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Drawing the semiotic object out of nothing(ness): a diagrammatic investigation into the irreducible triadic relation of discrimination

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Abstract: It's impossible to oppose that which is indistinct. Discrimination, to use Charles S. Peirce's term, is (the basis of) cognition. Whether we use the term distinction, discrimination, or opposition, all presuppose a triadic construction, whether real or virtual. The saying *out of nothing, nothing is produced* (*Ex nihilo nihil fit*) allows seemingly contradictory, but valid, readings. One reads as an impossibility, no *thing* can come out of nothing, while the other describes the birth of no*thing* as an object, i.e. the transformation of a "*not-*" into an identified thing, an object in John Deely's terminology. Starting from the hypothesis that discrimination is an irreducible triadic relation, the investigation delves into the concepts of Peircean synechism and Daoist *wu(ji)* to try to unravel the genesis of semiotic objects, and to probe the impact of (triadic) objectification when evaluating (binary) models of cognition and meaning-making, such as the Greimasian semiotic square and the Daoist *bagua*/eight trigrams diagram.

Keywords: binary opposition; eight trigrams; semiotic square; synechism; triadicity

> They said that the Nameless gives birth to the Named and that the origin of heaven and earth lies in that nebulous and unfathomable realm where all things are undifferentiated from each other. – Lieh-Tzu

1 Introduction

"So prolific is the triad in forms that one may easily conceive that all the variety and multiplicity of the universe springs from it" (CP 4.310) writes Charles S. Peirce in

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Trichotomic mathematics. Similarly, Laozi states in the *Daodejing* (Lao-Tzu, trans. Legge 1891: Ch. 42): "The Dao produced One; One produced Two, Two produced Three; Three produced all things." Although some twenty-five centuries apart in origin, the insights expressed in the two schools of thought share the same conclusion: from three, a myriad of things is created.

This paper aims to establish that the genesis of a semiotic object, one of the elements of the Peircean irreducible triadic sign relation, is itself an irreducible triadic semiotic relation. To get there, it is necessary to investigate both the ontological and ontic[1] readings of the Peircean *general third* and its perceptual and conceptual fragmentation as a condition for knowledge production, i.e. discrimination.[2]

Delving through multiple schools of semiotic and Daoist thought, which all attempt to pinpoint and name this nameless *third* with precision, I distill, in terms of principle, the common ground, where *ground* is understood as "[…] the pure form or abstraction which is the original of the thing and of which the concrete thing is only an incarnation" (W 1:474), to propose an irreducible triadic relation for the semiotic object. This is followed by some tentative considerations concerning the semiotic square of Algirdas J. Greimas and the Daoist *taijitu* (Yin–Yang diagram) and *bagua* (eight trigrams), which, as will be shown, are unavoidably indebted to this triadic principle.

2 The mechanism of discrimination as an irreducible triadic relation

In *Axioms of intuition,* Peirce states:

> […] since *all knowledge is discrimination* I can only know them by their difference of quality. And this difference of quality must exist at each moment of time. […] *our knowledge of things*

1 Where ontological pertains to the nature and theory of existence (abstract, philosophical inquiries) and ontic to the actual entities and their properties in the world (concrete, empirical inquiries).

2 In common language, discrimination can be defined as the act of perceiving a difference. Peirce defined it repeatedly, with more precision. The definition, which I believe fits very well with the usage in this paper, states: "Separation of Thirdness, or Tertial Separation, called *discrimination*, consists in representing one of the two separands without representing the other. If A can be prescinded from, i.e. supposed without, B, then B can, at least, be discriminated from A" (EP 2:270; original emphasis), where the definition not only addresses the act of separation, but also hints at the triadicity involved in the act of discrimination.

> can be *only relative*. Hence, *we must be able to perceive a difference between the relations of things to us and to each other*. This implies the possibility of an entire difference in relation, which must exist in position, and occasions the third dimension. (W 1.31; emphasis mine[3])

Peirce formulated this reasoning to prove that space has three dimensions, and in doing so, he explicates the *mechanism* of cognition when he states, "we must be able to perceive a difference between the relations of things."

The condition of perceiving a difference between the relations of things implies *the ability to* discriminate – the ability to know.[4] Without a *perceived difference* between the relations of things, there are no things as far as we are concerned, and there is no cognition. In other words, to know a thing is to oppose it (in position).

The hypothesis to argue is that discrimination, or opposition, necessarily presupposes a *third* of some kind, in the same manner that "a sign is what every object presupposes" (Deely 2001a: 706), i.e. in order to generate the *particular*, the *general* has been backgrounded. It is possible to distinguish one grain of sand from the rest of the desert, provided that there is a *third* that allows separating or discriminating between the two.

When Jean Petitot delves into the topology of the Greimasian semiotic square, he presents a clear scheme of the triadic mechanism of discrimination:

> C'est que la notion « complète » de différence ou d'opposition conceptuelle est celle de conflit dialectique. Elle doit tenir compte non seulement de l'opposition qualitative mais des deux oppositions privatives régissant la production des déterminations qu'elle oppose. *Son schème doit colocaliser trois sous-schèmes X/Y, X/0, et Y/0.*
>
> [The 'complete' notion of conceptual difference or opposition is that of dialectical conflict. It must take into account not only the qualitative opposition, but also the two privative oppositions governing the production of the determinations it opposes. *Its scheme must co-locate three sub-schemes X/Y, X/0, and Y/0.*] (Petitot 1977: 397; own translation[5])

In short, Petitot addresses a Deelyan[6] *objectification* of X and Y, which already engenders individual relations of opposition before they can oppose each other.[7]

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3 All emphases in italics are mine throughout the entire text. In cases where the original quote already includes emphasis, I will indicate this, unless I have added emphasis of my own, in which case the original emphasis will be in *italics* and mine in **bold**.

4 In his statement, Peirce equates knowledge with discrimination, i.e. discrimination is described not as a process that enables knowledge production, but as *being* knowledge.

5 All translations are my own throughout the entire text.

6 I refer to the thing-to-object transformation developed by John Deely (2001b, 2009, 2010), where an unknown thing, when entering the known Umwelt, becomes an object and as such functions as the cornerstone of the objective world.

7 Petitot makes the distinction between qualitative opposition which exists between A and B, privative opposition which exists between A and non-A and logical opposition between A and ~A. The

When Peirce talks about "difference of quality" and Petitot speaks about "conceptual difference or opposition," they are describing the same concept, namely discrimination. Reformulating Petitot: when one discriminates between X and Y, both X and Y need to be discriminated from a *third,* individually, X/0, Y/0, to be able to oppose each other in X/Y.

Taking inspiration from Petitot's three sub-schemes, I will use a tripod[8] notation that explicitly visualizes the *triadic* structure of discrimination, where the (binary) opposites are marked on the same horizontal, and the *third* is noted below as an *in between* (Figure 1).

Note that Peirce already formulated the same three sub-schemes in the short quotation above, "a difference between the relations of things *to us* and *to each other*," i.e. if "each other" is replaced by X and Y and "us" by 0, then the two formulations (Peirce's and Petitot's) become identical.

In *The order of nature* (CP6.395–427), Peirce explains in great detail how any two or more objects share a commonality. The commonality is a double negative, namely,

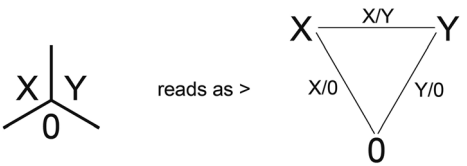

Figure 1: Petitot's sub-schemes rendered in a notation with a tripod structure (on the left), which can be read as X opposes Y + X opposes 0 + Y opposes 0, as one simultaneous triadic relation of opposition.

difference between privative and logical opposition he explains is that non-A expresses the absence of a trait, i.e. a lack of marking, whereas ~A expresses the affirmation of a negated trait, i.e. an anti-marking: "Il existe en effet dans le carré sémiotique une équivocité structurale originaire entre l'opposition logique A vs ~A et l'opposition privative A vs non A. Non A exprime en effet l'absence d'un trait, c'est-à-dire un non-marquage alors que ~A exprime l'affirmation d'un trait nié, c'est-à-dire un anti-marquage" (Petitot 1977: 357).

8 In Mortier (2024), I strongly argue against the use of a tripod diagram to represent the irreducible triadic sign, but mention in the analysis how a tripod divides the visual plane: "unlike the triangle, the tripod does not separate itself on the visual plane; it divides the visual plane and lets the planes come together in its centre" (Mortier 2024: 99). At this stage of the paper, the property of dividing the visual plane is the main reason for using the tripod notation here, which I will revisit later once the logical build-up has advanced far enough to bring the different elements together where they belong. I am aware that the tripod notation here is not a complete visual representation of the process at hand, primarily because all three elements X,Y,0 are given equal weight in the diagram, but it allows us to eliminate the implied sequential reading of X/Y, X/0, Y/0 and offers a simultaneous reading of the triadic opposition instead.

first the separate objects are negated, and then the compound of those is negated itself as a whole:

> But we can never get to the bottom of this question until we take account of a highly-important logical principle which I now proceed to enounce. This principle is that any plurality or lot of objects whatever have some character in common (no matter how insignificant) which is peculiar to them and not shared by anything else. The word "character" here is taken in such a sense as to include negative characters, such as incivility, inequality, etc., as well as their positives, civility, equality, etc. To prove the theorem, I will show what character any two things, ***A*** and ***B***, have in common, not shared by anything else. The things, ***A*** and ***B***, are each distinguished from all other things by the possession of certain characters which may be named ***A***-ness and ***B***-ness. Corresponding to these positive characters are the negative characters un-***A***-ness, which is possessed by everything except ***A***, and un-***B***-ness, which is possessed by everything except ***B***. These two characters are united in everything except ***A*** and ***B***; and this union of the characters un-***A***-ness and un-***B***-ness makes a compound character which may be termed ***A-B***-lessness. This is not possessed by either ***A*** or ***B***, but it is possessed by everything else. This character, like every other, has its corresponding negative un-***A-B***-lessness, and this last *is* the character possessed by both ***A*** and ***B***, and by nothing else. It is obvious that what has thus been shown true of two things is ***mutatis mutandis***, true of any number of things. Q. E. D. (CP 6.402; original emphasis)

Figure 2 is a visual representation of the negative proof, where Peirce shows that any combination of two or more objects will share the specificity of their combination, i.e. A and B always have un-A-B-lessness in common.

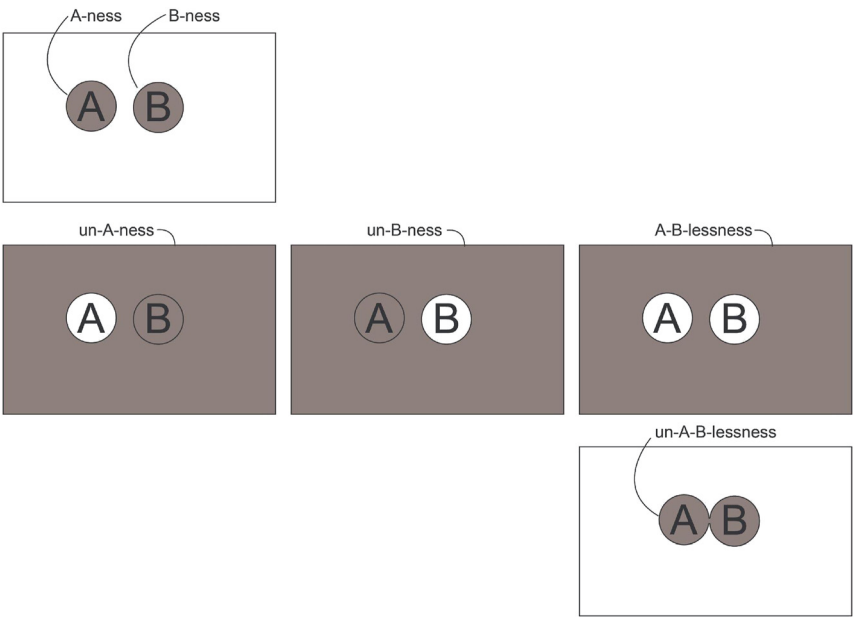

Figure 2: Visual representation of Peirce's proof that any two or more objects share a commonality.

Two points need to be addressed that require some consideration: 1) the erroneous but evident assumption that discrimination or opposition only presupposes two entities, and 2) the observation that Petitot's 0 is different from Peirce's A-B-lessness.

2.1 Three instead of two

Peirce offers a proof that any *two* or more objects share a commonality, for the obvious fact that to speak of a commonality, one needs to have a minimum of two entities to identify what they have in common. The same applies to discrimination and opposition; it is possible to discriminate between *a minimum of two* entities, and it is possible to oppose *a minimum of two* entities.[9]

The *a priori* assumption is that A and B are two *separate* entities to discriminate, oppose, or find a commonality[10] between. But two is not enough, as addressed before, to state A/B; the sub-schemes A/0 and B/0 need to be considered at the same time. A/B is fully 

, i.e. three identified entities in a relation of discrimination.

I want to stress that the exploration at hand is one of *cognition* and, connected, *perception*, i.e. to know or perceive two objects, it is imperative to bring a *third* into the equation. As a thought experiment, take a volume of water and in the middle a single air bubble as the only two existing entities in the universe. The pressure from the water surrounding the air bubble keeps the bubble in place, and the pressure of the air bubble keeps the bubble intact. As the water and the air bubble are the only two entities in the universe, i.e. nothing else exists apart from the water and air, neither can know[11] the other for lack of a necessary *third* position. The only way to conceive of the thought experiment itself is to imagine it as being distinct from our position, which means that we already take up the *third* position to imagine a universe with only two entities.

To discriminate is to extract[12] something out of the Peircean continuum and transform an unknown thing into a known object. As John Deely developed in *Semiotic animal*: "Insofar as the objects are things, they exist whether or not they are known; but insofar as they are objects, they exist in a relation to a knower, whether

9 When there is only one, there is no discrimination, no cognition, no perception; there is only one.
10 In order to find a commonality between two entities, one needs to separate the two entities first, and that requires a triadic set-up before the search of what is held in common can begin.
11 Regardless of whether the entities have the sentient or sapient capabilities necessary – even if they had, then the lack of the third position, indispensable for discrimination, would still prevent them from knowing.
12 Not a genuine physical extraction out of the continuum, but a figurative separation from the rest of the continuum – in thought.

or not they are also things" (Deely 2010: 83). In other words, discrimination is only possible in the objective world, where objects are *known existants*, with the peculiarity that an object exists by definition as *ens rationis* (a mind-dependent being) regardless of the fact that it represents some existing *thing* that is itself an *ens reale* (a mind-independent being) or an *ens rationis*, after Deely after Poinsot (Deely 2010: 17).

Refining the initial hypothesis that discrimination presupposes a *third* of some kind, discrimination equally presupposes the existence of objects to discriminate between, regardless of whether those objects represent something real or virtual, i.e. discrimination is anchored in the *objective world*, regardless of whether the objects are figments of the imagination.

In *The logic of continuity,* Peirce explains the appearance of a *third* when drawing a chalk line on a blackboard:

> This blackboard is a continuum of two dimensions, while that which it stands for is a continuum of some indefinite multitude of dimensions. This blackboard is a continuum of possible points; while that is a continuum of possible dimensions of quality, or is a continuum of possible dimensions of a continuum of possible dimensions of quality, or something of that sort. There are no points on this blackboard. There are no dimensions in that continuum. I draw a chalk line on the board. *This discontinuity is one of those brute acts by which alone the original vagueness could have made a step towards definiteness.* There is a certain element of continuity in this line. Where did this continuity come from? It is nothing but the original continuity of the blackboard which makes everything upon it continuous. *What I have really drawn there is an oval line.* For this white chalk-mark is not a ***line***, it is a plane figure in Euclid's sense – a ***surface***, and *the only line there, is the line which forms the* ***limit*** *between the black surface and the white surface.* Thus *the discontinuity* can only be produced upon that blackboard by *the reaction between two continuous surfaces into which it is separated, the white surface and the black surface.* The whiteness is a Firstness – a springing up of something new. But the boundary between the black and white is neither black, nor white, nor neither, nor both. It is the pairedness of the two. It is for the white the active Secondness of the black; for the black the active Secondness of the white. (CP 6.203; original emphasis in bold italics)

Fernando Zalamea remarks on the passage above in his investigation of *Peirce's logic of continuity*: "Through acts of 'brute force' are then produced breaks on the continuum which allow to [*sic*] **'mark' differences**: secondness, existence, discreteness, emerge all as *ruptures* **of the real, the third**, the continuous" (Zalamea 2012: 29). The *general* of the continuum, i.e. its continuity, is broken or discontinued in order to generate a *particular*.

And in *Grand logic,* Peirce emphasizes that the breaking of the continuum is not actual:

> A drop of ink has fallen upon the paper and I have walled it round. Now every point of the area within the walls is either black or white; and no point is both black and white.

> That is plain. The black is, however, all in one spot or blot; it is within bounds. There is *a line of demarcation* between the black and the white. Now I ask about the points of this line, are they black or white? Why one more than the other? Are they (***A***) both black and white or (***B***) neither black nor white? Why ***A*** more than ***B***, or ***B*** more than ***A***? It is certainly true, First, that every point of the area is either black or white, Second, that no point is both black and white, Third, that the points of the boundary are no more white than black, and no more black than white. *The logical conclusion from these three propositions is that the points of the boundary do not exist.* That is, they do not exist in such a sense as to have entirely determinate characters attributed to them for such reasons as have operated to produce the above premises. This leaves us to reflect that *it is only as they are connected together into a continuous surface that the points are colored; taken singly, they have no color, and are neither black nor white, none of them.* (CP 4.127; original emphasis in bold italics)

Peirce mentions a line of demarcation to discriminate between the drop of black ink and the white paper, but concludes that this boundary does not exist, even though it is there. Just as Poinsot writes in *Tractatus de signis* that "It suffices to be a sign virtually in order to signify in act" (Deely 1985: 126), the boundary separating two entities need not be real; it may, but it's not conditional for discrimination or cognition.

Zalamea brings all of the above very succinctly together when he develops horotics: "*Horotics*, the understanding of borders and boundaries of knowledge, should serve as a mediating third between analysis and synthesis. **Between decomposition (analytics)** and **composition (synthetics)**, **the** *transitional* **forms between elements and relations often govern crucial currents of thought**"[13] (Zalamea 2012: 107–108).

The act of discrimination that is under evaluation is intricately connected to the Peircean continuum, the objective world, and the boundaries of objects. Zalamea states that the boundary of knowledge is a *mediating third,* and Peirce points out the difference between looking at the connected whole instead of at the seemingly separate elements individually, "only as they are connected together into a continuous surface" (CP 4.127). All irreducible triadic relations need to be considered simultaneously and heterarchically, i.e. none of a triadic relation's identifiable elements can be fully grasped individually; the triadic bond is imperative.

2.2 0 is not A-B-lessness

In Petitot's sub-schemes, X and Y oppose 0 individually and *in turn*, with 0 assumed to be everything X or Y is not, *respectively*. The schemes written out as three

13 I emphasize *decomposition* and *composition* as terms, taken from Zalamea, to refer to as the paper develops further.

separate relations imply one of the core objections of Floyd Merrell against using a triangle to represent the irreducible triadic sign, namely *three-way dyadicity* (Mortier 2024: 92).

In Peirce's proof of commonality, all the elementary relations are described that can be discovered in a genuine triadic relation that is irreducible, i.e. a relation that only holds when all elements are considered simultaneously, not in succession. This is similar to the Borromean rings: three connected rings where no two rings are connected, but together they cannot be separated, i.e. cutting one connection releases all three rings, because the connections are not two by two in succession but three simultaneously (Mortier 2024: 111).

The sub-schemes in Peirce's example read A/B, A/un-A-ness including B, B/un-B-ness including A, and, as Peirce is not describing opposition but looking for the commonality, he continues to combine the two not-positions (un-A-ness and un-B-ness) to arrive at A-B-lessness (un-A-ness, minus B, plus un-B-ness, minus A) and finally at this last's negative, namely un-A-B-lessness. This means that A and B, as a pair, can oppose A-B-lessness but not individually,[14] for instance, if A opposes A-B-lessness in the same manner as Petitot's X opposes 0, then A's opposition to B would be lacking. Petitot's 0 is not the same 0 in the opposition pair X/0 and Y/0. The first 0 includes Y, and the second 0 includes X.

The observation that Petitot's 0 is not the same as Peirce's A-B-lessness marks the difference between Merrell's three-way dyadicity – a *decomposition (analytics)* view on the relation, to use Zalamea's term – and a triadic synechist view, or *composition (synthetics)* including *transitional* forms view, on the whole.

To fully grasp discrimination, it is as necessary to locate it in the continuum where it occurs as it is to understand that it is a process of cognition that needs to be approached as one entangled whole whose elements do not have to have any actuality.

3 Deconstructing the mechanism of discrimination

Discrimination *is* objectification, i.e. the transformation of an *unknown thing* into a *known object* (Deely 2010) by *separating*, in thought, the thing from a *third*, continuum, drawing a line of demarcation around it, and bringing it in relation to another – as stated in the initial quote from Peirce, "our knowledge of things can be only relative" (W 1.31).

14 In other words, A-B-lessness is not the *complete* third of A and B separately, but of AB as a whole; all elements including their connections need to be considered simultaneously.

In Peirce's extensive body of work, there are multitudes of formulations to be found dealing with the continuum. In *The categories in detail*, a noteworthy formulation emphasizes the *seeming absence of a third*: "Calling any distinction between two equally decided characters to which no third seems to be coördinate (although *a neutrality separates them*) a ***polar*** distinction, in the external world polar distinctions are few" (CP 1.330; original emphasis in bold italics). Even when discussing polar oppositions, Peirce cannot help but explicitly remark that a *third* neutrality *is* present as that which separates the opposites from each other.

When A is separated, in thought, from the continuum, the continuum can be named un-A-ness; when B is then separated from the continuum and A plus B instantly form the compound set of separated objects (un-A-B-lessness), the continuum can be labeled A-B-lessness. The continuum does not change in this process, i.e. the *third* opposing or separating neutrality is never affected *actually*, only *relatively* in cognition: "The first and second are hard, absolute, and discrete, like yes and no; *the perfect third is plastic, relative, and continuous*. Every process, and whatever is continuous, involves thirdness" (W 5.301).

This *third* is generally unacknowledged and perceived as an *absence*, a *not*-being, although it is omnipresent from metaphysics to linguistics. All exploration to understand cognition, as a continuous process, inevitably needs to handle it, regardless of whether it is on an ontic or ontological level. The next two sections, 3.1 and 3.2, outline a selective anthology highlighting findings that all describe, in one way or another, separation, co-localization, and mediation (Figure 3).

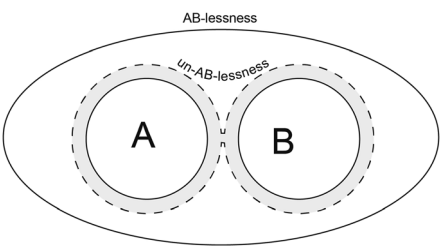

Figure 3: The relative naming of how three elements relate to each other in cognition.

3.1 The ontic *third*: the space between; Ma, interval, spacing, co-localization, neutral third semantic sphere, 1 + 2 = 3

In his article "The limits of *ma*: retracing the emergence of a 'Japanese' concept," Michael Lucken (2021: 38) brings together several definitions of the concept of *ma:* "the 'natural distance between two or more things that exist in a continuity'; the 'space or vacancy between things'; the 'natural pause or interval between two or

more phenomena occurring continuously.'" These all seem to be a carbon copy of what has been detailed above. *Ma* does not denote the continuum ontologically, but seems to denote the continuum's manifestation ontically, in the world of both experience and perception.[15]

Most approaches that name this *third* neutrality separating identified objects try to deal with perceptual segregation, at times in an attempt to transcend to a higher or broader understanding, while at other times to label it as a separate entity,[16] and sometimes ignoring it altogether.

It is possible to read descriptions of the irreducible triadic relation in Ferdinand de Saussure, for instance: "The linguistic *entity* is not accurately defined until it is *delimited*, i.e. *separated from everything that surrounds it* on the phonic chain. These delimited entities or units stand in opposition to each other in the mechanism of language" (Saussure 1959: 103). However, the *third* continuum is not of great general interest in Saussurean theory.

This is unlike Groupe μ's thorough investigation, *Théorie générale de l'intervalle,* in which they go to great lengths to delve into the phenomenon they label "the interval":

> The paper systematically describes *the forms taken by the very general phenomenon of the interval* (which is present in all semiotics, spatial as well as acoustic), *reducing them to their most elementary manifestations* and correlating them with the meanings they can carry. Showing that the phenomenon has an anatomical and physiological basis, it studies the syntagmatic and semantic behaviours underlying the various cultural uses of the intervallar mechanism. It demonstrates that the interval is part of the formation of the elementary structures of meaning, in terms of both content and expression, and is therefore ultimately a key concept for semiotics, in the same way as "difference" or "syntagma". (Groupe μ 2024: abstract)

While the vast majority of Groupe μ's findings are highly relevant and insightful for the current discussion, Groupe μ's perspective is noticeably not trying to embrace the Peircean view of synechism, although they describe its workings at length and with specificity:

> Soulignons que nous avons été contraints de recourir au néologisme « intervaller », car la relation entre les données intervallées ne peut être décrite par un verbe courant, qui ne pourrait être ni « séparer » ni « unir » : en effet cette relation est *simultanément*, comme on va le voir, *de séparation et d'association*, cette double relation produisant à son tour un effet qui portera le nom de médiation.

15 Edward T. Hall writes about *ma* to highlight the cultural differences in the Western and Eastern traditions of viewing space in *The hidden dimension*: "In the West, man perceives the objects but not the spaces between. In Japan, the spaces are perceived, named, and revered as the ma, or intervening interval" (Hall 1966: 75).

16 Disregarding the irreducibility of the triadic relation of which it is an integral part.

> [It should be noted that we have been obliged to use the neologism 'to interval,' because the relation between the *intervalled* objects cannot be described by an existing verb, which cannot be 'to separate' nor 'to unite': because the relation is both *simultaneously*, as we shall see, one of *separation and* one of *association*, this double relation in turn produces an effect which will be called mediation.][17] (Groupe μ 2024: para. 4)

Here Groupe μ explicitly states the simultaneity of separation and association but does not include the mediation as a *third* – although it is explicitly referenced, except that it is formulated as an *effect* instead of a *constitutive* element. The interval is approached as a triadic device, instead of as an element of a triadic relation:

> On doit donc définir l'intervalle comme un dispositif comportant au minimum trois unités : A *i* B, où A et B sont les données intervallées, et *i* l'intervalle proprement dit, ou intervallant.
>
> [The interval must therefore be defined as a device comprising at least three units: A *i* B, where A and B are the *intervalled* objects, and *i* is the interval itself.][18] (Groupe μ 2024: para. 5)

As announced in Groupe μ's abstract, and befitting the group's specialty in visual semiotics, they are describing the *forms* of the interval *reduced to their most elementary manifestations*, i.e. they are attempting to tackle the perceptual aspects:

> L'intervalle est *un produit* de la rencontre entre nos structures sensorielles et les stimulus émanant du monde extérieur.
>
> [The interval is *a product* of the encounter between our sensory structures and the stimuli emanating from the outside world.] (Groupe μ 2024: para. 10)
>
> L'espace de notre perception est « simplement connexe » : il n'y a aucune solution de continuité entre les différentes portions du perçu.
>
> [The space of our perception is 'simply connected': there is no solution of continuity between the different portions of the perceived.] (Groupe μ 2024: para. 76)

The position taken by Groupe μ differs from the position taken in this paper on three accounts: 1) Groupe μ sees the interval as the actual boundary of objects; 2) the interval is stated as being non-continuous; and 3) the interval is described as a "crucial" device for the *dual* mechanism of cognition:

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17 Note the formulation of a *double* relation that *also* mediates instead of a triple relation that separates, unites, and mediates.

18 Compare with Peirce: "The third is that which is as it is owing to things between which it mediates and which it brings into relation" (W5:304).

> Dans ce cas, l'intervallant n'est rien d'autre que la limite entre A et B, limite dont la présence est nécessaire puisque par définition A et B sont distincts.
>
> [In this case, the interval is nothing other than the boundary between A and B, a boundary whose presence is necessary since by definition A and B are distinct.] (Groupe μ 2024: para. 17)

> Attention : l'opposition « strict » vs « flou » n'est pas synonyme de « discret » vs « continu ». Comme on l'a vu, il y a une relation consubstantielle entre intervalle et discrétisation (on peut décrire le premier tantôt comme le produit d'une discrétisation du champ du perçu, tantôt comme agent de la discrétisation). De sorte que parler *« d'intervalle continu » serait une contradiction dans les termes.* Penser un « intervalle continu » reviendrait à *postuler qu'il y aurait une infinité d'intervalles, ce qui rendrait l'univers non manipulable.*
>
> [Please note: "strict" versus "fuzzy" is not synonymous with "distinct" versus "continuous." As we have seen, there is a consubstantial relation between interval and discrimination (the former can be described either as the product of a discrimination in the field of perception, or as the agent of discrimination). So, to speak of *a "continuous interval" would be a contradiction in terms.* To think of a "continuous interval" would be to *postulate that there are an infinite number of intervals, which would make the universe non-manipulable.*] (Groupe μ 2024: para.15)

> L'intervalle est donc plein, et participe toujours à l'élaboration de la sémiose. Aux yeux du sémioticien, il constitue un dispositif crucial dans *le double mécanisme qui est le fondement de notre connaissance* du monde : la capacité que nous avons à séparer, à distinguer, mais aussi à regrouper, rassembler.
>
> [The interval is therefore full, and always plays a part in the development of semiosis. In the eyes of the semiotician, it constitutes a crucial device in *the twofold mechanism that is the foundation of our knowledge* of the world: the capacity we have to separate, to distinguish, but also to regroup, to bring together.] (Groupe μ 2024: para. 95)

For clarity's sake, the position taken in this paper interprets the term "interval" as yet another label to denote the continuum, which is not a boundary between objects, nor a device in a dual mechanism, but a base element in the irreducible triadic relation of cognition.

In *Of grammatology,* Jacques Derrida speaks of both the *general* and *particular* when explaining *spacing*: "*Spacing* (notice that this word speaks the articulation of space and time, the becoming-space of time and the becoming-time of space) is always the unperceived, the nonpresent, and the nonconscious" (Derrida 1997: 68). He clarifies that the *spacing* between letters is essential to the existence of those letters. If there is no space between 1 and 0, there is no possibility of discriminating between them. If there is no space between two separate entities, then we can hardly speak of *separate* entities, and there is in fact only one identifiable entity, similar to Groupe μ's insistence on the interval being present (Figure 4).

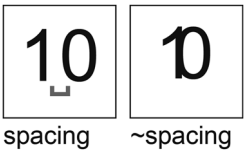

Figure 4: 1 and 0 with and without spacing between them.

Much less explicit, Frederik Stjernfelt emphasizes co-localization in *Sheets, diagrams, and realism in Peirce:*

> The realization that the simple co-localization of two propositions in order to connect them into one, complex proposition, forms a simple and widespread form of diagram reasoning was used by Peirce in one of his basic conventions in the Existential Graph system – namely, that *the scribing of two proposition symbols on the same area of the sheet represents the logical conjunction of the two.* (Stjernfelt 2022: 148)

Thus, the sheet of assertion is *de facto* the *neutrality* needed to separate and co-localize assertions, i.e. the *third* that will give right of existence to perceive the assertions as separate entities, and, at the same time, operating as the co-localization connection.[19]

Similar findings can be discovered in the work of Juri Lotman: "There is a structural contradiction at the heart of a thinking device: a device capable of producing new information must be both unified and dual. This means that *each of its two binary structures must be both a whole and a part of a whole.* The ideal model becomes the *Holy Trinity* where each whole is part of a higher order whole, and each part is a lower-order whole" (Lotman 2000 [1981]: 586).

In a reversed perspective to this paper – where this paper aims to pinpoint the triadic in the binary – Katalin Kroó delves into the binary in the ternary of Lotman, "the role of *the neutral, inbetween semantic sphere* is accorded special attention so as to clarify the real nature of Lotman's suggestion in identifying the meaning-creative energy of this middle, mediatory semantic zone" (Kroó 2022: 593) and "[…] *in the ternary model*, Lotman defines the *semantically neutral third semantic sphere* (in a way interpretable as *devoid of value-markedness*) in terms of the double negation of the marked poles, being 'neither this, nor that'" (Kroó 2022: 604).

And to end this selection of examples, a more poetic or open-ended one from the Zhuangzi that elucidates an entirely different manner of reaching the same conclusions about separation, co-localization, i.e. association, and mediation: "[A] bay horse and a dun cow are three. *Taken separately they are two. Taken together they are one. One and two make three*" (Zhuangzi [4th century BCE], trans. Allen 1889: 452).

19 Note how Stjernfelt's co-localization into one complex proposition uses the same logic as Claude Lévi-Strauss's megastructure in his distinctive features theory (see note 39 in Section 5).

3.2 The ontological *third*: synechism; *wu(ji)*, nothingness, pure zero, continuum, third, continuous universal cosmogony, the One, the nameless, undifferentiated oneness

Making the distinction between ontological and ontic *third* is not straightforward, which can be easily deduced from Zalamea's description "The continuum – vessel and bridge between the general and the particular" (Zalamea 2012:46), as it describes an *in between position*. Take for example Derrida speaking of both the general and particular above or Thomas L. Short's formulation, which in essence only reformulates the Zhuangzi, albeit *a little* less anchored in the *particular*:

> A combination of two things is triadic, the whole being the third relatum. As a combination of two can be combined with another, it would seem that combinations of more than two can be reduced to a sequence of combinations of things taken two at a time. If so, *all combination is triadic. Continuity is the perfection of combination, in which the parts are potential merely.* The experience of continuity therefore falls under the category of 3rdness. (Short 2007: 84)

Regardless of whether delving into the more *analytic (decomposition)* semiotic literature or the more *synthetic (composition)* Daoist thought, the difficulty appears to be centered in semantic interpretation, i.e. a lack of both consensus and clarity of *terms*. Isabelle Robinet exemplifies the difference of interpretations of *wuji* (Ultimateless) *and taiji* (Great Ultimate)[20] between Neo-Confucian and Daoist thinkers, while her encyclopedic entry clearly pinpoints the tipping point that this investigation wants to approach:

> […] *wuji is* the Dao as *the metaphysical One, a neutral "no-number" that is before movement and quiescence* (**dong* and *jing*), unity and multiplicity. Thus, the *wuji* is a limitless void, whereas the *taiji is a limit* in the sense that it is *the beginning and the end of the world*, a turning point. The *wuji* is the mechanism of both movement and quiescence; it is situated before the differentiation between movement and quiescence, metaphorically located in the space-time between *kun* 坤 B, or pure Yin, and *fu* 復 X, the return of the Yang. In other terms, while the Taoists state that *taiji* is metaphysically preceded by *wuji*, which is the Dao, the Neo-Confucians say that the *taiji* is the Dao. (Robinet 2008a: 1058)

20 In layman terms, *wuji* is seen as the primordial force known under many labels such as limitless void, a formless and undifferentiated state before the manifestation of the universe. In this state, there is no duality, no distinctions, and no opposites. *Taiji* represents the first differentiation that arises from *wuji*, commonly as the duality of Yin and Yang, but as a dynamic interplay of opposing forces, which are not in conflict but complement and give rise to one another. *Wuji* is the unknown and *taiji* the known as explained by Robinet: "The *wuji* or the Infinite is its negative aspect, the invisible that can only be known by its effects but remains hidden even in its manifestations. In this sense *taiji* is synonymous with illumination, divine knowledge, the 'real nature' of things" (Robinet 2008a: 1058).

When looking at how the terms *wuji* and *wu* are described in Daoist philosophy, it is not clear-cut whether they are actually different.[21] When characterizing *wu* (Nonbeing, Non-existence, Emptiness, Void) and *you* (Being, Existence), Robinet writes about *wu* as "the grand and lone Unity where *there is no thing*, the primordial Chaos" (Robinet 2008b: 1043), and continues:

> Everything is fluctuant, and *every being is caught in a net of relations and depends on others*, so that no one can exist on its own. *And the whole world is one; it is a continuum whose parts are only artificially separated* (Zhuangzi), so that *fundamentally and ontologically nothing exists.* Wu *is the absolute Emptiness that logically lies above and before the distinction between negation and affirmation.* (Robinet 2008b: 1043)

The emphases in the quotes are primarily to connect them with the formulations found in semiotics further down. The ontological–ontic difficulty seems, however, to be more pronounced when using the term *wu*: "the Chinese word *wu* bears upon two planes of reality concurrently: as *ontological nothingness* and as *ontic nonbeing* […] it acts as the *ontological facilitator* for Dao's creativity while *marking the absence of things ontically*" (Chai 2014: 663).

The interest here is not to discuss the terminology itself – Daoist or semiotic – but to find a manner to approach as precisely as possible what the terms try to capture, namely one of the elements of the irreducible triadic relation of discrimination. In passing, I also seek to show the unmistakable overlaps between *a limitless void which exists before differentiation (wuji)* and *a Peircean continuum*, or between *a nothingness and nonbeing (wu)* and *a Peircean pure zero*, or even between *a limit and beginning and end of the world (taiji)* and *a Peircean sheet of assertion* that represents the firstness or pure potential of everything that can possibly be asserted.

Before continuing with examples from semiotic literature, I present two descriptions of *wu* that are relevant to connect with Groupe μ's interval or Derrida's spacing from the previous Section 3.1:

> *Emptiness is the space between the two cosmic polarities* (Yin and Yang or Heaven and Earth) that gives place to their **qi* (pneuma) so that they can combine and give life to all beings. (Robinet 2008b: 1043)

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21 As an example, in the following quote *wuji* is stated to be *wu*: "Tao – the critical concept of Taoist philosophy – manifests in *the relationship between Wu Chi* [wuji] *and Yin–Yang* [taiji]. 'The basis of all things is the *Great Void*, which *has no phenomenal manifestation*s. The ancient Chinese called it Wu Chi [*wuji*] (Infinite, Unlimited, Boundless). Heaven and Earth were not formed, the universe was in primordial Chaos (*Hundun*), Yin and Yang had not yet arisen, and Qi was an organic whole. *Wu Chi* [*wuji*] *is simple, unformed, and indivisible. It is Absence (Wu)* or Absence of Absence (Wu Wu). It can be illustrated by an empty circle'" (Danylova 2024: 4).

> It is *not "nothing"* or else there would not be a void between things; but it is *a relative void*. It forms a couple with *you* [*being*], the existence of the things that delineate its frame. (Robinet 2008b: 1044)

Both quotes can be interpreted in the *general* sense in which they are written and in the more *particular* sense as the concrete interval on a piece of paper or the concrete spacing that relates two letters.

Bringing in all the instances where Peirce tackles the continuum, nothingness, pure zero, thirds, etc. is neither possible nor desirable. Peircean semiotics is perfused by his study into continuity (see, for instance, Zalamea's [2012] work on the topic). I will limit myself to a few noteworthy and relevant examples. For instance, when writing about his metaphysical system, Peirce states, "I like to call my theory *Synechism*, because it rests on *the study of continuity*. I would not object to Tritism. And if anybody can prove that it is trite, that would delight me [in] the chiefest degree" (CP 6.202). Peirce, unsurprisingly, wavers between the unity of continuity and triadomania, because they approach the same core from different perspectives.

In *Objective logic,* paragraph 1 "The origin of the universe," Peirce's descriptions are very much ontological and align uncannily with the Daoist description of *wuji* and the ontological *wu* of nothingness:

> *The initial condition*, before the universe existed, was not a state of pure abstract being. On the contrary it was *a state of just nothing at all, not even a state of emptiness, for even emptiness is something.* […] If we are to proceed in a logical and scientific manner, we must, in order to account for the whole universe, suppose an initial condition in which the whole universe was *non-existent, and therefore a state of absolute nothing.* (CP 6.215)

> We start, then, with *nothing, pure zero*. But this is *not the nothing of negation*. For not means other than, and other is merely a synonym of the ordinal numeral second. As such it implies a first; while the present *pure zero is prior to every first*. The nothing of negation is the nothing of death, which comes second to, or after, everything. But this pure zero is the nothing of not having been born. *There is no individual thing*, no compulsion, outward nor inward, no law. It is the germinal nothing, in which the whole universe is involved or foreshadowed. As such, *it is absolutely undefined and unlimited possibility – boundless possibility*. There is no compulsion and no law. It is boundless freedom. (CP 6.217)

The same semantic considerations from Daoist philosophy appear in Peirce, for instance, when he does not want to use *emptiness* because "emptiness is something."[22]

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22 Compare, for instance, with Robinet's explanation of *wu* on a metaphysical level: "This dialectic aims at preventing one from thinking that emptiness is something: emptiness is nothing, emptiness is empty; emptiness is only a medicine, a device to cure the belief in the substance of things, and must be rejected when one is cured. Real Emptiness (*zhenwu* 真無) is neither empty (*xu*) nor real or 'full' (*shi* 實). It is a negation of a negation, and therefore an absolute affirmation" (Robinet 2008b: 1043).

Merrell, continuing to work on Peirce's dynamic semiotics in *Entangling forms* (2010), also picks up on the *pure zero* and connects it with *the empty set*, differentiating between Peirce's pure zero (nothingness) as a *general* and the *particular* of the empty set (noticed absence), separating the ontological from the ontic:

> EZ = *Zero* ('nothingness', 'emptiness') conjoined with the *empty set* of 'set theory' (silence, a blank page). It is a matter of 'pre-language', or 'pre-semiotic', as purely *possible possibilities*, before any signifying process has begun emerging. It is comparable to what C.S. Peirce labeled 'nothingness'. (Merrell 2010: vii)

> (1) 0, Zero, 'nothingness' or 'emptiness' in the Buddhist sense, as the range of all *possible possibilities*, …
> (2) ∅, the 'empty set', or 'noticed absence' of the *possibility* (as distinguished from the range of all *possible possibilities*) that some sign or set of signs *could be there* but it *is not*, or it *was there* and now it *is not*, but it *might be* there once again at some future moment […]. (Merrell 2010: 25)

Merrell offers a whole list of abbreviations to guide the readers through his work, most of which represent dynamic processes – for instance, "BSO = the concept that what *is*, is *becoming something other than what it was becoming*. In a word *process* (of the nature of C.S. Peirce's theory of continuity)" (Merrell 2010: vii; original emphasis). This approach allows him to dissect a dynamic and cyclical process without having to revert to static and delimiting terms, an approach that respects the indeterminacy and uncertainty Peirce worked with: "The principle of *continuity is the idea of fallibilism objectified*. For fallibilism is the doctrine that *our knowledge is never absolute but always swims*, as it were, in a continuum of uncertainty and of indeterminacy. Now the doctrine of continuity is that all things so swim in continua" (CP 1.171).

Like Merrell, Peirce often approaches the continuum or the *general* while speaking about the *particular*:

> This continuum must clearly have more dimensions than a surface or even than a solid; and we will suppose it to be plastic, so that it can be deformed in all sorts of ways without the continuity and connection of parts being ever ruptured. Of this continuum the blank sheet of assertion may be imagined to be a photograph. (CP 4.512)

> As another example, consider the continuum of Space. In my lecture on the subject I pointed out to you how though it is a continuum, and therefore a Thirdness, the whole nature and function of space refers to Secondness. (CP 6.212)

> By the Third, I understand the medium which has its being or peculiarity in connecting the more absolute first and second. The end is second, the means third. (W 5.299)

In his thorough investigation of continuity in Peirce, Zalamea makes the pertinent point that differentiates the nominalist from the realist view on the Existential

graphs based on the continuum, placing Peirce obviously on the realist side. It is highly noteworthy to mention that Zalamea uses the term "cosmogony" and not "metaphysics" or "cosmology," emphasizing *genesis*:

> A nominalist position would approximate the graphs as forms of language, or logical games, independent of any such similar fabric in Nature; on the other hand, a realist position would contemplate them just as fragments of an [*sic*] ubiquitous *continuum*. For Peirce, the second option is the one that must prevail, since the graphs are *reflections of an* ***architectonic synechism***, which, in turn, tries to reflect *a* **continuous universal cosmogony**. A situation of the graphs in this broad realistic perspective forces then to understand [*sic*] **classical cuts as fictitious nominalist markings, which, in reality, must hide realist features of a non dividable *continuum***. Under that perspective, the classical cut emerges once more as an "ideal" limit, while other intuitionistic diagrams, much more "real", should embrace the underlying topological canvas. (Zalamea 2012: 126)

In *Four ages of understanding*, where Deely endeavors to set the history of Western[23] philosophy straight, there is unsurprisingly an abundance of examples to be found throughout all the centuries of philosophical thought that tackle the nameless *general*. I want to bring in only one that represents the issue involved when going from the *general* to the *particular*, or in the words of Deely himself, "in order to know being, we must wrap it in nonbeing" (Deely 2001b: 354).

In the below example, Deely compares Aquinas to Plotinus, and in it, several of the points made in the current investigation are exemplified. First, it is formulated that knowledge (understanding) is based on opposition (judgement), i.e. discrimination. Second, Deely identifies clearly that Aquinas is going from the *particular* to the *general*, whereas Plotinus tries to get away from the *particular* thinking:

> […] according to Aquinas, the *understanding* or intellect *forms its first concept* in the experience of "this rather than that" which becomes, *in judgment, "this is not that"*, and the "predicate" in this experience (the "not this" – or "not that") is the concept of *nonbeing*. […] He [Plotinus] directs our consideration to *what lies prior to the experience* of difference, and prior even to the actuality of being-as-first-known, to the Source of everything that we call or experience as actuality in a world of "thises" that are not "thats" […]. (Deely 2001b: 119)

23 Eastern philosophies are mentioned in passing but are merely footnotes, which does not take away any of the importance of the work, but merits the specification that Deely did not rewrite the entire history of philosophy but only a limited part of it.

> *This One*[24] *is not the original global "being-as-first-known"* of which Aquinas speaks, however, *for that being is a virtual plurality*, whereas *the One* of which Plotinus speaks *is precisely both before and beyond all possible plurality* and is the ultimate Source for everything that we experience as in any way different from anything else. *To grasp the One, therefore, the soul must move from its first awakening not in the direction of nonbeing, that is to say, not toward the world of material objects and sense.* (Deely 2001b: 120)

In *Semiotic animal,* Deely's elaboration of the thing-to-object transformation also touches on the ontological–ontic dichotomy, anchored in the same perspective as Aquinas. Note the similarities in formulations with the description of *wu* from Robinet, for instance, "every being is caught in a net of relations and depends on others" (Robinet) versus "part of an entire network and field of relations" (Deely):

> […] objects fully actual differ in principle from things by reason of necessarily having what any given thing has only contingently, namely, a relation to a cognizing organism. Second, this relation transforming thing into object is not a singular or isolated relation, but *part of an entire network and field of relations* comprising in fact nothing less than the experience itself of the organism wherein and whereby objects are given as this or that in the first place. […] *things* undoubtedly *are more fundamental ontologically than are objects* (inasmuch as the latter exist fully as such only within experience, while the former, even when they exist within experience as well, never reduce to the experience in which they are given), *from within experience itself objects exist more fundamentally than things*, in that the difference between the two is a discovery to be made, and a discovery moreover in which *we are recurrently mistaken in assigning relative reality or unreality to any given object or aspect of objects under given circumstances.* (Deely 2010: 84)

To conclude Section 3.2, I turn to Lieh-Tzu for an eloquent summary of all facets of the dynamics between *general* and *particular* touched upon above:

> They said that *the Nameless gives birth to the Named* and that the origin of heaven and earth lies ***i**n that nebulous and unfathomable realm* where *all things are undifferentiated from each other.* […] Although *each thing* is said to have its own essence of life, shape, and quality, these three entities are inseparable. They are all *connected to the undifferentiated origin.* […] The Primal Origin has no essence, no form, and no substance. *From* its *undifferentiated oneness*, it *divides into* unaccountable *myriad things*, and yet in an instant, all things can return to the original oneness. (Lieh-Tzu, trans. Wong 1995: 28, 29)

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24 "From the One comes Life and Intelligence because [the One is the source] of entity and being inasmuch as One. The One is simple and first, because the One is the principle and Source from which all things come. From the One comes primal motion, which is not in the One, and from the One comes also rest, of which the One has no need, for the One is neither in motion nor at rest, since the One has nothing in which to rest nor to which to move. Around what should the One move? Or to what or in what? For the One is the First. But the One is not limited, for by what could the One be limited?" (Deely 2001b: 120).

What the previous two sections, 3.1 and 3.2, illustrate more than anything, both in the semiotic and Daoist literature, is that there is an understanding and acceptance of a *general*, metaphysical, cosmological, cosmogenic *third* (or pre-first) that is ungraspable in a definitive manner, as its true nature is its ungraspability, preventing precise denomination. And there is equally an understanding and acceptance of a *particular*, empirical *third* that oftentimes also eludes clear denomination and definition.

It highlights the shortcomings of dualistic, binary thinking that tries to categorize *in between* processual *states* (that are beyond the dual) as delimited (static) states belonging to one or the other category, which is an endeavor set up to fail from the outset, as the processual states are part of an irreducible triadic process that differs significantly from three-way dyadicity and whose core is, in one word, *change*.[25]

The act of discrimination can be seen as effectuating this *change*, namely a crossing over from the *general* to the *particular*. As such, the result of discrimination – *after the crossing* – inevitably anchors itself firmly in the *particular* of Peirce's secondness, and, even though *transformational* itself, it creates the perceptual and conceptual illusion of being steadfast, not unlike the ship of Theseus.[26]

4 Drawing the semiotic object out of nothing(ness)

The primary quote from Peirce's *Axioms of intuition,* used in this paper as its throughline, brings a multitude of concepts together that are anything but obvious; knowledge is discrimination (*cognition*), differences of quality (*qualia*), existing at all time, relative knowledge of things (*Deely's thing-to-object transformation*), ability to perceive differences (*perception*), difference of relations to us, difference of relations to each other, positioned relations (*positions*), and a third dimension (space).

One of the intuitive assumptions commonly made is that discrimination is a result of perception, but it could be argued that it is rather cognition that is at work. The *boundary* between perception and cognition might be as fuzzy or fluid as that distinguishing between a *general* and a *particular* third.

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25 When we look at Daoist thought, the insistence on change and transformation stands out as an absolute given, in a similar manner to that in Merrell's work that continues Peircean thought (1995, 1996, 2010), where the sign as *becoming*, i.e. not static, but always transforming, appears to be just as axiomatic.

26 Also known as Theseus's Paradox, this is a paradox and thought experiment about whether an object is the same object after having all of its original components replaced over time.

> […] all apprehension of continuity involves a consciousness of learning. In the next place, all learning is virtually reasoning; that is to say, if not reasoning, it only differs therefrom in being too low in consciousness to be controllable and in consequently not being subject to criticism as good or bad, – no doubt, *a most important distinction for logical purposes, but not affecting the nature of the elements of experience that it contains.* In order to convince ourselves that all learning is virtually reasoning, we have only to reflect that *the mere experience of a sense-reaction is not learning. That is only something from which something can be learned, by interpreting it. The interpretation is the learning*. If it is objected that there must be a first thing learned, I reply that this is like saying that there must be a first rational fraction, in the order of magnitudes, greater than zero. (CP 7.536)

Can Peirce's "learning" in the above be interpreted as perception, as cognition, or as both at the same time, or is the "consciousness of learning" the only part that can be labeled cognition? But would that last not contradict that "learning is virtually reasoning" and surely reasoning is cognition? Then what of the fact that learning requires interpretation of the sensations, which are not learning?

Chris Barnham in *The natural history of the sign* states that the selection of phenomena from the continuum, or sense data, is an act of perception according to Peirce:

> When Peirce mentions "individualism" he is referring to the atomisation of sense data. Peirce rejects this notion and, instead, argues that *the human mind can only experience the world as a continuum* which he terms the "Phaneron" (EP2: 362). The intellect encounters the world as a continuous flow of experience. Peirce argues, as a result, that *acts of perception involve the selection of phenomena from this continuum* and that such sense data come embedded with inferential links to other perceptions. This means that the mind never perceives an individuated sense datum which is isolated from others. *Peirce states*, for example, that *"continuity is given in perception"* (EP2: 238), and he maintains that philosophers should think in terms of "synechism, or the doctrine that all that exists is continuous" (CP1: 172). (Barnham 2022: 49)

René Thom is on the same track, where qualities are grouped in perception, underwriting the interaction between continuity and discontinuity, as described by Peer F. Bundgaard and Stjernfelt:

> […] saliency as Thom defines it: they are the laws that explain *how qualities are grouped and organized so as to form detached figural wholes in perception.* (Bundgaard and Stjernfelt 2010: 63)

> In his [R. Thom's] view, *perception is a question of extracting form or structure, i.e. morphological information, from the matter in which it is realized.* Perception is, roughly speaking, a "transfer of form" from matter to mind, and this is indeed to be taken in a literal, strong sense: the state into which the mind stabilizes, corresponding to the understanding of the experienced object, is a state which rests on the same structure than the object itself; *to perceive is to take in a form from one domain, the physical realm, a form, which is then re-unfolded in another realm or domain, the soul or the mind.* (Bundgaard and Stjernfelt 2010: 57)

> […] one could point to Thom's all as *constant emphasis on the interdependency or fundamental correlation of discontinuity and continuity:* meaningfulness implies necessarily morphological detachment and saliency, which then in turn is necessarily *a detachment from and thus an articulation of a continuum.* So even though, at least from the 1980s and on, *Thom assigns ontological primacy to the continuum*, obviously he still *holds that any theory of form*, any morphology in whatever domain, must *rest* on the irreducible distinction between regular and irregular points, and hence *on the concept of discontinuity*. (Bundgaard and Stjernfelt 2010: 62)

Merrell describes the act of discrimination, formulated as "differentiating," as the most basic act of signification, and one that is so simple that it is "no more than a matter of drawing a boundary":

> *The most basic act of signification* for an organism *is specification of a boundary between the organism and its environment through a signifying process* that differentiates between self and everything it is not: non-self (Spencer-Brown 1979). This communicative act is evident at all levels of classificatory behavior. A cheetah 'knows' tacitly, at entrenched, sedimented levels, how to differentiate between its prey and the rest of its world, although each candidate for preyhood is a particular thing, and each interaction with a particular prey-instant is a singular moment of interaction. In this sense, *classification or conceptualization is primarily associated with the act of differentiating* a given world as evident from the tendency of the organism to specify the boundaries between itself (the self) and its worlds (non-self). *This act of differentiating in the most primitive sense is so simple that it might appear superfluous. It is no more than a matter of drawing a boundary that distinguishes something from everything it is not.* (Merrell 2010: 9)

The description "act of signification" instead of semiosis is a conscious choice, as Merrell is digging to the deepest level to hit the rawest diagram possible of the process of semiosis, i.e. he unravels the skeleton of the process (Figure 5), as can be understood from his caption "pre-semiotic: sign possibility" and the fact that he explicitly stresses that his diagram "[…] is **not a model of an** ***actual*** **sign**. Rather, it is the *possible possibility* of a sign (at 0), and the *mere possibility* (from 0 to Ψ) that there might be some sign where there is no sign […]. From 'emptiness' (0), the noticed absence (0) of what might have been or never was but might possibly be, emerges" (Merrell 2010: 24).

I like to challenge Merrell's pre-semiotic categorization because *the model of a* (possible, not actualized) *sign* is indistinguishable from *an actual sign that follows the (said) model*, i.e. the architectonic blueprint with placeholder terms or with actualized terms is the same blueprint.[27] And, if that blueprint is used to construct the

27 Similarly Cary William Spinks mentions that the process prior to a rheme is also semiotic, "So the rheme, as seme or term, is as Janus-like as the qualisign, and if logic uses it, which of course it should and will, it will also have to remember that *there is a prior process of semiosis that has provided the forms and substances of its operations*" (Spinks 1991: 79).

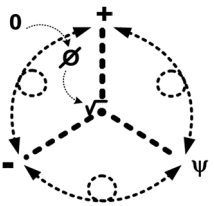

Figure 5: Merrell's Figure 1 in *Entangling forms* (2010) to represent "Pre-semiotic: sign possibility" where the zero, 0, represents Peirce's nothingness and a slashed zero, ∅, represents the empty set or noticed absence.

house, similar to semiosis generating signs, then Merrell is not exposing anything *pre-*, but indeed the full-fledged process of semiosis.

Before actually drawing the boundary, I briefly examine if the nature of such a boundary is indeed as *simple* as Merrell claims.

4.1 An illusory boundary

In the thought experiment where only water and an air bubble exist in the whole universe there is no *third* between the air bubble and the water – not even an illusory one – but there is also no knowledge. When we separate a grain of sand from the desert, there are very tangible things and objects between the solitary grain and the rest of the desert, for example, the fingers that hold it, the air, and all the particles that exist in our atmosphere even when too small to be visible with the naked eye. But, when talking about *knowing* that we are holding a grain of sand between our fingers, a *third* that is neither sand nor finger will have materialized, or been drawn.

As described above in Section 2.1, when Peirce talks about the points connecting the "line of demarcation" around the drop of ink, "only as they are connected together into a continuous surface" does this line appear, which can be *marked* as the first characteristic of the boundary, i.e. its irrefutable connection to the continuum in a triadic relation:

> Hence *a point* or indivisible place really *does not exist unless there actually be something there to mark it*, which, if there is, interrupts the continuity. […] This must not be confounded (as Kant himself confounded it) with infinite divisibility, but implies that a line, for example, contains no points until the continuity is broken by *marking the points*. In accordance with this it seems necessary to say that *a continuum*, where it is continuous and unbroken, *contains no definite parts*; that *its parts are created in the act of defining them* and *the* precise *definition* of them *breaks the continuity*. (CP 6.168)

Groupe μ comes to the same conclusion, and brings in a next step, namely a mediation after breaking the continuum:

> Au passage, nous aurons constaté une nouvelle fois qu'*il est impossible de penser le continu sans le discontinuiser, ou de penser le discontinu sans convoquer le continu*. En clair, dès que *nous percevons deux champs intervallés*, nous *nous empressons d'élaborer des médiations pour restaurer la continuité, et inversement*, même dans un énoncé apparemment simple, *nous introduisons des disjonctions*, donc des intervalles.
>
> [In passing, we will have noted once again that *it is impossible to think continuum without discontinuing it, or to think discontinuous without summoning the continuum.* Clearly, as soon as *we perceive two "intervalled" fields, we hastily elaborate mediations to restore the continuity, and vice versa*, even in an apparently simple statement, *we introduce disjunctions*, hence intervals.] (Groupe μ 2024: para. 96)

Note also the use of both "to *think* continuum" and "*perceive* 'intervalled' fields" indicating the close proximity of perception and cognition in the process.

Remembering Peirce's chalk line on the blackboard from Section 2.1, where one continuum (line) is opposed to another (blackboard), and it is explicated that what has actually been drawn is "an oval line" and not a straight chalk line, the second characteristic of the boundary is that it is not real, as an *ens reale*, it is only real as an *ens rationis* (see Peirce's explanation in Section 2.1, where he emphasizes that the breaking of the continuum is not actual).

On this *illusory* nature of the boundary, Maxine Sheets-Johnstone makes the key point when addressing embodiment, as quoted by Jesper Hoffmeyer: "When calling something *embodied* one has already presupposed some essential belonging to a decorporealized hypothetic domain of reality that could, in principle, be somehow separated from the body. But how can anything be embodied if it *is* itself a body" (Hoffmeyer 2008: 301). There is no body. At least not a body that we are able to prove outside of the domain of perception.

Mario Wenning points out the positive of the *illusory* in Kant's work when bringing Kant and Daoism together around the topic of nothingness: "Kant distinguishes four kinds of nothings ranging from empty concepts (*ens rationis*) through empty objects of concepts (*nihil negativum*) and empty objects without concepts (*nihil negativum*) to empty intuitions without object (*ens imaginarium*). *Although he does not explicitly raise the possibility of original nothingness* – nothingness beyond the concept–object ontology – *he strives to develop a concept of illusory objects,* not as mere negations or privations pointing to a lack, but *as playing a positive role for understanding as well as action*" (Wenning 2011: 558).

This last remark, "a positive role for understanding and action," means that, although illusory, the boundary does not lose any actuality. Compare it, for instance, with visual illusions (illusory contours) that create the perception of a boundary or

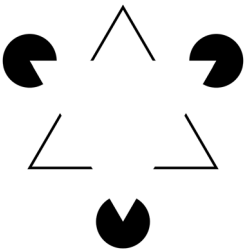

Figure 6: Kanizsa's triangle, one of the most well-known examples of illusory contours, where spatially separate fragments give the impression of a bright white triangle, defined by a sharp illusory contour, occluding three black circles and a black-outlined triangle.

edge that make shapes appear that are *not there*, but they are nonetheless perceived (Figure 6).[28] The phenomenon is well documented in Gestalt theory, where it is known as the principle of closure: "the Gestalt principle of closure asserts that human visual perception tends to 'close the gap' by grouping elements that can jointly be interpreted as a complete figure or object" (Kim et al. 2021: 251).

And finally, a third boundary characteristic, similar to continuity that is "given in perception" (EP2: 238), is that it exists in perception, which can be distilled from "The next question is whether we have any general conceptions except in judgments. *In perception, where we know a thing as existing*, it is plain that there is a judgment that the thing exists, since a mere general concept of a thing is in no case a cognition of it as existing" (EP: 50) – here again the close proximity between perception and cognition.

This last becomes even more crystalized in the thinking of Poinsot according to Deely: "[…] Poinsot developed […], in his *Treatise on Signs* and in his psychology, *convincing arguments showing that perceptions are connected with external objects* precisely **t***hrough the action* of aspects of the physical environment *on external sense analytically distinguished* and *taken* as such *within the activity of perception and understanding as a global whole*" (Deely 2001b: 532), where sensation, perception, and cognition, formulated as understanding, are said to form one whole.

To recapitulate, the boundary is only possible when considering the continuum; it is illusory, i.e. it does not *genuinely* break the continuum, but does so in perception. It translates to: discrimination, as a "matter of drawing a boundary that distinguishes something from everything it is not" (Merrell 2010: 9), does not extract any-*thing* from the continuum, i.e. whatever is marked with a boundary remains firmly

28 Note that if the boundary of semiotic objects were to be set in stone for real, they would genuinely break the continuum that is forever malleable and transforming, instead of creating a discontinuity only in perception – which is non-invasive.

embedded in the fabric of the continuum, just as does a sep, in the Existential graphs, that separates a differentiated existence from the rest of the sheet of assertion while remaining part of the sheet by its being drawn on it.[29]

4.2 An actual semiotic boundary

Discrimination, as knowledge, sees *things* transition into *objects,* both as semiotic objects[30] in the Peircean irreducible triadic relation that is called a sign and as objects of knowledge. In a letter to Lady Welby explaining signs and their categories, Peirce states that a "sign therefore is an object" (CP 8.332). Here in Section 4.2, I want to state that the converse is equally true, namely that every *object* (i.e. the result of objectifying an unknown thing) *is a sign,* an object-sign.

> It appears to me that *the essential function of a sign is to render inefficient relations efficient*, – not to set them into action, but to establish a habit or general rule whereby they will act on occasion. According to the physical doctrine, nothing ever happens but the continued rectilinear velocities with the accelerations that accompany different relative positions of the particles. All other relations, of which we know so many, are inefficient. *Knowledge in some way renders them efficient; and a sign is something by knowing which we know something more.* With the exception of knowledge, in the present instant, of the contents of consciousness in that instant (the existence of which knowledge is open to doubt) *all our thought and knowledge is by signs. A sign therefore is an object* which is in relation to its object on the one hand and to an interpretant on the other, in such a way as to bring the interpretant into a relation to the object, corresponding to its own relation to the object. I might say 'similar to its own' for a correspondence consists in a similarity; but perhaps correspondence is narrower. (CP 8.332)

Deely offers a similar definition of a sign's function, noting that "the sign always represents an object other than itself," which could be interpreted as an argument against the idea of an *object-sign*. I do not challenge this idea in thinking but in formulation, which relates to Merrell's earlier labeling of the *in between phase* in the thing-to-object transformation (objectification) as *pre-semiotic*. Considering the cross-over phase (from thing to object), I propose reformulating it such that the object-sign always represents a *thing* other than itself, for calling it an object (before

29 The comparison with a *view* in a database system is not irrelevant, where a *view* is a virtual table that is generated from a query on the actual tables. The view itself does not have or store any data itself, but it presents the data in a specific format or structure. Compare, for example, with Peirce calling the blank sheet of assertion a photograph of the continuum (CP 4.512).

30 Taking into account the impossible task of giving general descriptions that can identify objects as explained by Peirce: "Every sign has a single object, though this single object may be a single set or a single continuum of objects. No general description can identify an object. But the common sense of the interpreter of the sign will assure him that the object must be one of a limited collection of objects" (CP 5.448).

the transformation) would be a faulty labeling of what it is before it (the thing) has been objectified.

> For what signs do specifically is to mediate between the physical and the objective, where *the object represents itself in knowledge (both as partially including and as transcending the physical environment)* and *the sign always represents an object other than itself*. The sign depends upon the object in that the object provides the measure or content whereby and according to which the sign signifies. But the object in representing itself also depends upon the sign for being presented *(the object determines what is presented, the sign whether it is presented),* and the sign is, in its own being, indifferent to whether the object has also a physical existence. (Deely 2001b: 585–586)

Remaining with Deely to dissect this objectification process, the understanding is clear that it is a relation between sensation,[31] perception, and understanding (knowing, cognition):

> We see then that *what is objectified in sensation is one thing; but objectification, in perception and understanding alike, goes beyond sensation to create a total objective world* that exists correlative to the Innenwelt *comprising sensations plus perceptions, and intellections*. Sensation is restricted to the objectification of some proportionate parts only of what is there in the physical surroundings, Perception rises above this to create an awareness of what might or could be there on this or that interpretation of sense or this or that recollection of what past experience has taught in relation to what sense presents. Understanding rises even higher to the consideration of pure possibilities and the consideration of subjective structures of physical being independent of all finite cognition. (Deely 2001b: 379)

Furthermore, Deely makes a pertinent point, namely that signs are not actually things but *roles*:

> What is one time sign can be another time object, or even the one to or for which the object is represented. *A "sign" in the common sense is actually not a thing but a role.* Peirce proposed, accordingly, that, technically, it might be better to speak of "representamens" (a less technically formidable proposal has been the expression "sign-vehicle") than "signs", calling then the represented "the signified object" or "significate." (Deely 2010: 21)

31 I refer to Deely to make the difference between sensation and perception clearer: "Sensation, analytically considered, differs from perception precisely in that it makes the organism aware only of the immediate physical surroundings insofar as they are proportioned to the biological cognitive powers or organs of the organism by a series of physical relationships introduced through the physical interaction of organism and environment. Perception will further structure this 'data' according to the desires and needs specific to the organism, which may have no counterpart as such on the side of the environment. But to miss the fact that the data of sensation are already naturally structured through the determinate character of the stimulus acting on the determinate character of the cognitive dispositions of the organism is to miss a great deal that is important for understanding the dependency of anthroposemiosis on zoosemiosis and physiosemiosis generally" (Deely 2001b: 721).

A sign as a role corresponds well with the comparison to a *view* (virtual table) in a database system (note 29), i.e. when an unknown thing is objectified it gets the *role of an object* – it is in that sense that I intend the use of object-sign: the object *is* a sign that will *take on* the role of object in the triad object–interpretant–representamen, as will be shown further down.

In the continuum (the limitless void, the pure zero, the *wuji*) a sentient and sapient semiotic being can sense a thing, a qualia, or continuum of qualia (sensation) that it objectifies and marks as other than itself (perception) and connects it again to the continuum (cognition), transforming a previously unknown *thing* into an object that is a full-fledged irreducible triadic sign.

In the diagram[32] in Figure 7, the well-known Peircean object–interpretant–representamen triad is substituted by thing–objectification–mediation, where the qualia of firstness of a thing are separated in perception, drawing the (illusory) boundary of actuality in secondness, conceiving the object-*sign* by mediating (co-localization) the whole together in thirdness, instantaneously[33] fashioning a *particular* out of the *general* through *discrimination*.

Metaphorically drawing the illusory boundary simultaneously[34] separates a thing from the continuum and connects it with the continuum as a semiotic boundary, a boundary that automatically brings inside and outside perspectives[35] to the foreground. Compare, for instance, with *literally* drawing a circle on a sheet of paper that separates everything inside the circle from the rest of the paper and at the

32 The diagram using a triquetra as the intersection of three circles, bringing together the object–interpretant–representamen, first-, second-, and thirdness of Peirce and the triad developed by P. Määttänen of perception–interpretation–action is explained in detail in Mortier (2024). Note that it is the inner part of the triquetra that holds the intersection of the three circles, making everything present there irreducibly triadic.

33 Note that it is *only the description* that is necessarily *sequential* to allow an easy understanding of the diagram, but the object-sign is necessarily instantaneous, as it is irreducibly triadic, i.e. sensation, perception, cognition are not "*autonomous, self-contained, pre-existing entities that can exist separate from the others*. Perception–Interpretation–Action is as equally irreducible a relation as Representamen–Object–Interpretant. They are not self-contained components or elements in their own right that enter into a triadic relation, they are different labels of one and the same relation, identifying three distinct, for lack of a better word, type-*properties* of that relation: an object-, representamen- and interpretant-property" (Mortier 2024: 126).

34 This simultaneity is conditional in synechism as the ontological continuum is beyond time, as well as to answer Peirce's *Axioms of Intuition* which describes the functioning of discrimination as "existing at all time".

35 Reminiscent of Peirce's description of the effect of analysis while considering the continuum "If the contiguity is in space, I think we have at first a completely confused feeling of the whole, as yet unanalysed and unsynthetised, but afterward, when the analysis has been made, we find ourselves compelled, in recomposing the elements, to pass directly from what is on one side of the boundary to what is on the other" (EP: 264).

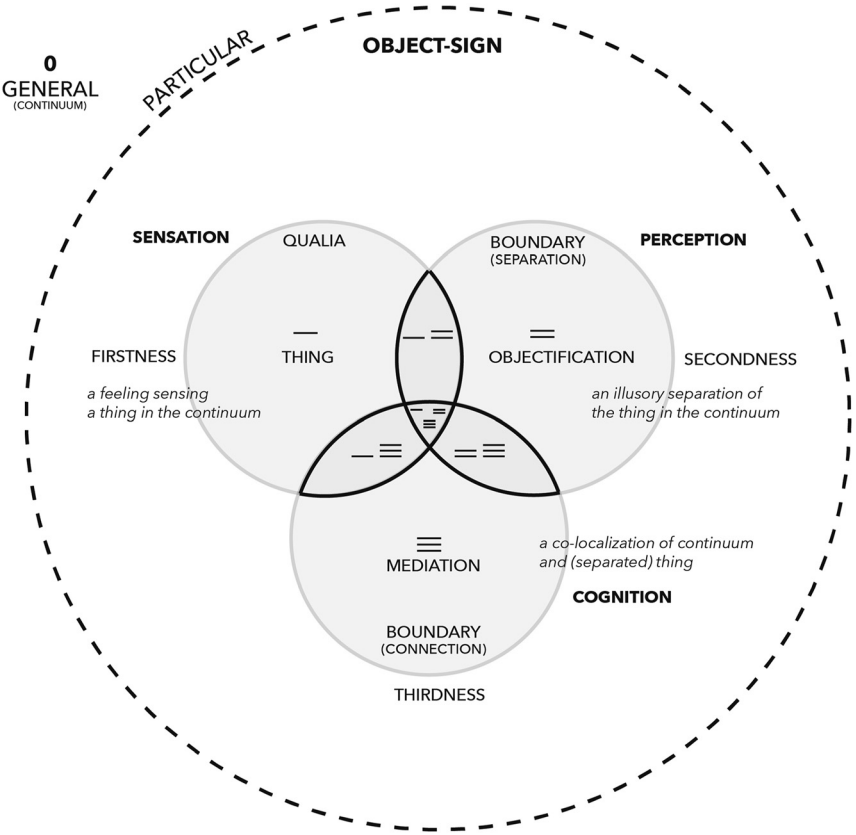

Figure 7: The object-sign that sees the qualia of a *thing* actualized with a boundary separating the qualia from the continuum into an *object*, inevitably anchored in the *general*.

same time separates the rest of the paper from everything inside the circle, i.e. as a perspective or point of view they can be thought of as different or separate but this duality only reflects the perspectives themselves. Taking a micro- or macro-perspective creates the possibility of moving sequentially from one to another perspective, but this sequence does not transfer to what is being considered (from the different perspectives), i.e. the perspectives are two, the perceived only one.

As a diagrammatic aside, I chose to visualize the process in a dashed circle, which does not separate itself from the visual plane, to emphasize the illusory, porous nature of the boundary separating the *particular* from the *general*. Similar visual considerations exist when looking at Daoist diagrams (Figure 8), as explained by Robinet:

> […] the *wuji* is illustrated as a blank circle, and the *taiji* as a circle with a point in its center that stands for the embryo of the world, or as a circle that contains Yin and Yang (as two lines, one unbroken and one broken), or as two circles rolled up together, one black and the other white (or each of them half white and half black). In the diagram as it appears in Confucian works, which also has a Taoist origin, *wuji* is the blank circle above the black and white circles of the *taiji*.
>
> *The* taiji *is the limit and the juncture between the two worlds, the noumenal world that "antedates Heaven" and the phenomenal world that is "after Heaven and Earth"* […]. (Robinet 2008a: 1058)

The *taiji* is identified as the circle that functions as both the limit and juncture of two worlds (it separates and joins), and it contains Yin and Yang, whose interactions create all things known, which resonates like a carbon copy with the semiotic boundary described here, and is reminiscent of Deely reformulating Locke "*a signum* which, as vehicle of communication, *could cross the lines of every frontier encountered in experience and the organization of knowledge, most notably the frontier where phenomena and noumena meet in sensation*" (Deely 2001b: 591).

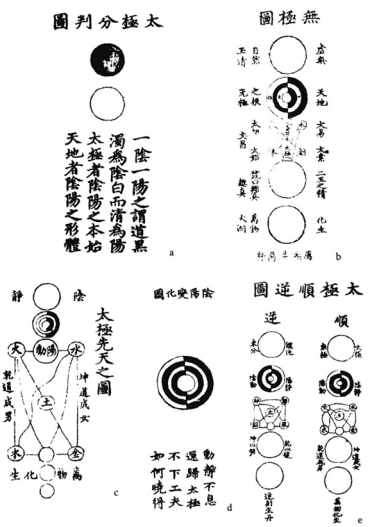

Fig. 70. Representations of the *Taiji tu* (Diagram of the Great Ultimate) and the *Wuji tu* 無極圖 (Diagram of the Ultimateless). (a) "Division of the Great Ultimate" ("Taiji fenpan tu"), in *Jindan dayao tu* 金丹大要圖 (Great Essentials of the Golden Elixir: Diagrams; CT 1068), 1a. (b) "Diagram of the Ultimateless" ("Wuji tu"), in *Wenchang dadong xianjing zhu* 文昌大洞仙經注 (Commentary to the Immortal Scripture of the Great Cavern by Wenchang; CT 103), 1.9a. (c) "Diagram of the Great Ultimate Before Heaven" ("Taiji xiantian zhi tu"), in *Zhenyuan miaojing tu* 真元妙經圖 (Wondrous Scripture and Diagrams of Zhenyuan; CT 437), 3b. (d) "Diagram of the Transformations of Yin and Yang" ("Yinyang bianhua tu"), in *Daofa xinchuan* 道法心傳 (Heart-to-Heart Transmission of Taoist Rites; CT 1253), 31b. (e) "Diagram of the Continuation and Inversion of the Great Ultimate" ("Taiji shunni tu"), in *Jindan dayao tu*, 3a.

Figure 8: *Taijitu* (Diagram of the Great Ultimate) (Robinet 2008c: 935).

In Figure 9, the object-sign fills the object spot of the well-known object–interpretant–representamen triad. Note that it is the inner part of the triquetra diagram that holds the intersection of the three circles, where everything is irreducibly triadic (highlighted in dark gray in the figure) that diagrammatically represents the object-sign.

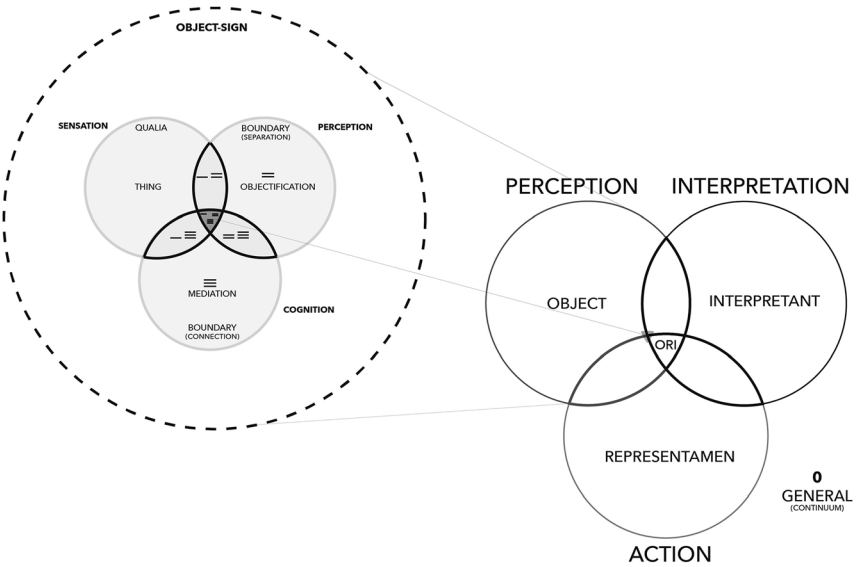

Figure 9: The object-sign as object in the irreducible triadic sign.

To know *one,* it takes *three*. The hypothesis that discrimination is an irreducible triadic relation revealed the inseparable connection between three distinct positions: an unknowable *third*, a known *thing* or object, and the holder of the knowledge. It showed that the ontological and ontic third are but two sides of the same coin, reflecting the respective perspectives taken. And it merged sensation, perception, and cognition into one simultaneous action, namely that of semiosis,[36]

36 I believe I have made the case that the genesis of an object-sign is very much semiosis in the full-fledged sense, and not a pre-semiotic process, as described very succinctly by Marcel Danesi: "The notion of semiosis was put forth by Charles Peirce to designate how the perception of signs involved not just a differentiation function, but also a creative experientially based process of transforming sensory information into conceptual models – a view that some have traced back to Saint Augustine (Markus 1957; Deely 2001a, 2001b), who saw signs as converting impressions into thoughts" (Danesi 2023: 216).

i.e. the genesis of a sign. In the final section, Section 5, before concluding, some tentative considerations are noted for models of cognition when approaching discrimination triadically, synechistically, instead of as a binary.

5 Tentative considerations

Discrimination is opposition, where one continuum is opposed to another, as seen in the blackboard–chalk line example from Peirce, which makes opposition indisputably triadic. It is impossible to oppose only two things if there is not a *third* mediating between the two, regardless of whether opposition is approached ontologically or ontically;[37] just as Petitot explained, X/Y always assumes three sub-schemes  . This raises the question of how such a model relates to the structuralist claim, as outlined by Marcel Danesi, that *binary opposition lies at the heart of cognitive processes*, a basic tenet rooted in the early ideas of Saussure (Danesi 2007 qtd. in Assaf et al. 2015: 160).

Danesi also asserts that "Peircean theory was never antithetical to Prague School structuralism" (Danesi 2009: 15), which I do not challenge. One can easily state that opposition, in terms of discrimination, is one of Peirce's basic tenets, and it is very much at the heart of his view on cognition within synechism. The crux of the matter is that opposition is triadic, not binary, i.e. it's not about compatibility between structuralist and Peircean theory but about completeness, as mentioned by Cary William Spinks: "Peirce is insistent that triadic structure is the final logical structure and the full 'expression of thought or reason' (CP 1.515)" (Spinks 1991: 39).

My position does not dispute the validity of the work and/or models built on top of binary opposition; I merely object to the classification of the opposition as being binary. I can accept the usefulness of the markedness theory, but marked and

37 The argument could be made that if we step away from the metaphysical, cosmological level and only consider what is possible on the sheet of assertion, which would take us away from the nameless or limitless void, and delimit our thinking to the sheer possibilities of everything that can possibly be asserted in particular, i.e. bringing our context down to everything that is possibly knowable from a single species' specific viewpoint, then the process still remains the same, as we have seen from, among others, Groupe μ's interval or Petitot's three sub-schemes.

unmarked terms are only justifiable when considering the *markless.*[38] The megastructure that emerges through opposition, postulated by the distinctive feature method of Claude Lévi-Strauss,[39] is the same pairing of opposites in the A-B-commonality example of Peirce or the co-localization from Stjernfelt, which are all logical consequences of considering triadicity in synechism.

5.1 The semiotic square

One of the most iconic models of binary opposition[40] in semiotics is the semiotic square (SQ) of Greimas (Figure 10). Greimas speaks of "*the elementary structure of signification*, when defined […] as a relation between at least two terms [that] rests only on a distinction of opposition which characterizes the paradigmatic axis of language" (Greimas and Courtés 1982: 308).

38 In the work "called markedness theory. The essence of the theory is that in a binary opposition, one of the poles is unconsciously assumed to imply a normal or default state (with a lower functional load), and the other an exceptional or derived state (with a higher functional load)" (Danesi 2023: 224). For further reading on the theory of markedness, I refer to H. Andresen *Markedness theory: The first 150 years* (Andresen 1989).

39 Lévi-Strauss applied binary logic to cultural systems, on the premise that human cognition naturally structures the world through binary oppositions similar to phonological systems that organize speech through distinctive features. "In the first place, much of linguistic behavior lies on the level of unconscious thought. When we speak, we are not conscious of the syntactic and morphological laws of our language. Moreover, we are not ordinarily conscious of the phonemes that we employ to convey different meanings; and we are rarely, if ever, conscious of the phonological oppositions which reduce each phoneme to a bundle of distinctive features" (Lévi-Strauss 1963: 56–57). "Jakobson has suggested that a language may possess several coexisting phonological structures, each of which may intervene in a different kind of grammatical operation. Since there must obviously be a relationship between the different structural modalities of the same language, we arrive at the concept of a 'metastructure' which would be something like the law of the group (*loi du groupe*) consisting of its modal structures. If all of these modalities could be analyzed by our machine, established mathematical methods would permit it to construct the 'metastructure' of the language, which would in certain complex cases be so intricate as to make it difficult, if not impossible, to achieve on the basis of purely empirical investigation" (Lévi-Strauss 1963: 58).

40 I refer to Danesi to find the origins of the idea of opposition, "One of the first in-depth psychological treatments of opposition theory was by Charles Ogden in 1932, in which he expanded upon several key ideas he had entertained with I.A. Richards in *The Meaning of Meaning*. Ogden suggested that there existed a small set of oppositions, such as right vs. left and yes vs. no, that were universal and intrinsically binary in structure. These came to be called polar concepts, since they could be envisioned as two poles on a scale" (Danesi 2020: 79), while I take the more important finding that the crux is *the relation to understand the related*: "Generally speaking, the notion of opposition emphasizes the fact that signs have value in relation to other signs" (Danesi 2020: 56).

Danesi writes, "Greimas put forth the notion of the 'semiotic square,' which, he claimed, was *more suitable as a differentiation technique* because it involved two sets of oppositions forming a square arrangement" (Danesi 2020: 55). However, in this paper, I wish to specify that the differentiation technique in the SQ is not *two sets of oppositions* but rather the three sub-schemes of Petitot and the A-B-lessness of Peirce that are at play at the same time (see Section 2.2).

Louis Hébert specifies that:

> […] the semiotic square is designed to be both a conceptual network and a visual representation of this network, usually depicted in the form of a 'square' (which actually looks like a rectangle). Developed by Greimas and Rastier (1968), the semiotic square may be defined as *the logical articulation of a given opposition* (this definition is adapted from Courtés's (1991, p. 152)). The semiotic square is used to refine an oppositional analysis by increasing the number of analytical classes stemming from a given opposition from two (e.g., life/death) to four – (1) life, (2) death, (3) life and death (the living dead), (4) neither life nor death (angels) – to eight or even ten. (Hébert 2020: 40)

The setup of the model is well known (Figure 10). A positive S_1 and negative S_2 seme and the two respective *not*-semes $\sim S_1$ and $\sim S_2$ are plotted out on the rectangle, generating *three* relations:

1) the contrary or *opposition* (S_1 to S_2 and $\sim S_1$ to $\sim S_2$)
2) the contradictory (S_1 to $\sim S_1$ and S_2 to $\sim S_2$)
3) the complement or implication (S_1 with $\sim S_2$ and S_2 with $\sim S_1$).

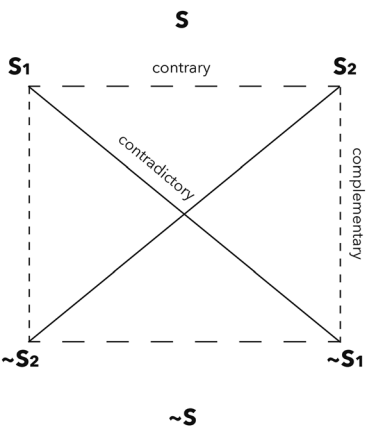

Figure 10: Greimas's semiotic square.

The four positions (semes and *not*-semes) can be seen as the materialized end points of the three relations, which resonates with Peirce's *Axioms of intuition*: "[…] the possibility of an entire difference in *relation*, which must exist in *position* […]", and

connects seamlessly with the research on the semiotic square by Petitot where he approaches the topology of the square.[41]

> Quant à l'opposition privative il est fallacieux de la faire coïncider avec une opposition logique en *transformant un non marquage en marquage d'un non*. […] Quant à l'*opposition qualitative* elle est régie non pas par des relations de conjonction et de disjonction mais par le phénomène, plus primitif, de jonction et de double présupposition. Or la jonction ne porte pas sur des termes. C'*est une colocalisation de places*. […] Puisque les oppositions privatives et les oppositions qualitatives sont d'essence topologique et non logique, puisqu'elles relèvent d'une articulation de places (colocalisation) et non d'une syntaxe de termes (relations), le carré sémiotique, qui les connecte et les fait « tenir ensemble » en une forme canonique de complexité minimale, est lui-même d'essence topologique.
>
> [As for privative opposition, it is misleading to make it coincide with a logical opposition by *transforming a non-marking into the marking of a non. […] Qualitative opposition is* governed not by relations of conjunction and disjunction, but by the more primitive phenomenon of junction and double presupposition. But junction is not about terms. It's *a co-localization of places*. […] Since privative oppositions and qualitative oppositions are topological and not logical in essence, since they are the result of an articulation of places (co-localization) and not of a syntax of terms (relations), the semiotic square, which connects them and makes them "hold together" in a canonical form of minimal complexity, is itself topological in essence.] (Petitot 1977: 371)

Petitot identifies the mixing of registers in the SQ in a similar manner to Peirce, observing the difference between nothingness and emptiness, where emptiness is noted as being a something. The *markless* (needed for the privative opposition) is not the same as marking something as unmarked (in the logical opposition).[42]

In short, Petitot evaluates the SQ as a topological mapping of privative opposition that is used for logical and qualitative oppositional meaning-making that sees the end points of the relations labeled with *particular* terms, whose positions can only be generated through discrimination from the *general* (objectification), in relative space and time.

Unlike the *taijitu* (Yin–Yang diagram), which is explicitly understood as being a *view* of the *particular*, known, and experienced, world, i.e. separated in thought from

41 The approach of Petitot feels very relevant, especially in connection with Danesi's statement from before, namely that "opposition emphasizes the fact that signs have value in relation to other signs." Both taken together – topology and relativity – it makes sense that, when objectifying an unknown thing in the continuum, what is being established is actually pinpointing the object in relative space and time, which is what semiosis is all about: "Trilateration is the only way to locate a point in relative space, which is a compelling formulation of describing what semiotics is about: the trilateration of signs in the process of semiosis" (Mortier 2024: 113).

42 Similar to the Zen teaching not to mistake the finger pointing at the moon for the moon itself or even to the first line of the Daodejing, which literally reads, "Tao called Tao is not Tao" (Lao-Tzu, trans. Addiss et al. 1993: Ch. 1).

the limitless void of the *general wuji*, the SQ as a tool to understand how meaning is generated implicitly assumes that it is separated from the *general* continuum. However, the mechanism of discrimination does not make that distinction, as shown before, because it is *the bridge between* general and particular, i.e. it is both *general* and *particular*.

To arrive at the qualitative opposition Petitot talked about (see Section 2, note 7), i.e. the opposition between A and B, both A and B already need to be discriminated against everything that is not A or B, respectively. If we take Petitot's $\frac{X|Y}{0}$ terms and put them in the semiotic square (Figure 11), then X and Y form the qualitative opposition, and the terms ~X and ~Y, which give the logical oppositions X vs. ~X and Y vs. ~Y, are placed in the position of 0 (minus X and Y respectively), which translates to the privative oppositions X vs. 0 (minus X) and Y vs. 0 (minus Y). It means that, as Petitot also mentions, the non-semes, i.e. the $\sim S_1$, $\sim S_2$ positions, do not entail a second set of qualitative opposition as commonly assumed (see Danesi's quote at the beginning of this section). The privative oppositions are needed to generate the semiotic *objects* of S_1 and S_2 (X and Y, or A and B) out of the continuum, which are relative positionings.

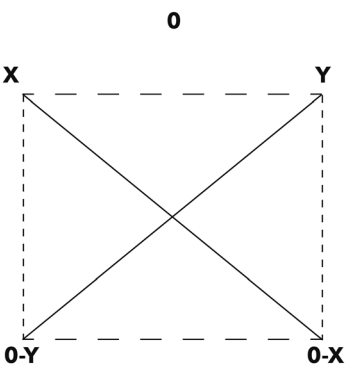

Figure 11: The SQ mapping of Petitot's three sub-schemes.

S_1 and S_2 respectively oppose $\sim S_1$ and $\sim S_2$ as *particular substitutes* for the *general third* to be perceivable/conceivable, i.e. $\sim S_1$ and $\sim S_2$ are substitute objectifications for the essential but non-objectifiable neutral *third*; they are the illusory boundaries of S_1 and S_2 (Figure 12); they represent the un-A-ness and un-B-ness from Peirce.

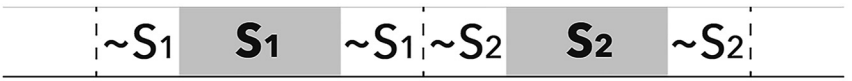

Figure 12: The difference between two knowable positions with a spacing or third position in between.

Without the substitute ~positions, the two positions S_1 and S_2 merge similarly as the 1 and 0 in the example of Derrida's essential spacing, making it impossible to discriminate between them (Figure 13).

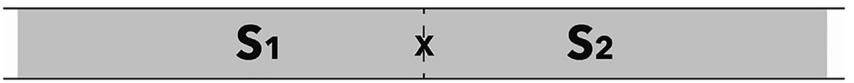

Figure 13: The loss of spacing, or of the third position, between two positions.

The deep (ontological) structure of the Greimasian SQ is the three sub-schemes of Petitot and/or the irreducible triadic structure of objectification as explained in Section 4. It is not binary, nor a combination of two sets of oppositions, but undeniably and irreducibly triadic, like Peirce's metaphor of the fork in the road (CP 1.337).[43]

The face-value (ontic) use of the SQ, however, sees both $\sim S_1$ and $\sim S_2$ positions filled with *meaningful particulars*, i.e. meaningful terms are brought in to replace the markless neutral third. For example, if S_1 is "masculine" and S_2 is "feminine," then the positions $\sim S_1$ could be filled in with "tomboy" and $\sim S_2$ with "transvestite." Neither would fully cover the position, because the ontic cannot fill in for the ontological neutral *third*, since this last is an infinite number of possibilities, and any *particular* used to substitute for the *third* is only one of many possible particulars that could function in the position.[44]

Note, however, that only by substituting the logical/privative opposition positions $\sim S_1$ and $\sim S_2$ with qualitatively opposed terms, e.g. tomboy and masculine, which are qualitatively different, can the SQ claim four qualitative oppositions that immediately generate the eight positions Hébert mentions. Figure 14 tries to elucidate the two registers in the SQ, where the *general* deep structure is translated into the *particular* relative structure.

I have repeated the example with concrete terms, in parentheses, as found in *An introduction to applied semiotics* (Hébert 2020: 43), in Figure 14b. As stated, when substituting the *general* $\sim S_1$ and $\sim S_2$ positions with *particular* terms, then multiple

43 Peirce writes "A fork in a road is a third, it supposes three ways; a straight road, considered merely as a connection between two places is second, but so far as it implies passing through intermediate places it is third" (CP 1.337).

44 The simplest comparison is that the area of the markless third is substituted with a specific point. The point is well within the area, but it cannot substitute for the entire area, and obviously other points within the area could also be used.

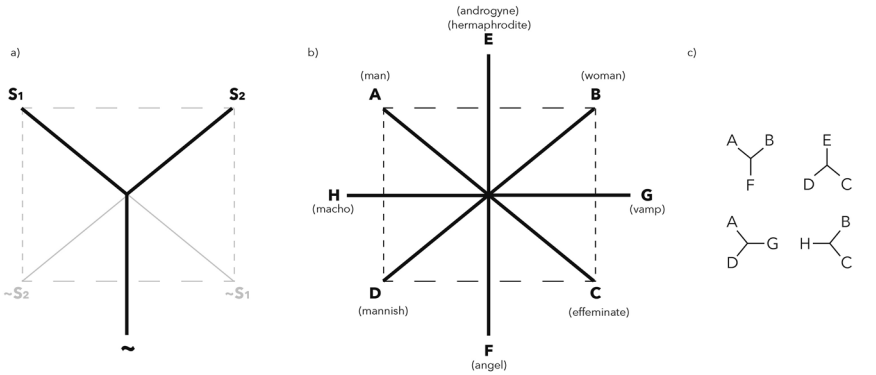

Figure 14: Comparison of the two registers in the SQ; deep structure vs. particular, relative structure. (a) The triadic relation needed to set up a qualitative opposition between S_1 and S_2 requiring a *third* ~,  , i.e. the qualitative opposition requires the privative opposition. When the *third* ~ privative opposition is then divided into two logical oppositions, as in Peirce's example, un-A-ness is represented by $\sim S_1$ and un-B-ness by $\sim S_2$. (b) The SQ with *particular* qualitative opposition positions, i.e. concretely named positions, which automatically produce 2^3 positions, i.e. the eight positions stated by Hébert, namely A to H. (c) The different triadic relations where every position is a qualitative term, instead of the three sub-schemes read e.g. A/B, A/F, B/F, or , etc.

options tend to appear, i.e. there is not always one perfect solution, for example, I suggested "tomboy" where Hébert states "mannish" and "transvestite" where Hébert lists "effeminate," but I could also list "ladyboy" or the Thai term "kathoey."

Note that the positions E to G are, traditionally, called metaterms: "The metaterms are compound terms created by combining the four simple terms" (Hébert 2020: 42) – the four simple terms being A to D here. Metaterms are commonly interpreted as a combination of two simple terms, for instance, someone who is born with both male and female reproductive organs used to be called hermaphrodite, which is today called intersex in medical contexts, or, when leaving the biological sphere for gender identity, then someone who identifies as both male and female, neither, or as a different gender altogether may opt for non-binary. As such, metaterms are merged, co-localization positions.

The SQ is a device that is profusely used, especially in applied semiotics, for the obvious fact that it works. The matter that it mixes ontological and ontic registers is not particularly problematic for its functioning. As was shown before, the neutral general *third* is not easily categorized because it is omnipresent in both spheres; it is the ever-present glue in perception and cognition, which means it is expected that its ephemeral nature cannot be grasped. The triadic mechanism at its core is not elusive, however, and can easily be unveiled. In the case of the SQ, it models the transition

from marking unknowns in the markless continuum, and as soon as the unknowns have been objectified, all meaning-making relations are extracted from the *general*, and the model is used with *particulars*.

The SQ relies on the triad of discrimination on the one hand and on categorizing all the positions with precision on the other hand, regardless of the fact that the *third* necessarily escapes such precision. This last is at the heart of Peirce's work on the categories, more specifically Peirce's unraveling of the mechanisms of hypostatic abstraction and prescission; "hypostatic abstraction by which we seem to create *entia rationis* that are, nevertheless, sometimes real, furnishes us the means of turning predicates from being signs that we think or think through, into being subjects thought of" (CP 4.549) and "In geometry, for example, we 'prescind' shape from color, which is precisely the same thing as to 'abstract' color from shape" (CP 5.449).

Spinks draws attention to Peirce's term of prescission, which I believe is what happens when in the SQ the *general* ~position is split into two *particular* ~S_1 and ~S_2 positions:

> Thus, it is important to look at how prescission works. First, Peirce defines the term as "*mental separation* […] *which arises from* ***attention to one element and neglect of the other***" (1.549). It is a term derived from Scotus's praecisio, the act of supposing, but Peirce turns it into a subset of abstraction and the process of classification by which to deal with the categorical limitations of terms. More importantly, **he makes it the major process by which the categories are discovered**, and **the *very mark of distinction*** of the categories themselves – *the different functions of the human mind and its interaction with the physical world*. Peirce divides abstraction into two types, prescissive and hypostatic. **Prescissive abstraction is "*that operation of the mind by which we pay attention to one feature of a percept to the disregard of others*"** (4.235) However, **I do not think Peirce here is simply talking about existential import**, or as he puts it, "the expression of non-substantive thought" even though "empty categories" are suggested by "non-substantive thought". **Rather hypostatic abstraction is primarily a grammatical transformation of categorical operations for purposes of classification**; it is a matter of the distribution of terms as the classical logicians termed it. To Peirce **hypostatizing "consists in taking a feature of a percept or percepts *(after they have already been prescinded from other elements of the percept)*,** [emphasis mine] **so as to take propositional form in a judgment"** (4.235). Then after the prescission, hypostatizing functions "in conceiving this fact to consist in the relation between the subject of the judgment and another subject, which has a mode of being that merely consists in the truth of propositions of which the corresponding term is the predicate (4.235). (Spinks 1991: 20–21)

The deep structure of the SQ is unavoidably the mechanism or principle of discrimination, which turns the SQ into a topological model that pinpoints opposing and related positions in relative space and time. And, by superimposing a layer of labeling and meaning-making on top of that deep structure, the SQ transforms from an ontological mapping into an ontic one, substituting a triadic

privative relation by Boolean pairs of qualitative relations, i.e. the deep structure deals with perceived *existence* in the continuum, where, for instance, $\sim S_1$ is the *general* S_1-lessness, and the surface structure deals with perceived *particular existants* on the sheet of assertion, where, for instance, $\sim S_1$ is just as specific, or *particular,* as S_1 itself.

5.2 The Yin–Yang diagram (*taijitu*) and eight trigrams (*bagua*)

The Yin–Yang diagram[45] is a stereotypical example when talking about binary opposition from a Cartesian frame of reference, although it has already been made clear that the binary is but a small, isolated view on a larger entanglement in Daoist philosophy.

The *taiji is* the co-localization Stjernfelt speaks of, except that in Daoist thinking this co-localization has a name, i.e. *taiji* or Great/Supreme Ultimate. The statement that the *taiji* contains Yin and Yang can be reformulated as Yin and Yang together form the megastructure of Lévi-Strauss; it's a matter of semantics and perspective. The *taiji* contains the qualitative and privative oppositions that require objectification and consequently require a *third*, i.e. to co-localize the two opposites, a space to co-localize them in is paramount; that space is the limitless void or *wuji*.

The concept is clear: out of the limitless void of the *wuji*, the *taiji* springs, which contains Yin and Yang, from whose constant interaction spring all things, i.e. the empirical and phenomenal world. Figure 15 dissects the *taijitu* (Yin–Yang diagram), making the co-localization explicit of the Yin and Yang contained in the *taiji*, which springs from the *wuji*, and juxtaposing the three sub-schemes from Petitot below.

Yin and Yang are complementary opposites that imply each other, i.e. the *taiji* diagram compresses the three relations of the SQ in one visual, with 4 positions, namely Yin and Yang (as the white and black fish shapes) and the lesser Yin and Yang (as the fish eyes). The *taiji* diagram objectifies Peircean firstness[46] with the

45 Although *taiji-tu* is translated as the *diagram* of the *taiji*, diagram of the Supreme Ultimate or Yin–Yang diagram, I want to stress that diagram is used, in the meaning according to Peirce, as *a sign that has a* "diagrammatical character – to the extent that they may be manipulated in order to display new information not explicitly present" (Stjernfelt 2007: 278). Both the *taijitu* and the SQ are signs that can be manipulated to display new information.

46 Something that is sometimes forgotten when talking about Peircean Firstness as sheer possibility is the fact that Firstness is not unbridled in its infinity (pure zero is limitless, firstness is not). Firstness is an infinite set in a larger infinite, exactly like the *taiji* in the *wuji*. The best comparison I have found to date is that the *taiji*-diagram is like the Peircean sheet of assertion – which is limited in its infinite

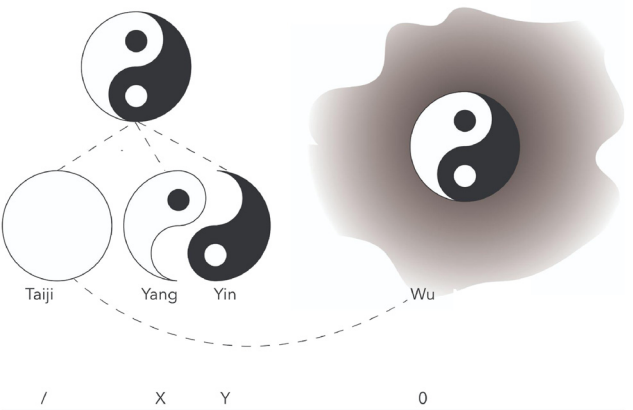

Figure 15: The *taijitu* dissected into *taiji*, Yin and Yang, and showing its connection to the *wuji* (above) and juxtaposing the dissection with Petitot's three sub-schemes (below).

same precision in terms of discrimination, i.e. sheer possibility within the confines of the possible knowable universe, inside the pure zero beyond differentiation. Peirce lists pure zero, firstness, and discrimination as knowledge, implying the triadic relation of objectification. Daoist philosophy lists the *wuji* (general third), the *taiji* (co-localization in the general third of a pair), and the complementary opposites (opposites in constant interaction and relation). The terms and formulations may differ, but what is stated in Peircean and Daoist theory matches perfectly.

The Yin–Yang diagram does not explicate the phenomenal world on the same concrete, *particular* level as the SQ, but it is at the heart of the *bagua* or eight trigrams[47] diagram, which can easily be put next to the SQ as a similar topological

possibility to that what can be asserted in the Deelyan *objective* world, which Spinks already addressed: "Thus, not only is firstness 'mere possibility' (2.235) for object-ness, it is also a 'Perfect simplicity' (6.376) of being for subjects 'essentially indifferent to continuity,' and it 'lends itself readily to generalization but is not itself general' (6.205). Essentially Peirce realizes that firstness must be seen in terms of "positive suchness" (7.630) as a contrast with the ambivalent "thisness" of dyadism (1. 497)" (Spinks 1991: 29).

47 A simple explanation of the eight trigrams is that it is a set of symbols to illustrate and/or navigate the nature of reality as being composed of mutually opposing forces that reinforce each other. The symbols or trigrams are composed of three lines, each either a "broken" (Yin) line or "unbroken" (Yang) line. Each line having two possible states allows a total of 2^3 or eight trigrams, which can further be combined into the sixty-four hexagrams of the I Ching (Yiying), the divination text called the "Book of Changes."

mapping of meaning-making, or as François Louis describes, the *xiantian (before heaven) Bagua*[48] as a diagram "which can be read as a map" (Louis 2003: 149)

> […] the *cosmological principle of change (i) is embodied in both reality and in the symbolism and texts*, so that "*i*" refers to both symbolism and the reality which by reciprocal reference form a "unity of feeling." This, of course, is possible simply because *both understanding of reality and understanding of texts share the same perception of change or principle of change, which is their common ground of reference.* (Cheng 1991: 171)

> Therefore *t'ai-chi* satisfies the demand of explanation and description and conforms to the principle of creative change from the simple to the complex. Thus *Hsi Tzu Ta Chuan* says: "Therefore the ***i*** has *t'ai-chi*, which **produces two norms**. **The two norms produce four images, four images produce eight trigrams.**" The **two norms are *yin-yang*** or *ch'ien* and *k'un* (the principle of opening and the principle of closing); the **four images refer to the four patterns generated from the combination of the two norms. Finally the eight trigrams indicate doubly differentiated patterns generated from the four images**. (Cheng 1991: 546)

In those two quotes, Chung-ying Cheng summarizes most of the points illustrated so far, i.e. discrimination is about change. Regardless of whether it is approached ontologically or ontically, the principle is always the same, which explains the difficulty of categorizing. He also explains the building blocks to get to the eight trigrams or *bagua* (from principle of change *i*, to 2 norms, to 4 images, to 8 trigrams), which fit perfectly with the findings about the SQ (from principle of discrimination or objectification, to 2 oppositions, to 4 simple terms, to 8 meta- and simple terms).

Figure 16 shows the *xiantian* or *before heaven* eight trigrams around the *taijitu*, as found in Louis's examination of the diagram's history (Louis 2003: 146), "the *xiantian* circle depicts the waxing and waning of *yin* and *yang* while at the same time pairing each trigram with its respective opposite across the circle" (Louis 2003: 149). The opposites read heaven–earth, water–fire, wind–thunder, lake–mountain. Figure 17 shows the generation of the eight trigrams from the *taiji*, revealing the construction of trigrams from broken (Yin) and unbroken (Yang) lines, and Figure 18 shows the same generation from Yin–Yang to the eight trigrams (*bagua*) and further on to the sixty-four hexagrams of the *I Ching*, in a visualization that makes *labeling* the system as *binary* quite obvious.

The eight trigrams diagram boasts eight positions, used to illustrate and navigate the nature of reality. They are themselves generated from the interaction of Yin and Yang, and when taken in pairs, they generate the sixty-four hexagrams of the *I Ching*, the book of changes. While described and explained in more poetic formulations, the similarities with the SQ are undeniable.

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48 There are two common versions of the eight trigrams diagram, called the "before" and "after" heaven, where the difference is the order of the trigrams around the circle. As the interest here is in the construction of the diagrams, the versions matter little.

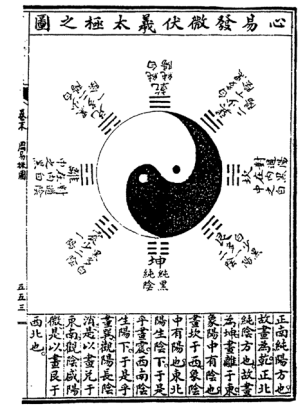

Fig. 1. "The *Taiji* Diagram of the Heart of the *Changes* as Mysteriously Revealed by Fuxi," from Lai Zhide, *Yijing Luizhu tuju* (1688; rpt., Chengdu: Ba Shu shushe, 1989), p. 553.

Figure 16: *Xiantian bagua* around the *taijitu* (Louis 2003: 146).

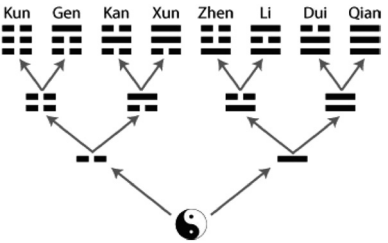

Figure 17: How the eight trigrams are generated from the *taiji* (Morales 2018).

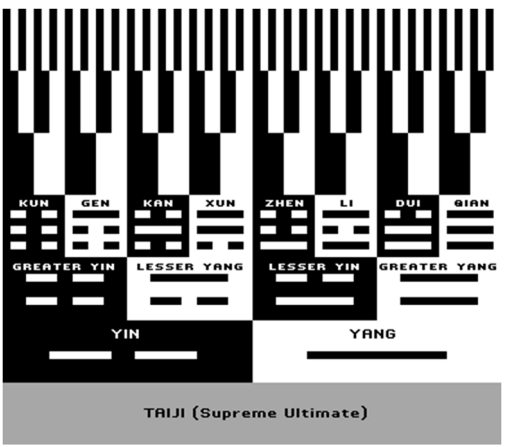

Figure 18: Generation of the eight trigrams (first three horizontal lines starting from the bottom) into the 64 hexagrams (last three horizontal lines starting from the bottom) after the Shao Yong (1011–1077 CE) square (Marshall 2003–2025).

5.3 Semiotic square vs. *bagua*

In Figure 10 depicting the semiotic square, S and ~S are placed respectively at the top and the bottom of the square to show the positive and negative sides of the SQ in a simplified manner. Figure 19 shows a more detailed view of the positive and negative sides and how they are mapped on the SQ. S/~S and +/- in the context of the square are nothing other than Yin and Yang in the circle of the *taiji*, the positive and negative in constant dialogue. The only difference is that the circle of the *taiji* envelops or contains Yin and Yang, and the SQ is contained in the S/~S and +/- interactions.[49]

Mapping the positions of the semiotic square is a top-to-bottom process starting from the constant interactions of positive and negative forces and pinpointing the particulars. The *bagua* in turn sees the opposite materialize, i.e. from the deep structure of the Yin–Yang diagram to the particulars of the eight trigrams positions. Both models follow the same logic from beginning to end, the only difference being where the story is said to unravel, i.e. the perspective taken.

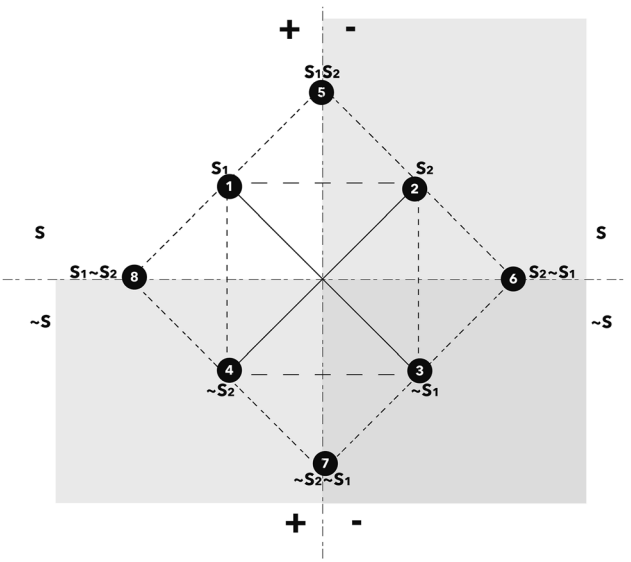

Figure 19: The quadrant in the SQ of +/- and S/~S.

49 They are but two movements on the same setting, for example, imagine that from the depths of the *wuji*, the camera zooms in on the *taiji* and even further in to show the eight trigrams, etc. versus zooming out from the particulars of the SQ to show the SQ as a model and further out to anchor it in the general. The first zooms in from the general to the particular, whereas the second zooms out from the particular to the general, i.e. what is being shown or described is one and the same, only the manner of viewing is different.

Figure 20 puts the eight positions that map the oppositions across the models of both the SQ and *bagua* next to each other.

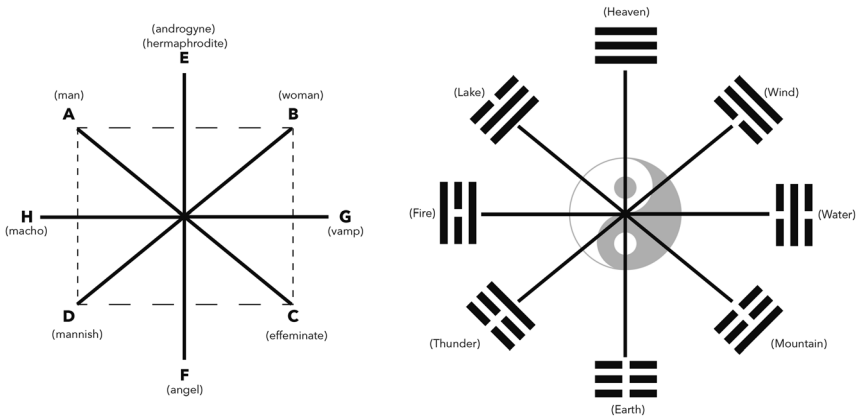

Figure 20: On the left are the eight positions of the SQ, and on the right are the eight positions of the *bagua*.

Figure 21 shows the same building blocks used to build up the SQ and the eight trigrams diagram.

While exploring the narrative model of the *Yiying*, built on top of the *taijitu*/eight trigrams, Xiaosui Xiao brings in the SQ as a model to assist in the study: "Specifically, it combines any three *yin* and *yang* symbols to compose the famous Eight Trigrams (*Ba gua*), and then puts together any two of the eight to form sixty-four hexagrams.

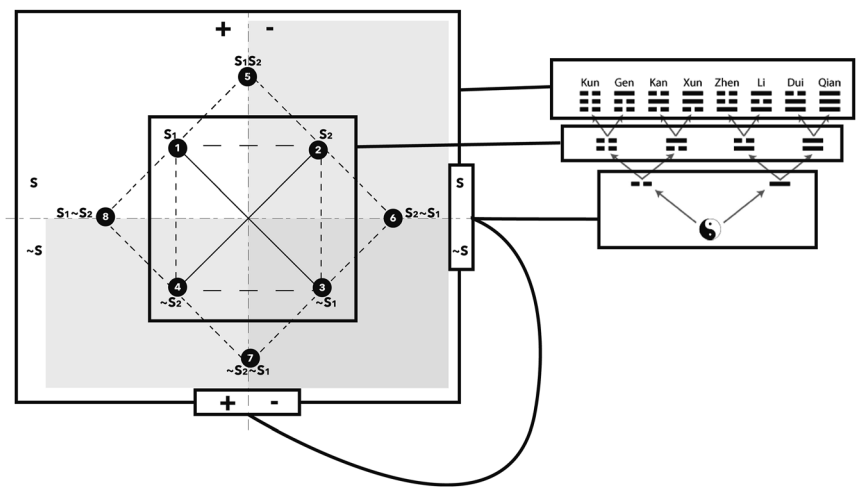

Figure 21: The 2-4-8 construction of the SQ and *bagua.*

The use of *yin* and *yang* to build an entire symbolic system has far-reaching implications for the narrative, and defines the elementary structure of narration in *Yijing*. For a better understanding of this elementary structure, it is helpful to compare it with Greimas' notion of the elementary structure of signification" (Xiao 2009: 103).

The approach of Xiao could be interpreted as contradicting the comparison of this paper of SQ and eight trigrams, i.e. if they are really the same, there would be no reason to use one to understand the other. I am not, however, positing that the SQ and *bagua* are identical; the posit is that their logical mechanism or principle is the same. And I can subscribe to the interesting finding of Xiao, who interprets the SQ as having positions from where there are always three choices or directions to take in a narrative:

> This "*semiotic square*," which originally referred to the elementary structure of signification, *can also serve to depict the deep structure of narratives.* It shows how the narrator is *restricted by a finite series of alternatives provided by semiotic and logical opposition.* At the same time, it also illustrates the complexity and dynamics of a simple opposition. As revealed in the foregoing semiotic square, any move from one status (e.g., S_1) to its opposite (S_2) or contrary ($-S_1$) is complex, given the alternatives involved in such a move and the series of possible subsequent moves that it invites. (Xiao 2009: 103)

Xiao looks at the SQ and identifies that the SQ model, using only the simple terms, i.e. not including the full set of positions with metaterms (eight positions), always offers three moves to a different position, instigating a change, i.e. from S_1 to S_2, or to $\sim S_1$ or $\sim S_2$, which he then uses to delve into the workings of the hexagram interpretations. The three moves are stated to be restricted by semiotic and logical opposition, i.e. the three relations of the SQ (contrary, contradictory, and complementary), whereas, following the work here, Xiao could use four relations, including the merging of simple terms that offer the metaterm positions.

5.4 Final musings

The SQ lacks a mark for the markless, instrumental for its inner workings, which is neither surprising, as it is after all markless, nor does it impact its working. It only merits a *not applicable* in Table 1 below that juxtaposes some of the main findings of this investigation.

Table 1: Juxtaposition of the main findings in Petitot, Peirce, Dao, and SQ.

Petitot		Peirce	Dao	SQ
0	A-B-lessness	Pure zero, continuum	wu(ji)	N/A
/	un-A-B-lessness	Co-localization, mediation, thirdness	taiji	SQ
X	A	Potential and actualized object, firstness and secondness	Yang	S (S_1) (+)
Y	B	Potential and actualized object, firstness and secondness	Yin	$\sim S$ (S_2) (-)

The SQ and the eight trigrams can both be described as 2^3 models, resulting in eight positions, the former because of the underlying triadic mechanism of discrimination or objectification needed to get the two base terms to draw the SQ diagram, and the latter because of the three options possible with the two base lines, broken Yin and unbroken Yang lines.

Next, there has not been any mention of Leibniz and the connection between his work on binary arithmetic and the Daoist hexagrams. A substantial number of articles have been dedicated to establishing whether Leibniz was influenced by the hexagrams of the *Yiying* or not, for instance, Marie-Julie Maitre concludes after a thorough investigation that "It proves that Leibniz developed his dyadic independently of the *Xiantiantu*" (Maitre 2022: 33), but that he was highly influenced by his teacher Erhard Weigel. Leibniz's influences are, however, of little interest for the investigation at hand.

The position of this paper remains that all binary opposition is necessarily triadic because of the underlying principle of objectification, which cannot be dismissed, even when taking it into the digital world, where Leibniz's binary code sees 1 being differentiated from 0 as an on/off switch. Although this might seem to be a *truly* binary opposition that does not need a *third* to allow differentiation, it is impossible to have an on/off switch… *without the switch itself*. The switch allows the two possible positions of on and off; without it, there are no positions to take up, like Derrida's letters merging without spacing between them. It is similar to opposing two terms X and Y with a forward slash, something even Petitot picked up on, i.e. adding the sub-schemes where X opposes 0 and Y opposes 0 was only needed to mark the unremarkable "/" slash:

> Ce schème exact de l'opposition qualitative modélise – on pourrait même dire est le mathème, pour reprendre un concept lacanien – *de la barre dans le graphisme naïf X/Y*. Nous aurions d'ailleurs pu partir de cette simple remarque : en tant que trace scripturale de la différence, la barre ex-siste à toute décision logique du sens. La conséquence en est que son mathème ex-siste à tout contenu. Il ne consiste pas avec le sens. Il en est en quelque sorte ex-crit.
>
> [This exact pattern of qualitative opposition models – one might even say is the mathematic, to borrow a Lacanian concept – *of the bar in the naive X/Y graphic*. In fact, we could have started with this simple observation: as a scriptural trace of difference, the bar ex-ists for any logical decision of meaning. The consequence is that its mathematic ex-sists of all content. It does not consist of meaning. It is, as it were, written out of the equation.][50] (Petitot 1977: 383)

50 Petitot intentionally misspells "written," in French "écrit," as "ex-crit," similar to how he hyphenates ex-ists to mark that there is more happening than is commonly read in the words. As it is not possible to mimic this play with the form of words in the translation, I decided to translate the interpretation of the original text.

Finally, returning to the tripod notation, Figure 22a works as shorthand, but it is far from being complete or diagrammatically clear. Figure 22b explicates what happens in cognition, namely that the boundaries around X and Y are perceived as being real because they are actual in perception (full lines), and the surrounding *unperceivable* general (dashed lines) is perceived as virtual. Figure 22c explicates the opposite perspective, namely that the only *thing* that is in actuality *real* is the unknowable continuum (full line), and the boundaries of the semiotic objects X and Y are virtual (dashed lines). Figure 22d shows the Daoist *taijitu* where the *wuji* is the blank space around, the boundary is the circle, and Yin and Yang are the white and black fish-like shapes.

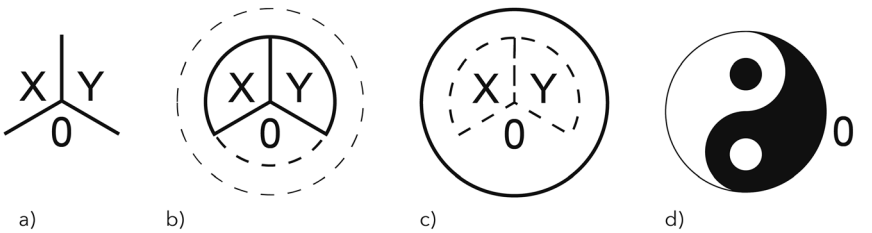

Figure 22: Different readings of the three sub-schemes of Petitot and their connection with the *taijitu*.

6 Conclusions

Peirce stated that knowledge is discrimination, which became the throughline of a broad investigation into the *markless third* as the necessary medium for drawing the semiotic object. It showed that categorizing the medium as ontological or ontic was far less important than the understanding that dissecting an irreducible relation loses important insights in terms of properties that are intrinsically linked to the irreducible bond. The description of three separate rings cannot fully grasp the properties or principles of the Borromean rings. The medium is the common ground, the bridge in between, and as such, it cannot be isolated.

Gathering the findings and insights from different schools of thought, semiotic and Daoist, provided a way to approach the elusiveness with a more fluid or fuzzy precision, by collecting the similarities in essential thought and discarding the differences that turned out to be merely semantic.

The paper aimed to draw the semiotic object out of nothing(ness), which necessitated the merging of sensation, perception, and cognition, for the obvious fact that the act itself is one single action, and that which is single is by definition simultaneous, i.e. a sequential analysis (decomposition) is literally what it states it is,

namely that *the analysis* (decomposition) *is sequential*, but the *analyzed*, the genesis itself, remains *instantaneous*.

Drawing the semiotic boundary of the semiotic object according to the principles of the irreducible triadic Peircean sign relation revealed that the sign formation which objectifies a thing out of the continuum is not *pre*-semiotic, regardless of the fact that the boundary of the thing might not be real, i.e. the semiotic boundary of the object is real in act. And, although explained in more poetic formulations, these insights could easily be found in Daoist sources.

Applying all of the findings to the iconic binary model of the Greimasian semiotic square led to the conclusion that the SQ is not a Boolean, binary opposition model in its deep structure, but undeniably triadic, as Peirce, Lao-Tzu, and others posited. But the SQ's surface structure allows it to be used in a binary manner when operating in the strict confines of the known and experienced world, not unlike the eight trigrams diagram, which follows the same analysis and whose deep structure is based on the interactions of *wuji*, *taiji*, and Yin–Yang.

To discriminate is to draw the semiotic object out of nothing(ness). To draw the object out of nothing(ness) is to position a thing in relative space-time. To position a thing in relative space-time requires an irreducible triadic process to achieve precision. That irreducible triadic process is known as semiosis. Semiosis is discrimination. A sign is discrimination. An object is a sign, and a sign is an object. The constituents or phases of the process might lack precision, but the process as a whole is extremely specific and exact, i.e. semiosis is discrimination, is knowledge, whether real or virtual. Drawing the semiotic object out of nothing(ness) *is* drawing the space between a difference.

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