' CP 1.356, c. 1890.
[46] Id., *Lowell Lectures*, CP 1.536-537, 1903.
[47] Cf. J. Lacan, *Les quatre concepts fondamentaux de la psychanalyse: 1964*, Paris, Éditions du Seuil, 1973.
[48] Ph. Julien, *Pour Lire Jacques Lacan*, 2.e éd., Paris, E.P.E.L., 1990, pp. 212, 221.

view. In this diagram each loop can be understood as a specific discursive domain that represents, respectively, the symbolic, the real and the imaginary order – that correspond,



– Fig. 15 –

in turn, to Peirce's notions of sign, object and interpretant. Each loop encloses two distinct areas, one of them overlapping with the corresponding area of the other loops, and another one kept apart from them. The overlapping area can be thought of respectively as the sensible component of the sign, the object, or the interpretant. The sensible component of a sign is its physical nature; that of an object is its body, or the substrate where a formal or metaphysical object inheres as a form; and, for the interpretant, usually the cerebral state of the person who refers a sign to an object by means of its sense. The other and distinct area can be understood as the abstract or supersensual component of the sign, of the object, or of the interpretant respectively. These components can be conceived of as the specific and distinctive abstract forms that the sign, the object and the interpretant must posses to be put in the triadic relation that characterizes them as the three distinct elements of a semiotic relation. The advantage of the Neoplatonic perspective is that each of these three semiotic elements can be dealt with as a functional part of a formal structure endowed with highly expedient expressive and representational properties capable of representing in a suitable way the interconnection of the three semiotic elements and the indetermination of their relationship.

The traditional Neoplatonic semiotics matches this model. Its fundamental elements are *words* (φωναί, λέξεις, ὀνόματα), *things* (πράγματα), and *concepts* or *thoughts* (ἔννοιαι, as existing in the Soul, and νοήματα, as existing in the Intellect). As it can be seen, these elements correspond respectively to the three basic orders of our model, namely the symbolic, the real and the imaginary, or the sign, the object and the interpretant, or sense. The interconnection of these three orders is explicitly stated by Simplicius, who insists on the unifying function of the Intellect:

> For neither are significant expressions (λέξεις) wholly separate from the nature of beings, nor are beings detached from the names (ὀνόματα) which are naturally suited to signify them. Nor, finally, are intellectual concepts (νοήματα) extraneous to the nature of the other two; for these three things were previously one, and became differentiated later. For Intellect (νοῦς), being

identical with realities and with intellection (*νόησις*), possesses as one both beings and the intellectual concepts of them, by virtue of its undifferentiated unity (*ἀδιάκριτος ἕνωσις*), and there [*sc.* in the intelligible world] there is no need for language.[49]

Moreover, Neoplatonism provides a consistent hermeneutical theory based on a fundamental holistic principle stated by Proclus in this metaphysical form: 'All things are in all things, but in each according to its proper nature.'[50] Transferred in the hermeneutic domain, this principle lays the foundations of Iamblichus' theory of *skopos* (*σκοπός*), according to which all exegesis is governed by the question: 'What is the 'aim' of a work, its intention? (*skopos*)' Being a reflection of the whole cosmos, a text speaks of everything, but in relation to what it wants to deal with, and thus constitutes its particular aim, or *skopos*. So, in a text, or in an expression of 'the human language proceeding from incarnated souls,' the 'words' (*λέξεις* or *φωναί*) signify, 'through mediation of simple and universal "notions" (*ἔννοιαι*) that are in the Soul and that coincide with the *signifieds* of these words,' the intelligible 'realities' (*πράγματα*)[51] that exist eternally and unchangeably in the Intellect, and are identical with their own intellectual apprehension. An interpretation practice based on this primary hermeneutic principle proceeds in absolute conformity with a codependent and holistic point of view.

A model of the textual relation between syntax and semantics based on these principles can account for a consistent set of codependent, holistic and self-referential structural relations. Could an appropriate logic of self-reference provide a viable means to formalize a model of this kind?

---

[49] Simplicius, *In Categorias*, 12, 13-19 Kalbfleisch: *οὔτε τῶν σημαντικῶν λέξεων πάντῃ κεχωρισμένων τῆς τῶν ὄντων φύσεως οὔτε τῶν ὄντων ἀπηρτημένων τῶν σημαίνειν αὐτὰ πεφυκότων ὀνομάτων, ἀλλ' οὐδὲ τῶν νοημάτων ἔξω τῆς ἀμφοῖν ὄντων φύσεως· ἓν γὰρ ὄντα πρότερον τὰ τρία ταῦτα διεκρίθησαν ὕστερον. ὁ μὲν γὰρ νοῦς αὐτὰ τὰ πράγματα ὢν καὶ αὐτὴ ἡ νόησις ταὐτὸν ἔχει τά τε ὄντα καὶ τὰ τῶν ὄντων νοήματα διὰ τὴν ἀδιάκριτον ἕνωσιν, καὶ φωνῆς ἐκεῖ οὐδὲν χρεία.*

[50] Proclus, *Instututio theologica*, 103.1 (p. 92, 13) Dodds : *Πάντα ἐν πᾶσιν, οἰκείως δὲ ἐν ἑκάστῳ.*

[51] Ph. Hoffmann, 'What Was Commentary in Late Antiquity? The Example of the Neoplatonic Commentators ,' in M. L. Gill and P. Pellegrin, *A Companion to Ancient Philosophy*, Oxford/Malden MA, Wiley-Blackwell, 2009, p. 611.