"SQUARING THE CIRCLE" BETWEEN GREIMAS AND LOTMAN: A SEMIOTICS OF THE FIRMAMENT

Marilia Jardim

Abstract: The article explores two geometric and sacred forms — the square and the circle — and the theoretical and methodological vocabulary derived from and enabled by them through two distinct semiotic paradigms, inaugurated by Algirdas J. Greimas and Juri Lotman. Starting from the mystical and mathematical axiom of "squaring the circle", I reflect on the extent to which the form and vocabulary adopted by a theory determine what worldviews, as well as what forms of analysis are enabled (or interdicted) by it. Utilising Greimas's and Lotman's postulates as its case study, the article reflects on the traces of cosmologies, mystical, hermetic, and religious principles contained in the representations adopted by these theories. Furthermore, through the theoretical leaps demonstrated in Greimas's work *De l'imperfection* and Lotman's image of the *explosion*, the article outlines an argument for what could be the *firmament* of the Semiotic theory: a holistic approach in which the spherical and plane aspects of phenomena can be integrated into analysis. Beyond the goal of falsifying competing theories, this proposition aims to reflect on the union of forms, striving to weave in connections that permit analyses contemplating both the planar and spherical aspects of our discourses and other meaning–making manifestations.

L'articolo esplora due forme geometriche e sacre — il quadrato e il cerchio — nonché il vocabolario teorico e metodologico da esse derivato e da esse reso possibile, attraverso due distinti paradigmi semiotici inaugurati rispettivamente da Algirdas J. Greimas e Juri Lotman. A partire dall'assioma mistico e matematico della "quadratura del cerchio", si riflette sulla misura in cui la forma e il lessico adottati da una teoria determinano non solo le visioni del mondo che essa rende accessibili, ma anche le forme di analisi che essa abilita o interdice. Prendendo come caso di studio i postulati di Greimas e Lotman, l'articolo indaga le tracce di cosmologie, principi mistici, ermetici e religiosi contenute nelle rappresentazioni adottate da tali teorie. Inoltre, attraverso i salti teorici presenti in *De l'imperfection* di Greimas e nell'immagine dell'esplosione di Lotman, si delinea un'ipotesi di

quello che potrebbe configurarsi come il *firmamento* della teoria semiotica: un approccio olistico, in cui gli aspetti sferici e planari dei fenomeni siano integrabili nell'analisi. Al di là dell'obiettivo di falsificare teorie concorrenti, questa proposta mira a riflettere sull'unione delle forme, cercando di intessere connessioni che consentano analisi capaci di contemplare congiuntamente gli aspetti planari e sferici dei nostri discorsi e delle altre manifestazioni di senso.

Keywords: Generative semiotics; Semiotics of culture; Semiotic Square; Semiosphere; Explosion

Parole chiave: Semiotica generative, Semiotica della cultura, Quadro semiotico, Semiosfera, Esplosione

1. Introduction

Beyond the everyday utilisation of "beauty" and "elegance" to classify theories, postulates or written works, James McAllister (1996) presents the argument that, when selecting between theories of similar empirical success, scientists resort to aesthetic criteria as a decisive factor — among which he includes the affiliation to a specific cosmology. Whether that means the aesthetics of a specific form and what it represents, or the esoteric, occult, and alchemical meanings that shape contains, when it comes to semiotic theories, an interesting case study emerges from two readings of the Saussure–Jakobson paradigm: Algirdas–Julien Greimas's "quadratic" and "algebraic" postulates, and Juri Lotman's "spheric" and "explosive" theories.

Rather than an application of those theories to an analysis of religion and its discourses, I aim to reverse this axiom in search for the "Religion of Semiotics" — more specifically, how different theories have adopted elements from different cosmologies, through the selection of geometric forms that modelled them. Although it is possible to argue that Lotman's theory of the semiosphere is aligned with the concepts of *biosphere* and *noosphere* made popular by Vladimir Vernadsky, or for the Aristotelic origins of Greimas and Rastier's semiotic square, my objective is not to track the historical origins of these models. Through a Greimasian (1986, p. 98) argument, I accept that whether the complex isotopy of a discourse is present by the conscious intention of the

interlocutor or that it is installed without their knowledge, that does not change the structure of its manifestation. In other words: a historical or epistemological explanation of why a square or a sphere cannot override the potential connotations the choice of a polygon or solid can imprint in the image of a theoretical postulate.

In his essay about the mechanism of connotation, Greimas (1969) recovers the arguments that man does not utilise language but, rather, is partly constituted by it — a logic that can be easily applied to other "languages", such as that of theoretical models. For him, this "veil of appearance" constituting a second plane of signification or a "deforming system" possesses double methodological importance: besides obligating us to conceive connotative systems as an autonomous domain, it maintains the researcher in a state of "benefic mistrust" (Greimas 1969, p. 134), which supports the impulse justifying this analysis. As researchers use but are also partly constituted by theoretical models, it is of interest to examine what "confused designations" and "sliding of perspectives" (Molino 1971) the use of the square and the sphere can effect on semiotic models.

Solids and polygons are not "innocent", purely denotative signifiers; rather, their appropriation as a theoretical model's foundation draws from an already complete language. In pre–Abrahamic cosmologies, as well as in Pythagorean Mathematics, numbers, polygons, and solids are understood as keys containing a significant configuration of reality. Diogenes Laertius (Thomas 1991, pp. 173 and 175) presents a commentary of Pythagoras' Geometry as a progression from the indeterminate dyad of *monad* and *cause*, which originates numbers, points, lines, planes, and solids. From these "raw materials", Plato (1888) argues, sensible bodies formed by the four elements emerge, thus constituting our reality. Following the Pythagorean tradition, in which geometry appears tied to a project of ascension and development of humankind (Thomas 1991, pp. 175 and 177), Plato (1888) formulated his theory of the universe, its creation, and its creator. In the *Timaeus*, objects of a material nature appear as the result of a union between a principle of *form* and a *formless substrate* ready to accept the determination that is impressed upon it: the duality between *Teras*, a kind of "empty structure", and *Eidos*, which contains formal principles that cannot

be separated from the object. The mystical understanding Pythagoras and Plato derived from number and form could support an argument in which what is called the "occult meaning" — thus, interpreted as a connotation — can be reversed into a primary language that constitutes the base from which interpretations of those numbers and forms are constituted. This argument is supported, for example, by McAllister's (1996) assessment of scientific visualisation of phenomena as a relation of *metaphor*, which is, in essence, one of the many faces of connotation.

The appropriation of geometrical forms — and, intentionally or not, its *eidetic* significance, which, for Plato, cannot be expelled from those units — we are also invited to reflect on the *Teras* and *Eidos* of such models. The ways of seeing "inherent" to the shapes theoretical paradigms appropriate cannot be isolated from the form, thus imprinting its objects with the *Eidos* of its own determinations. Such realisations lead us back to some classic semiotic postulates (see Greimas 1986; Hjelmslev 1966) asserting that the operations of semantic description and analysis, to an extent, also "create" the object. In the efforts of uncovering relations by making them methodologically visible, new relations emerge *because* of the description and analysis: the analysed object is always more than what it was prior to its analysis. Yet, such an increase is not an increase of the thing itself, but an iteration of what inventory of relations is possible (or impossible), depending on the image in which the theory and its mechanisms are shaped.

The square, the octahedron, the cross — all shapes present either in realised or actualised form in Greimas's semiotic theory — are connected, in Plato's (1888 and 2013) philosophy and in various cosmologies, with the structures of reality: the elements, their stable articulation to produce lived experience, and the balance between forces and polarities. The number four — and its geometric representation in a square or a cross — is concerned with the materialisation of those substances in a tangible space, and the necessary operations of construction, work, and collaboration requiring this passage from the spiritual to the material[1]. Both an energetic representation of the human body and of the

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(1) The vast corpus informing the practice of Numerology, as well as the exhaustive study of numbers and their manifestations in the Hebrew language present in scripture and commentary, cannot be appropriately reviewed in the space of this manuscript. However, I opted to include the account presented by Rachel Pollack (1997) in her study of the Tarot. Through her analysis of Major

perfect balance of polarities (masculine and feminine, spirit and matter, divine and terrestrial, and so forth), the tetrahedron — the three–dimensional manifestation of the number four — is, for Plato (1888), the primal element of life. The same principles are represented, two–dimensionally, in the cross: two lines converging in the centre, creating 4 points — another discursive manifestation of polarity, intersection, encounter, combination, and union.

When it comes to the sphere and its two–dimensional representation as the circle, the meanings that can be apprehended or generated are not as straightforward as the four, which also marks an important distinction between the planar and notably algorithmic reading of Jakobson–Saussure found in Greimas, and the somehow *multi–dimensional* semiotics Juri Lotman derived from the same paradigm. It is possible to read the sphere as the number 1[2]: the monad or first element that either divides or multiplies itself into 2 to make 3 in the *Vesica Piscis*, continuing this movement into the other sacred shapes formed by circles, such as the egg of life, the flower of life, the grid of life. However, the circle and the sphere are also the 0[3]: the indistinguishable force that is All and the Void

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and Minor Arcana in the traditional Rider–Waite–Smith deck, Pollack presents a detailed account of the numerical value — which relates simultaneously to Numerology, Astrology, and the meaning of numbers in Abrahamic scriptures and its Kabbalistic commentary — in its connection with the archetypes represented in the figures. In the Major Arcana, the 4th card is *The Emperor*: a masculine archetype representing the father and nature married to the social world; the card signifies control over the physical world and the material aspects of reality, the laws of society, and the power that enforces them. Through each suit of the Minor Arcana, the 4s represent "structure", or equilibrium and stability in each of the four elements: fire (wands), water (cups), air (swords) and earth (pentacles).

(2) In the tarot (see Pollack 1997), the number 1 is connected with the idea of *root* or *basic quality*: it is the beginning, represented by the Aces of the Minor Arcana. Each Ace appears as the "first gesture" of a suit and, in the traditional Rider–Waite–Smith deck, the cards portray a hand coming out of the clouds, which represent "heaven" or the "above", and offering One of the suit — a Wand, a Cup, a Sword, or a Pentacle. In the Major Arcana, the 1 represents *The Magician*: another masculine archetype that signifies the trickster–wizard, a conjurer who can channel the "creative spark" or moment of ignition that propels creation. In the Rider–Waite–Smith deck, the Magician raises his arm to the sky and, in the altar in front of him, he has the four elements (a wand, a cup, a sword and a pentacle), which represent his ability to mediate between the above and below, to channel the divine forces into the material reality.

(3) Some tarot decks, including the Rider–Waite–Smith analysed by Pollack (1997) contain a 0 card: *The Fool*; in other decks, this Arcane is "numberless", which represents a very special attribute of this card as somehow "outside" of the world. For Pollack (1997), the Fool represents spirit completely free which, historically, has been embodied by the Court Jester: the only one allowed to pervert the codes and to challenge existing structures. In readings, the Fool symbolises the leap into beginnings, but it also signifies the end: the 0 or numberless is the

in one. Whether as 0 or 1, the sphere realises the union of beginning and end: it is both the First and the Nothingness from which everything originates — a problem approached by Leibniz (1948) in his *Monadology*, where the process of genesis is understood in mathematical terms.

Irrespective of the intentionality behind the choice of a square or a sphere, selecting a solid or polygon to model phenomena enacts an adoption of the limited possibilities that are realised in that form — even if, as is the case of Lotman's cultural semiotics, the selected metaphor is one that conjures *infinity*. Secondly, there is the problem of *dimensionality*, and the challenges and limitations of each mathematical dimension: a two–dimensional model, such as the square, guides the analyst or researcher into a space and the relations that are possible there, whereas a three– or four–dimensional model, such as the semiosphere, enables relations that are only possible when we reach these higher levels. In sum, the form and dimension of a theory are connected to the degree of *expansion* or *contraction* of the research object, which is given by the postulate — which, in turn, determines whether the analysis is causing the object to be revealed in ways that are consistent with the phenomenon or, on the contrary, if they are forcing a "flattening" to ensure the object can be "contained" in the theoretical model.

Rather than crystallised theories, Greimas and Lotman followed trajectories of expansion and the gaining of the higher dimensions in their postulates. Those points of breaking free from the geometric limits of their own theories approximate the axiom of "squaring the circle": one of the many representations of this operation, the octagon embodies the archaic opposition of the two cosmic shapes, and universal fusion of a pair of opposites — the earthly realm of the material (square) and the metaphysically understood heaven (circle) (Woynarowski 2023). Classified under "special problems" in the *Greek Mathematical Works* (Thomas 1991), this dilemma occupied many ancient philosophers, as well as in the Indo–European mystical, esoteric and hermetic traditions. Contemporary spiritual teacher Sarah Elkhaldy[4], transposes this

"link" between The World (21) and The Magician (1), as the figure through which the journey through the Major Arcana comes full–circle.

(4) See her video "The Esoteric Science of Space and Planets (Squaring the Circle)" from 20 February 2024, available at: https://youtu.be/nIHutRLeUlU?si=cVizWTJ_CQTzY5sZ (last access 27 February, 2025).

problem to the diatribe around whether the world is flat or spherical, by highlighting that "squaring the circle" means the simultaneous, co-existing presence of spherical and planar elements in reality. One of the most known representations of this vision can be found in Leonardo DaVinci's *Vitruvian Man*, in which the human figure appears inscribed simultaneously in a circle and a square.

To an extent, the split between Greimas and Lotman transposes the dichotomy of narrower preoccupations with the *planes of reality* versus the *dislocation of centre and periphery*. From a holistic perspective, not only does that reiterate the need for tools addressing *all* the dimensions of cultural and textual problems, but it welcomes the opportunity to consider and discuss the implications of a two– versus three–dimensional (and beyond) approach to reality through theory. For Wassily Kandinsky (2000, p. 105), who publicly divulged his affinity with Theosophical principles[5], "taking a distance" from an object — in essence, what the theoretical exercise entails — results in the exclusion of a third dimension: to fixate all potentials on canvas is, in fact, to *limit* them. In the *Sémantique structurale*, Greimas (1986, p. 139) presents a very similar understanding of this paradox, when he argues that the linear character of discourse, although at first sight requiring an "algebraic formulation", once described, will demand a geometric, multi-dimensional visualisation.

In Kandinsky's (1947 and 2000) pictorial grammar, analysis is seen as the search for the "inner pulsation" of an artwork. The process of turning semiotic theories on themselves and their chosen models can yield insights into the implications of symmetries and specific elements, directions, and dimensions preferred by semioticians adopting each form and the paradigm they originate. Through this exercise, I intend to expose a critical view of what each theory can geometrically contain, while also exploring the cases in which the effort to break free from the geometric boundaries of a model was attempted: Greimas' theory of the aesthetic emotion presented in *De l'imperfection* (1987) and Lotman's *Culture and Explosion* (2009). Both works enact their own "squaring of

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(5) In *Concerning the Spiritual in the Art* (see Kandinsky 2000, p. 47), Kandinsky attributes the base of his new vision of the arts to the Theosophical theory, introduced by Helena Blavatsky, which he claims to be a source of precise answers to the most complex questions.

the circle" as zones (re)conciliating impossible paradoxes. When theories approach this space of transition to the next dimension, they become equipped to appreciate reality as neither linear nor reductionist, but a constant dance of "conciliating the irreconcilable", collapsing a multiplicity of realms into one experience.

2. Semiotics of the plane

The vocabulary of structuralist semiotics and the worldview it generates tends towards planar or two–dimensional images. The generation of meaning is described either in terms of *planes of expression* and *content* (see Hjelmslev 1966) or in the *levels of a generative trajectory* (see Greimas and Courtés 1993). The Saussurean foundations of these concepts originate perceptions of *difference as duality* — before the plane, comes the one–dimensional concept of *contrast*, originating the definition of *structure* as the presence of two terms and the relation between them: two points and one line. However, although only one postulate in this tradition, the *semiotic square* introduced by Algirdas–Julien Greimas in collaboration with François Rastier (see Greimas 1983) is probably what Jean–Marie Floch (1995) would recognise as an "element of instant identification" of Structuralism, and specifically of Greimas's works and the Paris School of Semiotics. Throughout his writings, this structure appears in various iterations (fig. 1): an intersection of two diagonal lines uniting the four terms; the same intersection of diagonal arrows surrounded by curly brackets representing the categorial generations; or the elaborate representation formed by the two intersecting diagonal arrows, two solid vertical arrows pointing upwards, and two horizontal dotted lines.
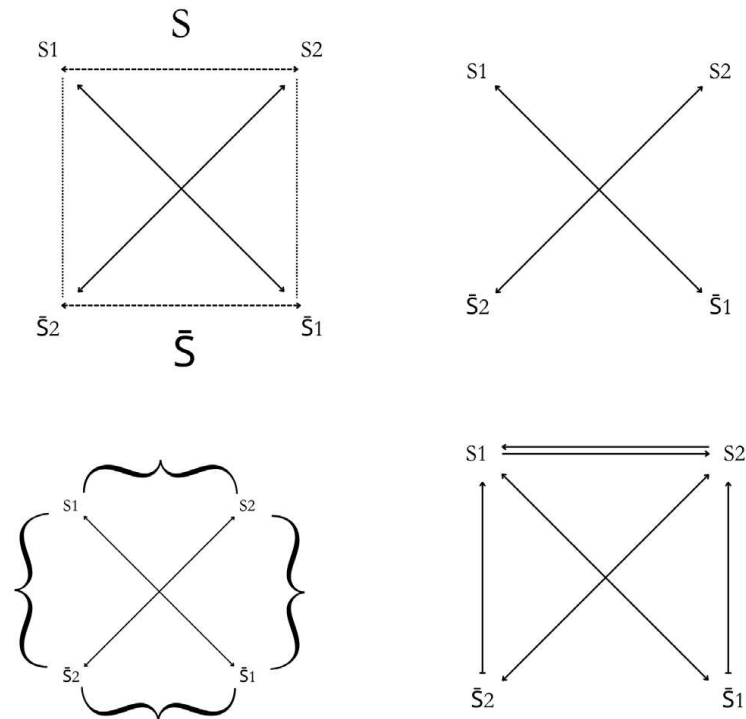
The *carré sémiotique* is described as a visual representation of a semantic category's logical articulation, whose elementary structure of signification is defined as a relation between at least two terms (Greimas and Courtés 1993, pp. 29–30). From those initial relations, second and third generations are derived. Rather than four sides of a polygon, the four vertices, four lines, and the intersection in the centre represent four terms and six possible relations between them. "[The square]

emerges at the same time from the epistemological problem governing the conditions of existence and production of signification, and from the methodological doing applied to concrete linguistic objects" (Greimas and Courtés, p. 33, our translation). The statement above identifies an entanglement in a theoretical structure that simultaneously creates a method and is derived from it, originating a loop in which theory, method, and the objects it approaches shape and are shaped by one another in a relation of mutuality, which also includes the researcher. In turn, this cycle of mutually presupposed elements is directly linked to the range of epistemological problematizations of the conditions of existence that are made possible by such choices.

In his theory of form, Kandinsky (1947, p. 115) argues that the square, with its equalised sounds of vertical and horizontal resulting in a balance of warmth and coldness, is the *most objective form* of the typical basic plane. This form's stable equilibrium of two verticals and two diagonals is marked by the orientations above and below and left and right, which manifest different *tensions* and *densities*. As much as the different zones of Greimas's schema represent different relations, Kandinsky identified the different directions and locations of the square plane with different qualities of that pictorial element (fig. 2). The first division, between *above* and *below*, manifests a contrast of looseness and lightness (up) versus heaviness and constraint (down). A similar relation is identified in the verticals: the left repeats the characteristics of the above, whereas the right is a continuation of the below, generating resistance that increases from the centre downwards and towards the right, and decreases upwards and towards the left.

Starting with Greimas' first categorial generation, the four terms — S_1, S_2, $\bar{S}_1$, $\bar{S}_2$ — are distributed in the two semantic axes marking the opposition between the mutually presupposed terms: the contraries (top) and subcontraries (bottom). The diagonal lines represent the contradictions or the impossibility that two terms will be together, and implication (vertical lines) as a form of assertion between the subcontraries and the primitive terms that presuppose them. The simultaneous verifiability of *all* relations validates that the terms genuinely form a category. Furthermore, the geometric representation of the semiotic square is an attempt to visualise different degrees of tension between
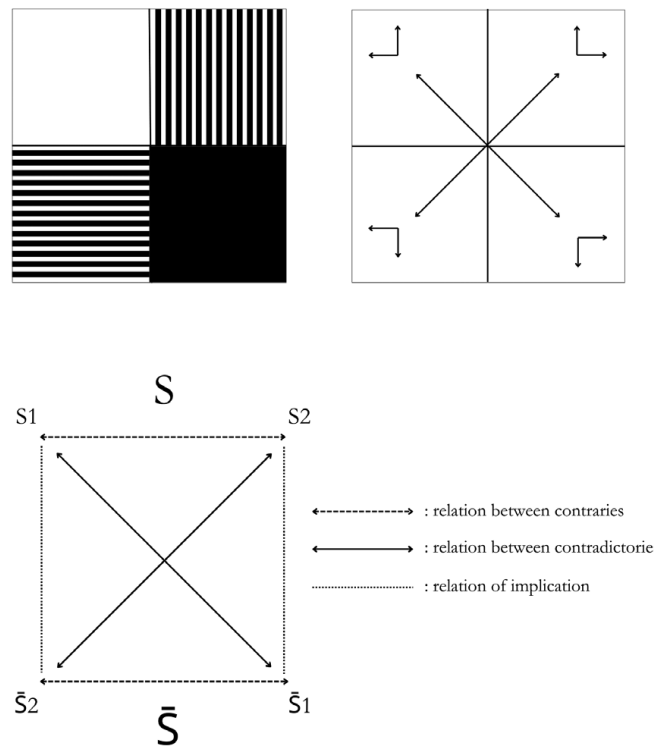
Figure 1. Iterations of the semiotic square. Elaborated by the author.

the terms. Semantically, there is a stronger tension between the contraries — whose union originates a "complex term" in the third categorial generation — than the subcontraries — whose union results in a "neutral term". Equally, the top right side[6] of the square is traditionally occupied by the euphoric term of the discourse, whereas the left is reserved for its opposite, the dysphoric term.

Kandinsky (1947, p. 118) remarks that composition can either *reiterate* tensions by utilising elements and directions of similar qualities or that the use of opposites may cause the same characteristics to be *equalised*. Intentionally or not, the choices made by Greimas and Rastier (1968) tend towards this equalisation of forces, betraying a certain ideological bias towards harmonising (rather than dramatising) the terms and their contrasts and contradictions — an inclination that is also aligned with the number 4 and its esoteric meanings (see Pollack 1997).

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(6) In his theory, Kandinsky (1947, 2000) specifies that the basic plane is a living thing, thus we must consider their sides in the same manner as we consider the sides of other persons, animals, or plants: in line with this principle, the right side of the semiotic square is not on the right side of the page, but opposite the viewer's left hand side.

Figure 2. The directional tensions of the square according to Kandinsky (top) versus the logical relations of the semiotic square (bottom). Elaborated by the author.
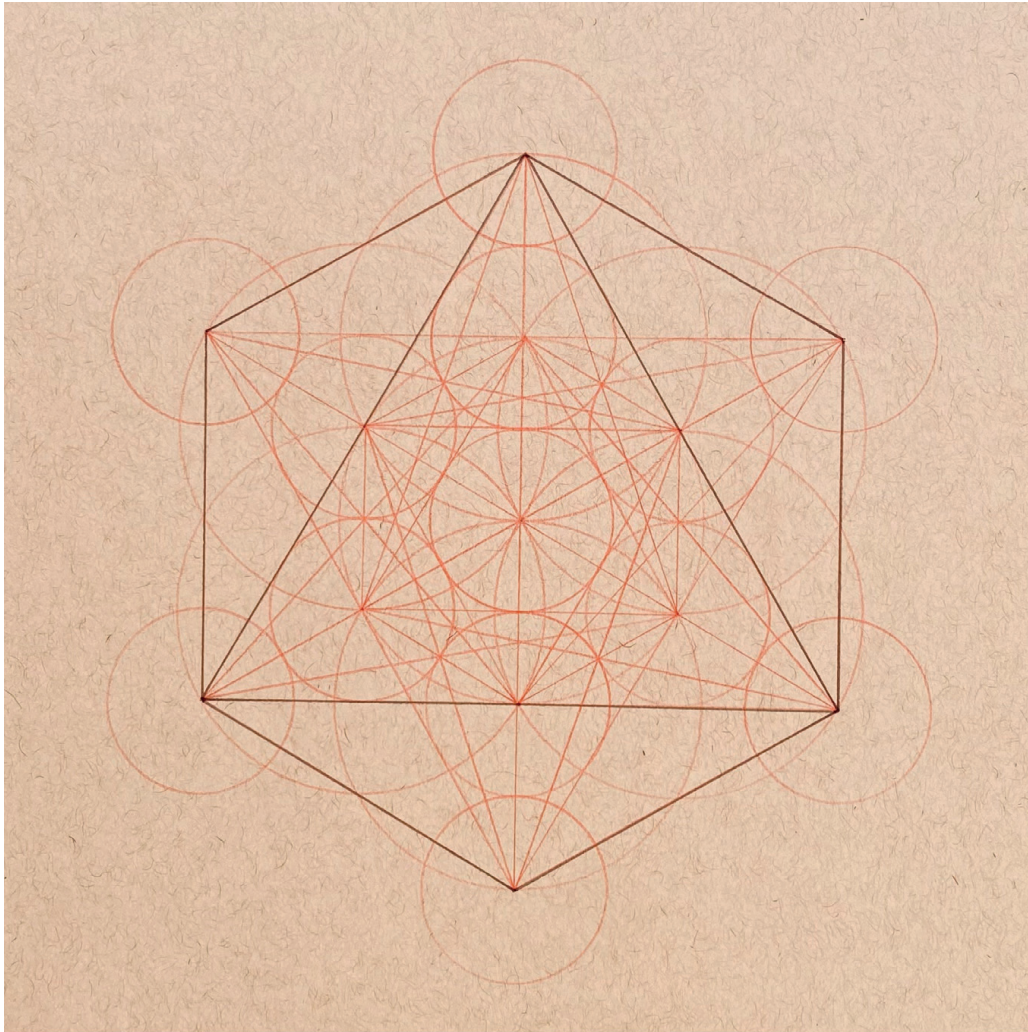
In other words, the aim of this model is not to produce statements reinforcing hierarchies of relations, but representing them in *a level plane*, in both geometric and semantic symmetry of terms and relations.

However, the model also utilises the isomorphism of elements and tensions. In Kandinsky's (1947) vocabulary, the movement to the left represents a gain in intensity and speed as a journey towards the outside, constituting the biggest contrast in the plane or a *dramatic tension* (fig. 2). In the square, this disharmonious diagonal marks the passage from S1 to S̄1, or the denegation of the euphoric term that mediates the movement towards S2, the (dysphoric) opposite of S1. The second triangle marks the denegation of S2 through S̄2, and its reversal back to S1: a much less charged operation, which is represented in the movement towards the right, identified by Kandinsky with the "fatigue" of *returning home*, or a *lyric tension*. In the corpus of folk tales originating this theory (see Greimas 1970 and 1983), the tensions and contrasts identified by Kandinsky are verifiable: while the operation S1–S̄1–S2 is

much more complex and charged with tensions, S2–S̄2–S1 constitutes a return to the "customary surroundings" of the discourse.

A similar pursuit of equilibrium is found in the representation of the second categorial generation, in which the four terms of the first generation are arranged as the outcomes of relations. As much as the four isolated terms form relations of contrariety and contradiction, so do the terms originated by their relations. The space containing the base opposition, the axes of contraries (top) and the space containing the contradictory terms, the axes of subcontraries (bottom) form significant zones which consist of contradictory metaterms. Equally, the positive (right) and negative (left) deixes constitute a similar correspondence as contrary metaterms. Those spaces generate a second set of relations, adding an internal mapping of tensions that repeats Kandinsky's (1947) contrast of looseness and constraint between directions. Finally, the union of horizontal oppositions, generating a *complex term* (above) and a *neutral term* (below) constitutes the third and final categorial generation represented in the square.

Despite the structure's name, the simultaneous representation of the three categorial generations would result in a schema that is no longer a square, but a flat representation of Plato's octahedron (fig. 4): two square–based pyramids joined by the bottom. While the first and second categorial generations consist of properly "square" relations between the lines and angles of a plane, a three–dimensional vocabulary emerges through the third generation of *complex* and *neutral* terms, which enable the analysis of *positive* (assertion) and *negative* (denial) relations. If visualised three–dimensionally, these metaterms would project, above and below, in relations of "ascension" or "descension": the transcendence of those terms is marked by their writing outside of the top and bottom axes (fig. 2). This movement pushing above and below the two–dimensional space of the square accompanies the complexification of the analysis and the nuances that emerge when this structure is utilised to its full potential: rather than conforming the terms to a two–dimensional space, the progressive categorial generations *increase* the object, creating the conditions for its leap toward the sphere.

Figure 3. Two–dimensional representation of the Octahedron. Elaborated by the author.

This moment of complexification that leads the object from one dimension to the next is discussed by Rudolf Steiner (2000) in his exploration of mathematical problems. In his anthroposophical approach, in which geometry anchors our perception of relations in reality, a problem such as flattening a circle appears as a matter of perception and perspective. Squaring a circle, thus, can be a simple problem of distance and proximity, which was also noted by Kandinsky (2000): our perception of what is flat and what is curved resides in the dimensions (in the sense of size) and locations of objects in relation to one another. The problem of perspective also

determines that each dimension of space comes through the loss of the next higher dimension: in order to perceive a one–dimensional reality, one must place oneself *outside* of the first dimension — thus implying that the observer must be at least two–dimensional, and so successively. Similarly, the opposite movement of transposing three–dimensional objects into plane drawings, photographs or, even, theoretical schemas, is an operation of *flattening*, which, in Steiner's terms, "sacrifices the circle". To recover dimensionality, space must be *folded* or *recurved*.

The successive operations losing or recovering dimensionality in analysis constitutes a chain of literal operations of "squaring the circle": the inductive procedure of semantic description (see Greimas 1986; Hjelmslev 1966) is a process of "dilapidating the sphere", reducing it into its fundamental contrasts. However, it is the researcher's squaring — flattening, reducing to fewer dimensions and elements — of the sphere — a totality that has an affinity with the entirety of space — that generates the described object *in the image of the model*. Nevertheless, this flattening of the object is not the final step of a semiotic analysis: in his reading of the criterion of exhaustivity, Greimas (1986) specified that the reduced analysis must be reintegrated with a totality, thus verifying the pertinence of the clipped *corpus* to the larger section it belongs to. The passage from a representative *corpus* to its exhaustion can be read as the practice of re–curving the theoretical space, reversing the flattening of description so as to bring back the complexity of the elements by reestablishing their relationship to a three–dimensional (or higher) existence.

Although a "desire for three–dimensionality" has been present since Greimas's early works, it is his final individual text (Greimas 1987) that fully realises the "curving" of the theoretical plane. Noteworthily, *De l'imperfection* first essay opens with a meticulous analysis of a sphere: the water clock in Tournier's *Vendredi ou les Limbes du Pacifique*, and the drop that "refuses to fall", enacting a literary effect of *enlargement* and *suspension of time and space*, which Greimas (1987) postulates as the *dazzlement*. In his analysis of this narrative sequence, he remarks on the importance of the eidetic formant, encapsulated in the sphere — the key to all classicism
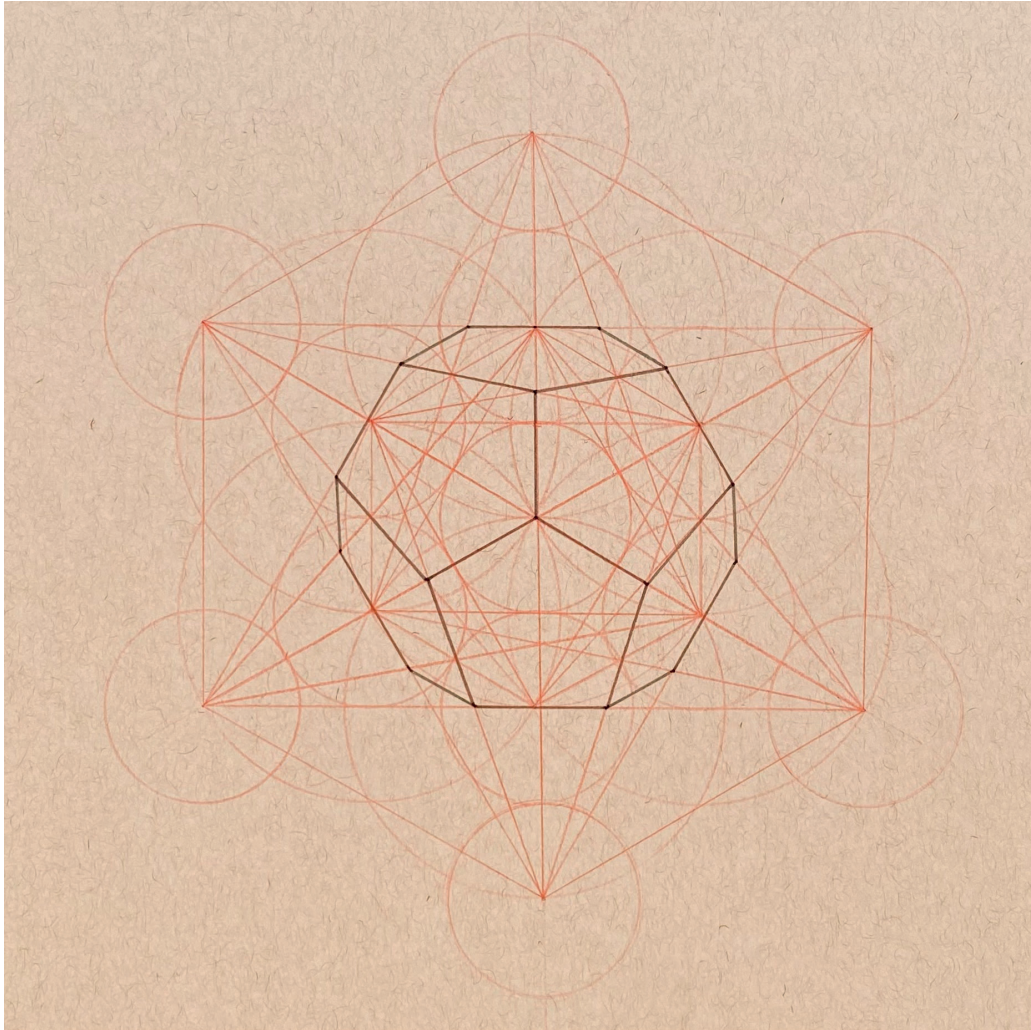
and the idea of *perfection*. In terms of phenomenological mysticism, however, Greimas's analysis addresses first the exit from the literary two–dimensional apparatus by welcoming the body and the corporeal experience of Robinson, thus entering the third dimension. Secondly, the analysis exits the third dimension, by describing the dazzlement as an action that comes from the outside. As much as something coming from above would appear as a mystery that defies reason and rationality for a flat being, this suspension of the rules of space described in the sequence appears, to Robinson, as an exterior intervention that defies the immanence of three–dimensional space and the existing parameters of that reality.

This enlargement of the actants' parameters is described, by Greimas, as an exceptional aesthetic perception — which, in Steiner's anthroposophical vocabulary, can be associated with the "higher dimensions" where time, empathy, and self–awareness reside. This immobilisation of the world is a moment in which the character becomes aware of his own existence beyond the three dimensions of space, resulting in a discontinuity of represented life. In theoretical terms, the planar postulates forming Greimas's theoretical toolkit to that point are curved into a three–dimensional space, which is then further expanded to approach the fourth dimension represented in the literary work. Through the analysis of Robinson as a 4D being, the theoretical model is curved into the domain of the sphere, becoming the "3D projection" needed by the represented higher–dimensional object.

3. Semiotics of the sphere

The circle with a point in its centre is an ancient symbol for the Sun, which, in pre–Abrahamic religions, is practically synonymous with the concept of "God" and "Creation". In the Hindu matrix, this central dot (*bindu*) symbolises the moment in which creation begins (see, for example, Feuerstein 1998; Finger and Newton 2018) — a notion reiterated in Kandinsky's (1947) understanding of the point as that which "impregnates" the plane, the primal gesture of artistic creation. The

Figure 4. Two–dimensional representation of the dodecahedron. Elaborated by the author.

many two–dimensional iterations of the multi–directional rotations of a sphere around its own axis represent the *torus*. As the shape of natural phenomena, its motion can be identified in sections of our bodies (in the formation of our cells and tissues), in natural objects (the spatial relation between the roots and crown of a tree or the shape of an apple), in the relations between astral bodies, and the shape of magnetic fields. As a symbol, the torus signifies the convergence of the micro and macro, the endless rapport between the mundane and divine, the one and many, centre and periphery.

In a reading considering the multidimensionality of those shapes, different relations that challenge the standard mathematical understanding of geometry can emerge. Steiner (2000, p. 39) argues, for example, that the relation between point and sphere is one of opposition: while the point is something that radiates in all directions toward infinity, the sphere is that which comes back from infinity, actively flooding space from all directions. Thus, the sphere is the point returned from infinity, in a dynamic that approximates the multi–dimensional cycles the torus represents. Although Kandinsky (1947, p. 124) associates the circle with a form that tends to *rest* — an opposite image to the constant flow of activity Steiner sees in the sphere — he acknowledges that such is the result of two forces that always act in uniformity, the opposite of the "violence of the angle".

Whether equilibrium is active, as in Steiner's image, or tending to stillness and silence, as in Kandinsky's, this symmetry between centre and border or inside and out is at the foundation of Juri Lotman's (1990) theory of the *semiosphere*: a semiotic space, marked by heterogeneity and composed of conflicting, complex structures. In Helena Blavatsky's (1878, pp. 56–57) interpretation of the *Timaeus*, the dodecahedron (fig. 4) is the geometric model utilised by the Primal Being — *Nous*, Demiurgic Mind, the Deity — to hold the pattern of the Ideal World; it contains in its structure the eternity of the idea of a "to–be–created–world" and its correspondence with the forms of its manifestation as space, time, and causality. Like in Plato's (1888) theory of creation or in the mystical and hermetic traditions Steiner (2000) draws from, the sphere is origin and end — the cyclical dynamics between a centre and infinity.

Lotman (1990, p. 150) recognises the semiosphere is *not* an organised space: it does not act according to mapped–out and pre–calculated plans and, thus, it cannot be analysed using an algorithmic formula. Although he starts at the same structuralist foundations of a binary semiotic dynamic, in his theory bound by the laws of asymmetry, duality paradoxically functions as an indissoluble unit (Lotman 1990 and 2013): culture is a relationship between multiplicity and unity (Lotman, 2009, p. 3), in which two–way connections between a spatial image of the universe is "copied" and an image of the universe is constructed as

an analogy of our own cultural constructs (Lotman 1990, p. 203). In his semiosphere, a second metaphor becomes fundamental to the understanding of culture — that of the *boundary* (Lotman 1990, 2009 and 2013): a temporal *and* spatial distance, demonstrating Lotman's resistance to postulate space and time as separate elements to be pulled apart and reconstructed later. The temporal axis, past–present–future, and the spatial axis, internal–external–boundary, constitute relations between centres of metastructures, or rigidly organised and self–regulating sections of the semiosphere, and its periphery, zones of increased semiotic activity (Lotman 1990 and 2009). In such definitions, we see how Kandinsky's dynamic between the silence of the central point and the violence of the angle, as well as Steiner's point of return from infinity are reconciled in Lotman's (1990, p. 79) image of the mirror or reading in reverse: the palindromic relation changes the semiotic nature of a text into its opposite, also marking the relationship between centre and periphery as the dynamic between a set of norms and an "anti–world".

Beyond Lotman's prolific appropriation of occult terminology and imagery, his theory and its vocabulary are multi–dimensional from the start, recognising that both time and space are multi–directional — thus, governed by a principle of plurality. In his view, hard boundaries of temporalities and spatialities — and their linear, polarising, one–dimensional understanding — are not consistent with reality and, even when he adopts structuralist concepts such as synchrony and diachrony, these categories are endowed with fluidity and an understanding that only the present has a genuine reality (Lotman 1990, p. 238). Continuing the argument presented in this manuscript so far, it could be inferred that the new paradigm inaugurated by the semiosphere is one of three–dimensionality: rather than attempting to make the analysed object lose its next higher dimension to conform to the two–dimensional mechanisms of literary and schematic representation, Lotman recovers and maintains the dimensionality of cultural projections, utilising a 3D model to describe the relations they produce.

In Lotman's (1990, p. 45) system, complex intersectional occurrences grant texts, language, culture, or artefacts a simultaneous existence in two spheres of consciousness: one earthly "normal", and its Faustian, "infernal" existence, which constitute the friction through which new

ideas emerge, to then be tested and incorporated in the canon. Lotman (1990) himself outlines the equivalence of these dynamics with the *internal* and *external* in esoteric texts: the interpretation occurring from an "external semantics" that is incapable of touching a "hidden meaning" that is internal, and only available to the initiates. Whenever the internal meaning is touched by the external semantics, which belong to the normal space, the meaning changes.

This process is at the origin of Lotman's reading of centre and periphery changing places: a problem belonging to the sphere of cultural dynamics which, nonetheless, aligns with the mathematical paradoxes Steiner (2000) associates with the four–dimensional aspects of reality. Although Lotman describes this semiotic operation in three–dimensional terms, Steiner specifies that, geometrically, a point and a circle cannot swap places in the two–dimensional space, as much as the same cannot occur with a point and a sphere in the three–dimensional space: for that operation to occur, objects must pass through the fourth dimension. Thus, a more effective representation of the phenomenon Lotman aims to postulate is the *tesseract*: a cube containing a smaller cube in its centre, with all the eight vertices of both cubes connected by lines. When this object is simultaneously rotated in the 3rd and 4th axis, thus simulating the presence of a fourth dimension, the passage of the central cube to the periphery creates the visual effect of the solid turning itself inside out, with the periphery being swallowed by the centre and the centre enclosing the outside[7]. This paradox of the inside being brought out illustrates Lotman's understanding that, when the centre becomes the periphery, not only does the meaning change, but so does the form.

The movement of the tesseract is also iterated in Lotman's understanding of the horizontal and vertical sectioning of the cultural space in *axes* constituting diachronic (chronological) and synchronic (simultaneous) cuts through the semiosphere. Rather than linear layers of manifestation, Lotman recognises the effect of semantic currents across directions: the semiotic space is multi–dimensional in both synchronic and diachronic processes. Furthermore, in his system, cultural spaces

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(7) It is impossible to convey the rotation of the tesseract in a still image. Animated versions of the figure are widely available online, for example, on the Wikipedia page dedicated to the Tesseract: https://en.wikipedia.org/wiki/Tesseract (last access 27 February, 2025).

are not enclosed formations, but dynamic dances between explosions and gradual development alternately superseding one another, constituting relations developed in the synchronic space. Similar to Greimas' dazzlement, Lotman's (2009, pp. 23–24) image of the explosion is a phenomenon that creates a window in the semiotic layer, which causes a sharp increase in the informativity of the entire system; at this moment, the incompatible becomes adequate and the untranslatable translatable, in an image that, similarly to the cubes swallowing one another, realises the squared circle as a phenomenon excluded from time and, simultaneously, making its re–entrance in the axis of time.

The ternary structures resulting from explosions generate a mechanism of gradual development, in which the ideas from the outside can enter the centre and develop into a new centre: an operation constituting the "folding" of three–dimensional cultural spaces. The formulation of this problem in terms of binary or ternary systems, when transposed to geometry, communicates the passage from the line, a one–dimensional binary system, to the plane, a two–dimensional ternary system (the triangle). The vision of the catalyst of the explosion as the introduction of a fragment that functions as a generator or instigator of new meaning appropriates Plato's (1888) cosmological view, in which the construction of the sphere from, and its decomposition into triangles becomes the story of the universe's origin — noteworthily, Lotman chooses the image of a "universe of the mind" when describing such processes.

As an iteration of the squared circle, the re–entrance of the triangle — the two–dimensional element — into the sphere — the three–dimensional element — causes the collapse of the whole system. In Greimas, the dazzlement is a process of curving the space so as to gain the next dimension. In Lotman, his inverted mirror, it is the attempt to lose the higher dimension, through the re–introduction of the two–dimensional element, that causes the system to collapse: the explosion is the violent occurrence marking the system's resistance to being flattened, which reiterates Lotman's epistemic resistance to the algorithmic, two–dimensional, algebraic formulae. Instead of regressing to the triangle and the line, in Lotman's vision, cultural systems explode and are rearranged into new spheres: in such a model,

existing *forms* are sacrificed so that the dimensionality of phenomena is maintained.

A quasi "anti–model", as in Lotman's (2013) own definition, the explosion refuses the reductionist reasoning and its accompanying loss of dimensionality. Beyond the three dimensions of space, Lotman includes the fourth dimension that, on the one hand, seems to refer to the inseparable temporality of cultural artefacts and, on the other, overtly incorporates the vocabulary of magic, mysticism, and occultism — the elements Steiner (2000) attributes to the fourth and higher dimensions. In Lotman's holistic theory, problems belonging to the lower dimensions are rapidly resolved into infinity and unity at the centre of the *paradox of the sphere*. Not only does his semiotics accept the multi–dimensionality of texts and the forces that produce them, but his postulates offer a point of resistance that refuses the loss of dimensionality for the sake of representation.

4. Conclusion. The circle and the line: a semiotics of the *firmament*

In the Kabbalah of Isaac Luria, reality appears as the dynamics of circle and line in a dance of creation (see Klein 2005) — a teaching that, in Marc Gafni and Kristina Kincaid's (2017) contemporary reading, reemerges as the different levels of consciousness translated into different forms of "Eros". Circle and line, thus, constitute the polarities of allurement and autonomy, attraction and independence, cycle and direction. The square — a two–dimensional iteration of the line — and the sphere — the three–dimensional iteration of the circle — thus, could be read as two qualities of *Eros*, of *Philia Sophia*, that enamoured Greimas and Lotman in their readings of the Saussure–Jakobson paradigm.

Through this exercise of exploring the symmetric, mathematical, and esoteric connotations produced by geometric forms in Greimas and Lotman, the important matter of dimensionality of semiotic theories emerges through these choices. A critique already prominent in the space of Critical Studies — whose analyses often identify *one–dimensional stereotypes*, or *polarised discourses* — this discussion is nonetheless enclosed in a problem of "ideological bias", which responds to

one–dimensionality with a palindromic one–dimensionality. However, as demonstrated in the sections above, the mathematical dimensions where theories are located can be correlated to relations of complexification (or *de*complexification) of the object and the analysis, with each new *level* providing challenges and limitations to the analysis which can either flatten the object or provide a space for its increase. More than an instrument "used" by the researcher, theoretical models are also a system through which one's view is formed; through the entanglement of theory, object, and researcher, the processes of gaining dimensionality in the analysis are also reflected in the development of individuals.

Similar to Luria's image of circles and lines interpenetrating one another to generate reality, the Abrahamic image of the firmament — a domed plane in which the sphere and the square coexist — offers a breakthrough image in which a process of "inter–dimensionality" occurs as either the origin or effect of the paradoxes of lived reality. To square the circle — to attempt the impossible — is to embrace the paradox of higher dimensions: in the case of theory, such can be interpreted as a gesture of reaching beyond the established (or "permissible") problems of a discipline, through paradigmatic cases that defy the norms. This crack of the two–dimensional space — Greimas's *dazzlement*, Lotman's *explosion* — constitutes a point of opening in which the planar and the spherical become married as two indissoluble faces of phenomena. This perhaps unusual analysis aimed to create a similar crack, to invite the interrogation of what contribution Religious Studies can make to Semiotics — not as an object of research, but as a paradigm through which the semiotician can fold their theoretical and methodological space.

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