Sign Systems Studies 35.1/2, 2007

Space-Time: A mythological geometry

Jelena Grigorjeva
Department of Semiotics, University of Tartu
Tiigi St. 78, 50410 Tartu, Estonia
e-mail: jelena.grigorjeva@ut.ee

Abstract. In the article the fundamental graphic models that are used by the cultural consciousness to bring about the abstract spheres of thought are analyzed. The problem of inter-semiotic, i.e. emblematic, interpretation of the categories of space and time is also considered. The models of the cross and pyramid are analyzed from the point of view of their ideological (transcending) function and of the mechanism of emblematizing the abstract notions of time and space. This approach helps understanding the general laws of cultural mentality and the process of emblematizing any meaning for the structuring and fixation purposes.

This research situates itself within the *Kulturwissenschaft* tradition of philosophical-iconographic studies that go back to A. Warburg (Ginsburg 1989: 17–59). If we use E. Panofsky's distinction between iconology and iconography (Panofsky 1955: 29–30), it is precisely iconographic or formally analytical. Panofsky traces this "formal analytic method" back to H. Wölfflin, defining it as an iconographic analysis of pictorial motifs and their combinations. The idea of a pictorial motif, as will be elucidated further, fits within the diagram framework, whose development takes stage as motif combinations and recombinations within a very broad take on visual culture. The groundwork laid by W. J. T. Mitchell (1986, 1994), N. Mirzoeff (1999) as well as R. Krauss (1985) is the source of this very visual culture.

The idea of a 'motif', as re-used by me, is rooted in B. Gasparov (1984, 1988–1989, 1993), who in turn applies it to literary text, while borrowing it alongside its formal aspects from music theory (Gasparov 1969). B. Gasparov currently holds a professorship at Columbia

University, but his early academic career began at Tartu. Early ideas towards motif analysis were presented by Gasparov in a specialized course delivered in University of Tartu in the late 1970s. Motif analysis is the key methodological tool which I will be using (with some adjustments made in terms of the object of study) in the current work. The concept of motif extrapolated onto visual matter cannot but transform the method itself. In light of the Tartu–Moscow School, this method was taking shape under the influence of 'History of Ideas' school, primarily as outlined by Frances Yates (Yates 1966). Among the sources worth noting are the works on iconography by F. Buslaev (1886, 1919), which in many ways served as the groundwork towards a semiotic approach to analyzing spatial representation forms of P. Florensky (1922, 1992, 1993a) that were eventually able to see the light of day after a long period of Soviet repression, particularly his essay, "Reverse Perspective" (1967).

Regarding my understanding of myth and the pictorial motifs that may inhabit its zone of influence, I owe it specifically to V. Toporov's fundamental research (Toporov 1967, 1995, 1997, 2003). Toporov was one of the founders of the Tartu–Moscow semiotic school. I see as equally important the broader tradition concerning myth: philosophical (Losev 1991; Cassirer 1955; Barthes 1984), anthropological (Lévi-Strauss 1963, 1970) and poetic (Eliade 1959, 1961, 1963; Graves 1948).

1. Space-Time: problems of representation

Something needs to be said to precede the current study: both Space and Time are understood by the author as mythological concepts, that is, as models of consciousness, as opposed to categories. I define Space and Time philosophically, without trying to figure out their 'actual meaning'. Without a doubt, this approach is emblematic: I am first and foremost concerned with the combined collective imagery, objects, word usage, along with the aforementioned programmatic, self-defining terms like "space" and "time" (regardless of whether these combination are meant for a textbook on physics or a poetic text). In any case, we are dealing with a sort of representation which does not allow for its verity or quality to be tested under the method in question. In saying that the word has duration in time, or in discriminating between spatial and temporal art forms, we typically

reason in terms of *plausible-enough-error* which, effectively, is an operational field of research for this paper. My purpose is to show the extent which *plausible-enough-errors* of consciousness can be thought of as a harmonious system, as well as to pinpoint ways in which they structure macro-mythological formations.[1]

My approach has chiefly to do with theories of creation myth and neo-mythology of the late 19th century to the early 20th century. Moreover, all of the 20th century is marked by the study, further discovery and cataloging of myths and their working, throughout the areas of human consciousness. Meanwhile, virtually all of the mythological studies are focused on myth as specific *verbal* way of thinking. "[Myth's] substance [...] [lies] in the story which it tells. Myth is a language, functioning on an especially high level, where meaning succeeds practically at "taking off" from the "linguistic ground on which it keeps on rolling" (Lévi-Strauss 1974: 210). I see this as paradoxical, to say the least, particularly in Barthes' version: "Myth is a word, an utterance" (Barthes 1989). The very choice of examples in Barthes goes to show the impossibility of reducing myth to its verbal coating only. In part, such an interpretation is suggested by the word's actual etymology (from Greek *mythos* — story, narrative). However, it is impossible not to notice just how futile the attempts of such reductionism are when it comes to a variety of cultural trends which operate and are typologically described in terms of myth, not the least, in conceiving and propagating the so-called "world model".

A notable exception would be Losev's theory of symbol, particularly his thoughts on the mythologizing of a person: "Myth is [...] an affirmation of the person [...] functioning as *disclosure* and *expressiveness*. It is a person's image, picture, [...] face. [...] Myth is portraiture, a pictorial radiance, an icon of the person" (Losev 1991: 94, italics added)[2]. In actual fact, Losev is depicting a phenomenon which nowadays is referred to as 'image' of the person, something of a composite public identity. Yet, in order to acknowledge this element of myth's

---

[1] The immensity of works concerning relationship between Space and Time can hardly be listed here in all its variety, even as a brief overview. It is one of the perpetual problems of human consciousness and, in all probability, one without solution. I am not holding any illusions of being able to provide a solution. My purpose is to suggest some form of strategy in understanding this relationship using an emblem-based model for generation of meaning.

[2] Translations are mine unless otherwise specified — *J. G.*

pictorial quality (*kartinnost'*) it is necessary to further analyze its patterns: something that has not been undertaken to date. It has been of utmost importance to my research to highlight the *graphic* rules of mythological representation, which are necessarily in close contact with the word and convention resulting in emblem-type formations.

In my analysis, I am consciously focusing on the exterior of mythological sign. This is largely due to the fact that operational and analytical potential of (artistic) expression applied to theory of knowledge remains, so far, of little repercussion. As a matter of fact, the efficacy of this potential is recognized only in the realm of fine arts, preferably graphic art, although, the role of the arts for theory of knowledge is yet to gain acceptance. Science and easy ways do not always go hand in hand, and yet, however, in an attempt to define Time and Space, presented with an unhappy choice between "love of the word" and what is plainly observable evidence I have chosen plain evidence of the observable clear-cut certainties as my reference point, if it is to have any stability or permanence. After all, the means by which time and space are represented in culture, are plainly evident and obvious. Thus, between *knowing* what Time is and *seeing* what Time is, I will be referring to the latter. I would like to begin my analysis of the clear-cut observable evidence by using a well-known graphic model for representing time.

2. An instance of graphic representation of Time

I came across an amusing pattern in my research on advertisement analysis. The time of the day, as shown by mechanical clocks in advertising, is 10:10 in 90% of cases (fig. 1–2). Deviations are possible (this is not the law of gravity, although, as we will observe further, the pattern in question bears a certain relation to the law of gravity), at times this may be 11:10 or 11:05, yet occurs somewhat more seldom which is also quite logical. Besides, this rule is not observed when time shown is motivated by a plotline, for instance, when New Year's Eve motif is used. Yet, in all other instances, this is quite a regular feature. We have every reason to think that advertisers suggest this V-shaped position of the clock hands (in relation to each other, as well as to the clock dial) because they perceive it as most visually appealing: something so regular and peculiar is enough to be worth an explanation.

Figure 1. Clock on this ad shows 10:10. The advertisement highlights the way how the movement of the clock hand is comparable to the rotation of the swastika.

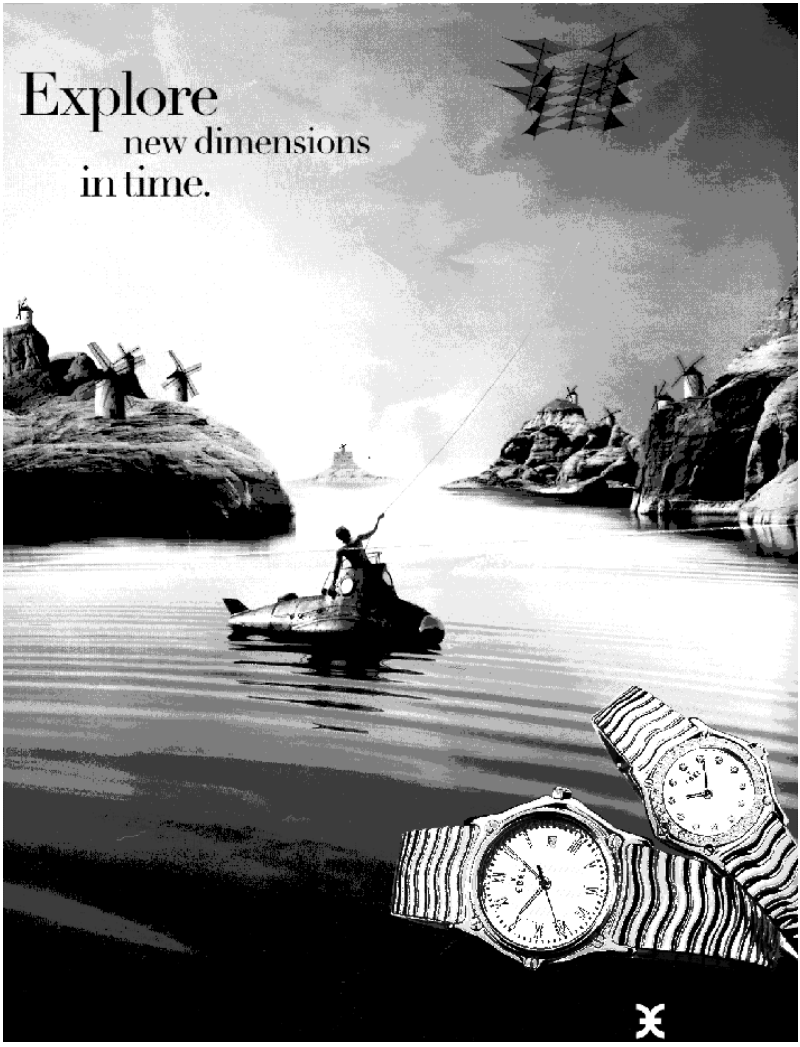

Figure 2. An advertisement for watches. The background contains the "rotating cross/windmill" motif. Human character in the center of the composition represents the same graphic element of 10:10. With the windmill at the perspective vanishing point, the ocean cone becomes the sky cone in the landscape.

Here, the strategy of presenting the case may have some flexibility: the logic of analogies can be arbitrary enough, without being a claim to a final answer. The only criterion by which I was guided, was to account for as many motive/motif connotations (of this graphic figure and of the model of Time at large) as possible. Unlike the word (and this is of utmost importance), the graphic image will invariably retain some sort of motive/motif when serving as a link between form and expression. This motivation, however, will never consist of one thing alone (in the absence of a fixed word reserved for it, unlike the classical emblem), is the reason why *a priori* interpretation in this case will not be relegated to one single meaning. This follows directly from the nature of the link between the signifier and the signified when it comes to graphics. Unlike conventional language, graphic elements of an iconic sign have no finite number of possible contextual meanings assigned to them. Therefore, all the attempts to "read" the graphic text unequivocally, as if it were verbal, are doomed to fail, methodologically speaking.

Thus, an explanation can be sufficiently simple: a V-shaped figure resembles the hand gesture combination which stands for victory. Why is the V-shape so *optimal* for *both* denoting victory and improving the image of advertising clocks? Let us not forget that Churchill's gesture was enthusiastically *identified* and gradually adopted the world over, even where the word 'victory' does not begin with the letter V.

It seems that we need to begin with motivation. Advertising is extremely convenient for that matter, since in it, as in a detective novel, motive is the pivotal engine (as in: look for somebody directly benefiting from the affair), yet, unlike the detective novel, the motive is known beforehand. There is no need to look for the signified: it is enough to know *what exactly* is being sold by the means of the clock. Leaving aside luxury and prestige (or conversely: accessibility and practicality), neither of which are exclusive to clocks or watches, clocks sell a representation of *current time* which is precisely what is to be depicted. Therefore, according to this graphic version, time can be represented as V-shape.

3. 'Spatialized' Time

It is evident that in the collective human consciousness (both that of the masses and the intellectual/elite) Time, likewise, is expressed only by the means of a range of spatial metaphors. N. Arutiunova writes on spatial metaphors of Time:

> Linguistic models of Time can be divided into those where Human Being is the key character and those oriented towards Time proper. In the former case, the Line of Time represents the flow of life and the line of destiny; while the latter it deals with the movement of cosmic substances, namely: air and water. (Arutiunova 1998: 689)

The metaphor of Time may be fashioned according to three basic most recurrent patterns: (1) in the shape of some continuous extension (a ribbon, a thread, a river, a road), (2) some tiny particles (grains of sand, raindrops, insects), and (3) allegorically, in the shape of a human being (or, if there are several humans, these mirrors the aforementioned "The Ages of Man" motif) of a certain age furnished with certain attributes (a beard, a scythe, an hourglass, a skull, a pair of wings etc.) which can themselves independently generate the same meaning. Such iconographic examples abound in the most exhaustive collection of emblems from the 16th–17th centuries, which was effectively a period when this type of iconography flourished in Europe (Henkel, Schöne 1967).

Moreover, continuity (just as fragmentation) is easily reversible here: water falls apart as drops, sand comes together as dunes, thread is ripped or cut in two and snowflakes stick together, forming the 'Ball of Eternity'. Both fragmentation and continuity may be thought of as fundamental properties of the archetypal notion of Time.

These are metaphors that are easily recognizable, albeit at times familiar to the point of being worn out. Yet, there is a category of metaphors which we use on a daily basis while not considering them metaphors, but rather precision measurement instruments. Such instruments-metaphors are the clocks/watches of all types and descriptions. It is from this vantage point that L. F. Chertov analyzes the clocks in his essay "Clocks as spatial model of time" (Chertov 1998: 101–114), though without dwelling on the issues of basic graphic correlations.

As a matter of fact, visible Time is always given to us in space: "Temporal relationships express themselves and unfold exclusively

through spatial ones (Cassirer 1955: 103–104; see also Smart 1955: 239–241; Smart 1964; Borel 1960). I would like to further complement this point (which has attained sufficient triviality) with a number of mythological figures, whose perpetuity attests to their structuring potential as well as a certain emblematic intelligence of these main philosophic categories.

The motion of the Sun and the Moon, shadows moving between 2- and 3-dimensional spaces are a natural transformation of Space by Time. Each vertically-oriented object turns out to be a clock hand, whilst each horizontal one, a clock dial. Or, to be more precise, the clock hand is a shadow projection onto the surface of any object which forms an angle with that surface. Sundials re-use the same principle. Mechanical clocks materialize the movement of shadow, thus presenting a metonymic model of Space (Earth's surface) arbitrarily segmented.

Both water-clocks and hourglasses measure time using more obvious spatial volumes. It is not for me to judge which of following are primary or secondary with regard to the above: idiomatic metaphor ("passing of time"), philosophical ("no one can enter the same river twice") or being a water instrument for measuring time (klepsydra). What matters to me is that here too, the rule of sharing the same "vessel" by some non-discrete substance, which may be easily divided into pieces or, to be more precise, one substance in two different philosophical-aggregate forms. Neither water, nor sand is (immediately) quantifiable: we can count grains of sand or drops of water, which is a totally different concept.

Perhaps, the only way of measuring or expressing time is the clock bell (or ship bell). Yet even here, the measurement-expression is made possible via our conception of cyclical time; or, to put it better, the repetitiveness of the cycle, that is: the rhythm which certainly is a category which has a spatial marking to it, given that a stand-alone symbol would be meaningless to the process: only the segment having this dual awareness of the two points simultaneously, will be meaningful.

Repetition makes one look back, that is to say, halts Time while presenting an idea of Space: in this case in terms of an opportunity to visualize Time as a 'gap' (the very notion applicable to both Space and Time). Here, it seems, Henri Bergson's observation is very timely:

> If the sounds are separated, they must leave empty intervals between them. If we count them, the intervals must remain though the sounds disappear: how

> could these intervals remain, if they were pure duration and not space? It is in space, therefore, that the operation takes place. (Bergson 1910: 87)

When it comes to transformation of Space by Time in the mind, this transformation is not observable outside that which we think of as Time. The way we feel and perceive the Space depends on how prolonged this feeling is. A point having no dimension has no spatial traits either. Space as visualization or, more importantly, an imitation of this visual image is structured as a combination of light and shadow blots. It seems only two-dimension plane can be visualized outside Time (although it takes time to realize that it is indeed a two-dimension plane). In order for two-dimensionality to attain volume it needs to be cross-hatched. Thus, each portrayal of Space has a stamp of Time on it as well. Light and shadow create a unique combination of Space and Time existing inside each other. A division of these two substances or light/shadow absolutized, eliminates the notions of Space and Time in human mind. That is: neither light nor shadow, on their own, posseses any of these traits, yet they already signify timelessness and 'spacelessness', as well as the unknowable — a consequence of unfeasibility of any translation.

This is precisely why both Early Medieval Western European religious painting, along with Byzantine icons, would imitate Light (using the golden background) rather than Space: this signifies 'spacelessness' and timelessness that cannot be comprehended, yet can be an object of faith. When a source of light is introduced into the image, it is thus immersed into a fixed space-time continuum. The next step towards regularization of the relationship between the depicted chronotope and the chronotope of the recipient, is the use of the rules of direct perspective, which specify a direct link between the viewer's and the painting's mutual arrangement, within which the real and the imaginary/imitated space-time continuums intersect. Certain analyses of spatial-temporal relationships in art this interdependence is formulated in a somewhat more complex way via intersection of the real, conceptual, and perceptual space-time (Zobov, Mostepanenko 1974: 14).

Another method of conceiving Space through Time (or vice versa, since this is a process of mutual translation and no issue of what is primary/secondary arises) is the gesture or movement — such process can also be called 'rhythm'. The length of movement measured by the intervals transforms the categories into a feeling of their unity. The

basic connection between these categories is the pulsating blood in the arteries and veins of the human body (*vid*. Elkin 1969: 78–79; and also Favorski 1988: 234: "How to measure Time? It appears to be different from person to person and depends primarily from one's pulse"). This basic feature is further enhanced by the motor-tactile and acoustic information. Furthermore, all aspects of human economy can be related to mutually translatable Space and Time.

Moreover, it is certain that the human being can be also described as a device for gathering/dismantling one's perception of temporal (acoustic) and spatial (figurative) arrays. It is not by chance that Romanticism, in an attempt to reject the rigid emblematic framework, embarks upon exploiting the human somatic and physiological defects along with absolutizing music as the most Space-less art form, while also attempting to purify it to the core. Hence, we meet the Blind Musician character (Korolenko's late romanticism), or the Deaf Musician which is even more teling for that matter: take for instance the life of Beethoven (e.g., in Odoevsky's *Russian Nights*).

The notion that Time can only be expressed in terms of Space, is most likely to be a pan-cultural oxymoron, as both Space and Time exist in our mind as mutually exclusive or, to put it linguistically, in a state of complementary distribution. One by no means can be the other, but also cannot exist outside the other, the two being "indivisible yet distinct". This analogy (or model?) materializes in the shape of a vessel with a very narrow neck through which the substance runs, while the substance's quantitative properties are modified: the Space is fragmented to the point of ceasing to be itself, it becomes Time. The above transformation is certainly not to be taken scientifically: it is but an interpretation of one by the means of the other, an interpretation with a clearly defined strategy: a reduction almost brought to its own endpoint.

4. Hourglass model

Graphically or geometrically, the idea of hourglass may be presented as two pyramids or cones meeting each other at one point situated at their respective peaks. The pyramid presents a model of reduction of Space into one point. It is on this property that the mythology of the pyramid builds all the variety of its manifestations.

In accordance with the same strategy, we can draw graphs of the changing correlation along the two axes — vertical and horizontal — which have only one point in common with each other. Is it an objective or subjective feature of the point to be small enough so as to make its pertinence indistinguishable for the eye? One can be the other in one point exclusively. This point, as a rule, is also a 'zero point', which effectively places it outside the two sets. The latter moment is very substantial, since the process of Time representation from this vantage point turns out to be the process of establishing a contact with some sort of transcendental essence revealed apophatically via the same model: zero point is a negation of the main factors of the visible material cosmos. Therefore, the moment of passage to "hereafter" can be presented as transit via a tiny hole in accordance with the formula: "It is easier for a camel to go through the eye of a needle..." (The death experience which the analysts persist in placing alongside the birth one, produces a similar characteristic image/painting of passage through converging pipework, funnels, passageways, labyrinths, orifices — Grof, Halifax 1996.)

The point in question can be identified as mythological zero point of birth-death of the world. It represents first and foremost a spatial orientation support base (cf. Podosinov 1999: 459–472). This point can be presented as a rolled up cosmos within the Cosmic Egg (cf. Toporov 1967: 81–99). Yet, it may also present itself as pinnacle as well as the center of the Universe. The above depiction can be compared to the scientific hypotheses concerning the origin of the Universe from singularity:

> Return towards a mythological worldview of the unique "pre-existent" time can be seen in contemporary cosmogonic theories which presuppose a formation of the Universe due to an 'explosion' of a hyper-dense substance concentrated in an 'atom'. (Ivanov 1974: 41)

Once again, it may be noted that neither the logic nor the imagery of myth contradict the logic and terminological metaphors of the sciences of the 'natural' cycle — this contradiction itself is rather a construct, a variety of mythological thinking the opposites. To recall A. Losev: "Science is ever accompanied by mythology as well as is genuinely nourished by its initial intuitions" (Losev 1991: 29).

Moreover, one may clearly observe a constructive tautology in the way space-time correlation is presented in culture. The classical

allegory of time Chronos-Saturn (the characters of Saturn, Chronos and Cronus all had a tendency to be mixed already in antiquity — cf. Klibansky, Saxl, Panofsky 1964: 133), while the imagery unfolding as a plot, displays the aforementioned properties of the Space becoming Time With Old Chronos devouring his children (the moments), that is, processing himself via his own crushing neck — the operational principle is the same as with the hourglass. The ancient emblem thus turns out to be a detailed enough account of a time-measuring device. Or conversely: the device is organized according to the principle of this emblem. The issue of which of these events is a first-order or a secondary one is quite convoluted, which is why, in all probability, we need to speak in terms of some archetypal constructs of consciousness.

There is an additional twist to this iconographic plotline, brilliantly illustrated by Panofsky (cf. Vater Chronos analyzed by Panofsky 1980): Saturn-Chronos devouring a child whilst another (or the same) child performs castration on Saturn-Chronos. The process at play resembles the overall scheme of the information process in its rather classical version (Wiener 1983). Severing genetic memory, the idea of entropy is expressed with an ancient simplicity and sincerity. By the way, the hourglass is an ever-present attribute within the graphic compositions of Vanitas-type depicting in a metonymically balanced fashion, both life (with its futility and vanity) and death (as inevitable consequence of the former).

5. Atomization of space and genesis of speech

This very well-established way of representing Time — all-*consuming* Time — allows me to make certain suppositions with regard to organization of the orifice between the two cones, the zero point of the chronotope. In the case of Chronos, it is plausible that the orifice is a sort of grinding device, a chewing mouth (Derzhavin's *crater of Eternity*), although this grinding can be facilitated simply by the small size of the orifice. In a broader sense, this is a valve or a tap: a device that both lets the substances through and prevents this or that substance from penetration. A frontier understood in its logical philosophical sense as time a place where the two substances meet and separate. The mouth here is one of the acceptable and widespread metaphors closely linked to mythology at the origins of speech.

I will supply only one example of a very tightly-built motif array from Andrei Bely's mytho-poetic theory of speech genesis , inspired by Steiner's theosophic system as well as (in my view) by the practice of spoken German (cf. Grigorjeva 1998: 155–161)[3].

Genesis of verbal *meaning***,** according to *Glossolalias,* is directly linked to kinesthetic *plasticity* of the organs of speech or graphic figures, hieroglyphs of sorts emerging as a result of propagating of the acoustic wave throughout the 'liquid' changing space of the laryngeal and oral cavities.

> In the *u* the depth of **laryngeal well** is well-defined; *u* is genuine just as *die Uhr*, in the *u* we feel the **gullet**, it seems like vanishing in [the remoteness of] the past. (Bely 1922: 73; here and in the other citations from Bely the italics are mine, bold script is A. Bely's — *J. G.*)

Another telling feature is that the larynx orifice is merged by Bely with the Time compound, *die Uhr* (German for 'clock') and the flavor of antiquity, *Ur-*, as if enacting the struggle of antiquity (= Eternity) with Time:

> From the struggle between *a* and *e* Time is conceived – the tragedy of the world: ***Arche*** begets ***Chronos***; while Time is enveloped in struggle of the noble *r* in the timelessness of *Uhr*; a hero defeating *Hurrah*-***Uranus*** which is Chronos; he is ***Herr***, a battle cry and a crunch of the *ha-er-ha*, a wheeze of the struggling *Hurrah* being **strangled**. (Bely 1922: 45)

Naturally, Andrei Bely is far from being a positivistic scientist or even a philosopher (if we take the fullness of the meaning), yet this (neo)myth-creation to him is a professional activity. His intricate imagery, combined in various ways, is extremely detailed in terms of logical features, such as merging of the 'cry' and the 'crunch' into

---

[3] Steiner's Anthroposophy having hugely influenced a number of pedagogical/ formative aspects in European culture, to a large extent was oriented towards an esoteric, geometric tradition of mnemonics. The subject is yet to be touched upon by academic research. Surprisingly, even Lachmann, even though she does mention the updating of the Saturn myth by symbolists under Steiner's influence. Even the remarkable book by Lena Silard, *Hermetics and Hermeneutics* (Silard 2002) Bely's *Glossolalia* is not mentioned. Bely never made a secret of his veneration of Steiner. Even a passing acquaintance with Steiner's *Cosmogony* (Steiner 1997: 183-255) is enough to see the parallels with *Poimander*'s, as well as the social circle of Raymond Llull and the Camillo's Theater.

'wheeze'. As a result, the choice of word forms to reinforce his original forms is, by no means, a chance one: to depict a reduction of u-larynx it was more than adequate to pick the Russian word *udushenie* (strangling).[4]

Furthermore, Andrei Bely's constructs perform this 'organic localization' of meaning of the word extended in time. Graphic semantic mechanism of the phonetic compounds turns out to be directly comparable with mythological and ideological motif compounds:

> In the *hr*-sound we [are given] an intersection of the lines of expiring fever with another powerful line: a rising *r* in the middle of a circle or cavity: cross in the circle, *hr*, is *hrest* which is crux, croix. **Prior to world creation in the cosmic milieu (in the mouth) a cross is elevated**. (Bely 1922: 45)

[4] The issue of somatic tenets of linguistic signs is an area which remains to be widely studied. It is typically seen as a prerogative of the poetic/artistic language. F. Zelinskij observes with regard to the convict's speech (in Dostoyevsky's *The House of the Dead*): Dostoyevsky's use of the slang word *tilisnu* for "strike", "slash" ("[and so I] slit her throat like she was a calf"). "Is there a semblance between the way *tilisnut'* is articulated in movement and the movement of the knife blade gliding along the human skin? Not really, albeit this articulate movement is best to none in depicting the position of the facial muscles instinctively caused by a peculiar sense of nerve pain experienced by us when we picture [in our minds] the knife gliding along the skin (as opposed to piercing the skin): the lips are suddenly brokenly stretched out, the throat is stifled, teeth are clenched, and there's no option left but to utter the [Russian] vowel sound *i* and as well as the labial consonants *t*, *l*, *s* whose choice (and not the loud *d*, *r*, *z*) was somewhat dictated by onomatopoetic factors" (Zelinskij 1911, 2: 185–186). It is crucial that the above research highlights the idea of "pictorial" linguistic coinage being expressed in somatic terms: uttering the word compels one to *mimically* experience the aforementioned emotion. Similarly to Jacobson's 'poetic function of language' the cited phenomenon can be described in terms of 'mimic/mimetic' function of language whereby the word is as if replicated in a somatic-kinesthetic way. Also, it appears that this function comes with any natural language as opposed to just the literary one. Among the European languages that I am familiar with, it appears to me, only German has a highly developed kinesthetic plasticity of expression, such as the alteration of the quality of vowels by umlaut is at times almost iconographic (for instance: *l**a**chen* – *l**ä**cheln*) or as is the case with the subjunctive when incompleteness, uncertainty of action is expressed by the means of a clearly observed vowel contraction.

6. The Cross as an algorithm of grinding

I see this figure of "cross in the mouth" as the most worthy of analysis, since it specifies the process of mythological grinding of Space. In other words, this process is depicted in terms of a regular algorithm. The Cross imposes the regular partitioning of the Space in two, then again in two: Leonardo Da Vinci in his world famous sketch of man-wheel is fully aware of the potential of such algorithm. Death on the Cross implies the process of the Flesh becoming Word, a process referring to the process of conception by the Spirit where the Spirit=Word become Flesh. The mechanism and combination are fully compatible with overall structure of emblem combining word and image. (This nomination fits in well with the terms defining parts of an emblem in its classical version: "Their bodies, which some call figures, and their Mottoes, which are termed souls and words" – Estienne 1646, 2). Yet this emblem is peculiar: a translation taking place within it, is one between the "real" and the "transcendental". Therefore, in observing the mechanism of translation-transit/passage, we touch upon several fundamental principles of the human culture.

These signification aspects of the process of passage from life to death were dealt with in the previous chapter. The strategies of this emblem-making are archaic almost to the point of coinciding with the origin of consciousness proper, and are ever-relevant. Christianity re-uses these strategies inheriting to the pagan sacrificial cults, yet introduces its own peculiarities. It seems to me, one of the signs of such peculiarity is a more regularized process of transcendence. It is linked to the geometric idea of the Cross as an algorithm of this process. The Crucifix is an absolute model for the institute of martyrdom highly developed in Christianity. Martyrdom, in its many variations of dissecting and annihilation of the flesh, is an instrument of access into the Kingdom of Heaven, done as an imitation of Christ. The Cross working in tandem with a historical God becomes an extremely powerful instrument uniting ideology, axiology and spatio-temporal notions in culture (cf. Danilova 1975: 62–80). Naturally, the Cross as a graphic symbol appears long before Christianity, yet it is Christianity that makes its use regular to the point of universality. This does not happen all of a sudden: mythic-ideological, as well as graphic framework, develop gradually, step by step, crystallizing around it Space and Time categories within the human mind. What we are

dealing with here is the contemporary state of a certain mythological complex in the mind, which absorbed an entire historical paradigm.

The early Christianity continues to use the swastika cross (*crux grammata*), that is, a cross with a defined symmetry of rotation, without a consistent tendency towards definite spatial oppositions. Yet this cross has a vector of movement: left to right, in agreement with the solar movement in the north hemisphere (it is usually said that the swastika originated in the Sanskrit-based civilization). The aforesaid vector idea will covertly exert an influence upon the arrangement of Space around the now motionless fixed cross, along with the development of the regular field of the picture. Coptic Christian monuments adapt the Egyptian hieroglyph ankh (which stands for "life"), the so-called *crux ansata*, a T-cross with a loop on top. This cross, combining the male and female symbols, will much later transform into Rosicrucian iconography of the Rose (= *yoni*) crucified (Hall 1997: 506, 528). I suspect that these connotations are equally present in the graphic idea of the classical cross.[5]

It is not my objective within the confines of this essay to analyze the differences between the above shapes in their mystical fulfillment. The mystical interpretation, as a rule, is bound towards esoteric knowledge whose aim is not so much to explain as to complicate, "mystify". I am here interested rather in the "objective" properties of a geometric figure and their relationship to ideology and myth. This is why I limit or fix my analysis to a specific "visible" form, and yet, despite the absence of temporal historical boundaries to the problem, I still deem it possible to observe the issues in a clear prospective. Toporov describes mythological Space:

---

[5] To be more accurate, there are four classic varieties: *crux quadrata*, or the Greek cross with four equal symmetric rays, *crux immisa*, or the Latin cross with an elongated bottom part of the vertical ray; *crux commissa*, T-shaped or St. Anthony's Cross; and *crux decussata*, X-shaped St. Andrew's Cross. I would additionally name the Pythagorean Y-cross (Hall 1997: 225), since the latter modification is co-existent with the other in the European iconographic tradition, as we will see further. All these varieties contain the idea of 'zero point' of intersection which can be associated also with the *yoni* (= vulva), yet in a more compact implicit way than in the case of *crux ansata*, allowing for a greater extent of generalization without contradicting the notion of regular partition of Space. On the varieties of the Cross and its link to phallic cult and the problem of choice understood as that of orientation in space, see Toporov 1982: 12–14.

> For a mythological consciousness the Space is fundamentally different from the structureless geometric space devoid of quality and accessible only to the measurements, as well as from the real space of the natural scientist which coincides with the physical environment [...]. In the mythological model of the world there were none of these types of Space and, oftentimes, not even a word for Space. (Toporov 1997: 158–159, emphasis is mine — *J. G.*)

7. The Cross as an instrument of axiologized Space

Space with the Cross implanted into it from the neutral physical, turns into culturally heterogeneous intelligible, axiologically charged Space. Space thus begins to have a fixed (as opposed to relative) right and left, top and bottom, with their respective shades of meaning. As a consequence, this space becomes oriented.

> The cross positioned vertically used to preserve the meaning of the spatial scheme, contrasting and uniting at once the pairs such as: top and bottom, heavens and hell, right (benign) and left (malign) sides. Perhaps, the Sign of the Cross used to represent a very simple and compact geometric formula of the basic spatial, temporal and moral oppositions which the medieval model of the world was built upon. (Danilova 1975: 66)

Danilova's very precise description, from my point of view, is still somewhat rigid, logically speaking. In my view, the Cross indeed represented the spatial-temporal correlations, yet it equally (and to a large degree) formed them in these rigid and clear-cut terms.

Particularly, given that the Cross itself is motionless (which is relevant at certain point in history: the Man hanging on it is a zero point of conversion of the world into the anti-world); it implies the possibility of choice and, therefore, that of movement. In other words, a possibility of drawing a graph of the regular correlation between Space and Time. Time, which the eye needs in order to cover a certain distance. Naturally, this correlation is depicted conventionally, yet from now on it is done regularly.

In pictorial art, it is to do with the dominant eye movements: firstly, along the diagonals (on the meaning in painting, defined by diagonals see Tarabukin 1973: 472–481). Development of the basic composition rules in Western European painting, the so-called regular field (Daniel 1986; 1990), including direct perspective, is directly dependant on the Crucifix as the organizing principle. The Space of

the ancient painting, as described by Panofsky (1991: 40–42), knew no regular co-ordinates or compositional guiding lines, as it was aggregate one. The eye had no guiding lines, next to nothing would limit its movement, hence the viewer lacked any freedom of choice. Meanwhile the mind lacked a system of co-ordinates.[6]

---

[6] Pythagorean cross, which also presupposes the idea of choosing the correct or wrong path and also a conic reduction in the point of bifurcation, is less stable in its fixating the spatial oppositions. This is due to fewer options in terms of symmetry. Nevertheless, the need in this form is felt already in times of developed iconography of the Crucifixion. The Cross was not used as Christian symbol until Emperor Constantine's conversion in the 4th century. He also abolished the Crucifix as an instrument of punishment and execution, whereby as if legalizing its sacramental nature. Christian burial monuments the Cross is used somewhat earlier, circa 350 C.E. The depiction of Christ on the Cross would appear after the 5th century (until then image of the Lamb was used to represent the victimhood of Christ, i.e. a re-worked pagan form). From the 6th century C.E. depiction of the Crucifixion begins to have a widespread use, as it presented the dual nature of Christ. This was important in order to combat heresies, which saw in Christ the divine nature only, thereby denying his physical torments. These early images presented not so much the torments as the triumph over death: Christ was depicted with his eyes open. Only starting in the 9th century Byzantine iconography establishes the canon of the Cross with the dead Christ on it; this same canon is adopted by Western European art in the 13th century placing an increasing emphasis on the suffering of the crucified.

During the same period when the image of the Crucifixion became widespread, the idea of counting historical time from and after the Nativity of Christ began gaining ground. This idea came to be as a side effect of the dispute regarding the calculation (*computus*) of the Easter and was reflected in the Easter Tables compiled by Dionisius Exigius, an Italian monk (circa 500–after 525 C.E.) The first official sanction was given to this calendar in England in 664 C.E. by the Synod at Whitby. This was championed by Venerable Bede (672/673 – May 25, 735) in his treatises *De temporibus* (703) and *De temporum ratione* (725). Yet the universal recognition in Europe this system gained only by the 11th century (Finegan 1964). Using this or that event as the starting point for counting time is certainly an archaic feature, yet in Christianity it is made law once again to become a common standard. Christ is placed into a certain point which at once becomes the end of history and its beginning.

The antiquity knew neither zero nor negative numbers. The zero was used in the Ancient Egypt to denote a blank space between the digits and yet even in this capacity it was not adopted by Greek or Roman civilizations. The zero as an independent numerological idea was introduced for the first time by the Arabs (by Al-Khwarizmi circa 780–850). In Europe the Arab algebra and the zero gain acceptance only in 10 c. thanks to the French mathematician Gerbert d'Aurillac (945–1003), who studied the abacus in Spain and would later become the Pope

The appearance on the scene of the fixed frame of a painting is also tightly linked to the process of orientation by the Cross. In fact, it is that same Cross, the same co-ordinate gridline and the same tool of setting boundaries and establishing a contact with the world beyond. The frame, as a conscious artifact, is a relatively late phenomenon. It emerges during the process of secularization of the visual arts not before the 15th century in Europe, just as the images are taken out of the Church and into the secular milieu. In church, the function of image, as window into the transcendental, is more or less evident. The crucifix in the Catholic temple or the Royal Gates in the Orthodox one provide the recipient with an orientation amid the sacred Space. When the image is taken out of the temple, in order to preserve the function of the contact with the world beyond, it necessitates additional guiding lines separating it from the chronotope of the recipient. These guiding lines are in effect supplied by the frame. Yet the cross-intersection of the frame functionally replicates the Cross of the Crucifixion story, therefore a situation emerges whereby the Crucifix can be extracted from the representational chronotope and the painting thus gains an autonomous secular life. Although, this does not imply an abolition of the transcending function of an image.

8. Cross and Pyramid: ideology of the graphic forms

The appearance of the direct perspective is the token of new awareness that the Cross (= frame setting the limits of the image plane) is a representation of the process of passage given in the *latitudinal section*. The pioneer of the direct perspective, Alberti, wrote: "The painting is a latitudinal section of a visual pyramid" (in Panofsky 1991: 63). Combining a cross-piece of the frame with a cross-section of the visual pyramid and the point of vergence in the eye of a viewer facilitates a horizontal (depthwise) adjustment, to be more precise: an adjustment of the three-dimensional space representation. The emergence of the frame and development of the perspective practically coincide in time. These innovations are inseparably linked and they radically alter the situation of the recipient's transcendence. Directed

Sylvester II (999–1003) (about him: Chamberlin 1969: 115–121). As a matter of fact, Gerbert was also an inventor of chronometer and had contacts with the Russian prince Vladimir who Christianized Russia.

along the horizon line, this procedure which was unthinkable prior to perspective innovations in Andrea Mantegna's *Lamentation Over The Dead Christ* (circa 1475?, Brera), loses its hierarchical (and therefore value-based) reliance on the higher cosmos, ceasing to be necessarily sacred. All of which was definitely a consequence of having introduced the mechanism of perspective: "Perspective plays the part of a rigid inhuman machine which, as Leonardo figuratively puts it: "by its contractions helps turning around the muscle-bound body contour" (Danilova 1975: 43).

The process of transcending becomes a matter of technology and optics. All the elements of the mind mechanism acquire well-defined material shapes of a specialized device:

> One of these devices is as follows: at the end of a table shaped as elongated rectangle, a rectangular frame with a glass is fixed, athwart the table's surface. On the opposite narrow end of the table a wooden bar is fixed, parallel to the frame. Along this bar another transverse bar is moving [sidewards] on a long screw. The latter bar has a [...]wooden pivot which can be fixed at different heights and having at its end a small wooden plate with a tiny hole. It is plain obvious: this device implies to some extent a *model* of perspective projection from the hole [...] onto the surface of the glass sheet, so as [we] look at the item through the aforesaid hole [we are] able to draw its projection on the glass. (Florensky 1993: 231; emphasis by Florensky)

All these rods, screws, orifices, frames and plates are substantiated (emblematized) elements of the mental construct of passage, comparable to a Passion toolkit. The process is fixed onto material objects, and this is what makes it regular and manageable, although significantly more limited in variations than if this fixation depended less on material structure. Yet, even though limited in variety, this technique supposedly acquires a style accessible to the masses whilst ceasing to be dependent on exceptional mystical gift/enlightenment of the author/maker: "Function of the devices is to allow for a replication of any item by the most unskilled draughtsman, purely mechanically, *without* the act of optic synthesis" (Florensky 1993: 231, italics is mine — *J. G.*).

Florensky clearly interprets the employment of direct perspective technique reflecting a peculiar ideological shift of consciousness:

> The need to forge a doctrine on perspective for a whole group of intellectuals and very experienced painters over several centuries, including a number of top-class mathematicians, all of this done clearly *after* having already taken account of the basic principles of perspective projection of the world, makes [us] think that the historical task of development of the perspective was **not** about simple systematization of the pre-existent [features] of human *psychophysiology, but rather a forceful re-education of this psychophysiology in terms of abstract demands by the new worldview.* (Florensky 1998: 62; italics by Florensky)

Once the process is oriented this way, the transcendental realm is able to have an interpretation different from the religious interpretation. In fact, this very thought is expressed by A. Losev when he talks of "egotism" of the direct perspective: "When we are presented with an egotistic orientation towards the reality of the outside world, this is reflected on the image as a *central perspective of the lines coming together*; it is a space that is [both] closed and concentric" (Losev 1991: 95, italics by Losev). Until then, images displayed some kind of significant ambiguity in relation to how this transition is facilitated. On the one hand, image was a window into the transcendental, i.e. it directed the viewer's attention horizontally, transversely to the painting. On the other, the Crucifix, with a horizontal bar shifted upwards, suggested a clear vertical orientation, following rather a pyramidal model. Vertical direction was far more structured and regular: the rules of proportions developed in antiquity were used and enforced, except for depictions of depth, i.e. horizontal narrowing of the perspective. All comforts were given to the upward view: "The Middle Age […] gives vertical [line] a full priority" (Florensky 1993a: 185). This is also supported by architecture, particularly of the developed Gothic variety.

The structure of the Gothic temple, by the way, combines within itself the strategies of the cross and pyramid. A very elongated pyramid, the broach, pointing right at the sky while the plan is cross-shaped. As a matter of fact, these two geometric figures represent varieties of the reduction of Space to the zero point: progressing (pyramid) and forceful (cross). In other words, this is same procedure done in different sections: latitudinal (pyramid) and longitudinal (cross). The Crucifixion image itself quite often is stratified, showing both principles at once: Christ's arms, lifted upward in a V-style, suggest the geometry of a cone with its peak pointing downward, whereas the Cross clearly sustains the right-angle partitioning scheme. Both as a storyline and an image, the Pythagorean problem of choice between the right and wrong paths in the

Crucifixion composition is oftentimes symbolized by the figures of "good" and "evil" thieves crucified alongside Christ and positioned to the right and left hand of him respectively.

The arms raised V-style are immediately related to depictions of victory in Western European iconography. Meyer Schapiro analyses this framework using the example of Moses' combating the Amalekites (Schapiro 1973). A wider cone (almost approaching the Cross) is also used in the Orthodox iconography: the Mother of God Oranta and also the Pantokrator. Moses' arms raised in prayer directly affect the course of the battle: while he kept his arms raised the fortune was on the side of Israel; as soon as he, exhausted, dropped them down, the enemy would regain strength. Furthermore, the arrangement of the arms may approach the V-style to a varying degree. They can be also interpreted as pyramid-shaped joining of the palms of hands (an upside-down V-style), a prayer gesture of the Roman Catholics. This attests to synonymy (or even procedural synonymy) of the three graphic versions of the contact with God. Apart from that, the victorious gesture, in particular, the military victory in a reduced form, echoed in the 'victory' gesture by Churchill, already mentioned at the beginning of the current essay. As we can see, it successfully blends into the more general rule of graphic representation of the contact with the transcendental. Churchill's gesture can be interpreted in this context as *in hoc signo vinces*.

The cross, with a historical God affixed to it, halted the cycle of births and deaths, or stretched it in a way that made a mind category exclusively. Canonization of unity of this event led, as a result, to its being understood as zero point on the time scale: Time now accumulates at both sides of the Crucifix in accordance with the hourglass paradigm. The place of the Cross in the graphic composition along the axis of symmetry became a visual affirmation of this principle of the zero-value centrality of the here-and-now. Which is why Bible history, in particular, was understood throughout the Middle Ages, as well as the Renaissance, as immersed into the present, which was expressed by the depiction of an entourage contemporaneous with the painter. Historical time divided by the cross in two suggests a "before" (past) and an "after" (future), as well as the zero-value "here-and-now". The selfsame verbal formula while accompanying the act of making the Sign of the Cross, re-affirms this unfolding of time to the sides of the central axis of the Cross=Present.

The expression "Now, and ever, and unto the ages of ages" or the four-part version "Always, now, and ever, and unto the ages of ages" (Latin: *In principio, et nunc, et semper, et in saecula saeculorum*) contains a conglomeration of tautologies, which can only be explained in terms of graphic properties of the Cross as signigying the unfolded Eternity spreading itself into the past and future. Additionally, the four-part formula contains the idea of the top point of the Cross (= forehead) also opening itself to Eternity at the time of performing the Sign of the Cross. The Latin formula clearly shows this higher infinity stands for a more universal and fundamental law of being.

9. Composition of the Cross and deviations from the canon

Only as a backdrop to this fixed symmetrical composition arrangement, could deviations from this canon become possible, with the deviations facilitating the semantic effects of a universal event individually interpreted (since without restrictions there is no choice and thus no freedom). To illustrate the above, I will be attempting an interpretation of several striking examples of the well-established multifaceted canon demanding its own restoration. It was not my objective to trace the evolution of styles or genres of painting. I was concerned rather with the framework of motif-imagery, superposed onto the geometric canvas. Therefore, I opted for the analysis of the texts, myself deviating from their historical succession: the logic of outlining the framework of graphic motifs was more important to me.

9.1. Giotto

A sufficient enough deviation from the canon can be observed already in Giotto's work. No wonder Florensky considered Giotto as a turning point for the development of the new, personalistic, egotistic consciousness (Florensky 1993: 209–210). Alpatov characterized the technical innovation of Giotto as follows: "Living characters of the Christian story are equated by him to regular bodies, arranged in accordance with laws of equilibrium and rhythm" (Alpatov 1976: 37). According to Alpatov, Giotto (as well as Renaissance art as a whole)

impersonates the demonstrative/entertainment properties of art (Alpatov 1976: 149). Taken within the scope of issues raised in this paper, this is primarily about functional and conceptual change in eyesight/optics/gaze paradigm. Prior to Giotto (and even in the aftermath) the actants of image are not encountered by the gaze (in all probability, it is implied that they do not see each other but outside the depicted and observed Space, "in the eyes of the soul"). Whereas Giotto, in *The Kiss of Judas* (fig. 3), makes Christ and Judas look into each other's eyes in a way that the eye contact is very tangible. Firstly, this immediately immerses the scene into the *here-and-now*. Secondly, it raises the issue of the contact with the transcendental in a completely new way by re-interpreting it as "individual-nominative". The gaze (of the mind establishing/detecting the contact) is not detached from the organ of sight. It rather coincides with the specific individual eye of the depicted character, as if being named, identified in a specific way, used as a plotline motif.

Besides, both Christ and Judas are depicted half-face. Incompleteness of a face in relation to one who is the incarnation of the wholeness of being in the universe creates the scenario of a bunch of multifarious interpretations of this contradiction that, certainly, could be felt as an expressive shock bordering on sacrilege. On the other hand, the half-face represents a vector of the will power, marked by a lack of equilibrium in the contour (Florensky 1993a: 148–149). The half-face requires a compositional opposition between the external object and subject. Giotto's image of Christ's half-face is restored to the state of being a compositionally complete full-face with the help of Judas' half-face — a shocking thought, even to the early 20th century mindset (at least in Russia, where, for instance, L. Andreev's *Judas Iscariot* which made use of the same idea, caused an emotional reaction of the public).

Figure 3. Giotto di Bondone, *The Kiss of Judas*. Fresco, Capella degli Scrovegni, Padua, 1305–1313.

Perhaps, in purely graphic terms this technique was not such an outrageous thing in Giotto's days. Both Romanesque and overall medieval images quite often portray the encounter between the two characters as a joining of two half-faces within a single format. Yet Giotto does this in an accentuated and conscious way. Meyer Schapiro (Schapiro 1973: 45–46) is superb at analyzing this trend. As he points out, the artist sets apart the half-faces of Christ and Judas, while placing the observing guard in the background, behind them. Thus, three faces are presented at once: Christ, Judas and a third observer mirroring the gaze of the recipient viewer. This is a very powerful

mechanism of organizing the Space along the horizontal line of the recipient's frontal gaze: a point is set "behind" the scene. Moreover, it is a considerable shift with regard to the process of becoming aware of the graphic image's autonomous role as an interpreting mechanism. In other words, in Giotto's work it is not the word, but a vision/image that is expressly shown to be the instrument of contact-translation.

9.2. Judas' Kiss and the hourglass configuration

The motif of Judas' kiss and suicide is quite significant within the mythological framework discussed here. On the one hand, it is a reference to the widespread cultural mythologem of the kiss resulting in death or a kiss which takes the last breath away. A mythologem mediated by the idea that the soul-word leaves the body or flesh-space via mouth, binding this plotline with the process of speech-genesis applied to the Word of God. On the other hand, it allows seeing this encounter as the two vessels' mouths touching each other. This touch is lethal for both. Although, if the death of Christ is relative and, in fact, means eternal life, the death of Judas is then absolute, expressed by the blocking the vessel's hole by the rope on his throat. The lower section of Giotto's *The Last Judgement* (fig. 4) denoting Hell, situates the figures of the hanged bodies: one of the sinners is hanged by the tongue! The death of Judas, who hanged himself on the tree (to each ethnic culture it's "their" special tree), reverses the death of Christ on the tree of the Cross (certainly, we are dealing with the cosmic tree – something that was many times pinpointed by researchers; see Toporov 1982). The Cross, as a result, is an unfolded version of death-birth, while the rope of Judas is the closed no-exit version. Meanwhile, the body of Christ, ever incorporated in the communion bread, is included into the unfolded cycle of grinding in the mouth of the communicant.

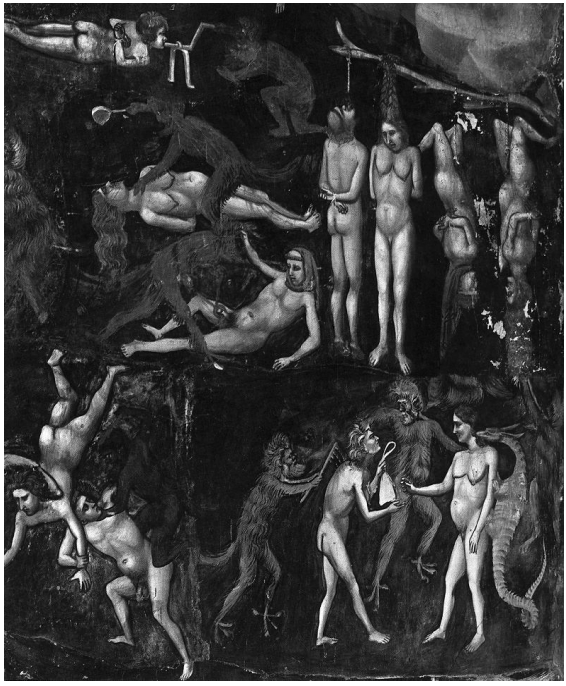

Figure 4. Giotto di Bondone, *The Last Judgement*. Fresco, Capella degli Scrovegni, Padua, 1305–1313 (fragment).

This collection of ideologems and motifs, including geometric constructs such as the hourglass, also defines the chronotope of the Divine Comedy in a most generalized fashion, as noted by Florensky (Florensky 1922: 45–47). According to the legend reported by Vasari in his *Life of Giotto*, Dante was a close friend of the painter, having composed stories for his frescoes (Danilova 1970: 5–6). The legendary character of this friendship is, perhaps, more significant than its reality: had there been no such friendship, it would have had to be invented for a number of *mythogenic* reasons.

When *Dante*, the character of the Divine Comedy, descends with his guide to the very bottom of Hell, he finds the three-faced Devil (who fell off and betrayed God) eternally gnawing the three traitors, among these Judas. Three faces of one head, a common allegory of the three modes of Time, known from antiquity and interpreted in the

emblematic tradition as Wisdom which comprises three elements: *memoria*, *intelligentia* and *prudentia* (see Panofsky 1982: 146–168; Yates 1997: 133, 213). Dante, certainly, reverses the meaning of this allegory, ascribing it to the Devil who sacrilegiously parodies the Trinity. Yet the skeleton of the scheme, while the sign meanings are switched to their opposites, still remains just as the link to the three-fold nature of Time. Besides, Dante provides the Devil with a set of vampire-bat wings, which is one of the standard iconographic attributes of Saturn (Panofsky 1980; Klibansky, Saxl, Panofsky 1964). Furthermore, the traitor Lucifer devours his (equally treacherous) siblings who are his own creatures which, it appears, may give additional reason to link him to the personifications of Time. The mouth of a monster is one of the most common iconographic motifs in the Middle Age — it stands for the entrance of Hell. This is a motif which survived in the form of an easily recognizable, albeit more amusing than monstrous, theatrical requisite of the Renaissance. I posit that the motif of the Saturn's voracious mouth along with the Hell's larynx have a shared base motivation in the geometry of grinding at the crossing of the "final line".

Thus, Dante and Virgil descend further walking away from these larynges, stepping all along onto Lucifer's body, down toward "where at the thigh // Upon the swelling of the haunches turns" (XXXIV: 70–71)[7]. Then while reaching the point "On the other side the centre, where I grasp'd // The abhorred worm that boreth through the world" (XXXIV: 101–102), they turn upside down: "when I turn'd, thou didst o'erpass // That point, to which from every part is dragg'd" (XXXIV: 104–105). The road turns out to be the way upward into the celestial spheres broadening gradually. Florensky interprets this chronotope as Non-Euclidian Space. It would be too daring on my part to contest a professional mathematician's view. I suspect, however, that there is a much closer source for Dante's imagery: it is the system of allegoric emblematic and geometric-ideological invariants of sacred images. Perhaps, the notions of chronotope in mythology do indeed differ from Euclid's geometry. Yet, it seems to me that the model described by Dante is indeed a reduction which works along the lines of hourglass with a gullet (connected to esophagus or phallus) by which the Time is ground into time periods: "Morn // Here rises, when there evening sets: and he, // Whose shaggy pile we scaled, yet standeth fix'd, // As at the

[7] Dante's citations are from: Dante 1909–1914.

first" (XXXIV: 112–115). The model is also enantiomorphous and reversible in the same way as the hourglass device.

Giotto's "three-faced" model is as if turned inside-out: all three gazes focus on the central point which also involucrates the potential viewer. This meeting of the gazes in one point, a communicating and visual Cross, creates a situation of Time's "hanging up" in the communication insight. The connotations of the dissected "Time" emerge upon the projection onto the aforementioned allegoric figure. Certainly Giotto too, just as Dante, subjects this figure to an essence-transformation. Nevertheless, the traditional meaning is still discernible and may assist the interpretation. This prelude to the Crucifixion presented as an act of communication, is a dispute between life and death. On the one hand, communication is understood as an *apparent* juxtaposition of the subjects, localized and arranged in Space. On the other hand, it operates as a translation of the word (kiss) into image (gaze). The fact that the recipient-viewer is involved in the development of this Cross elevates the probability of transcendence for the former. Whilst the fact that this Cross in the plan would have presented itself only from God's viewing point, as the plan of the church, as it seems, contradicts the vehemently negative view on Giotto's religiosity espoused by Florensky. After all, Florensky himself appears to sympathize with Luther's quote: "We look at Time *along* whilst God sees it *across*" (Florensky 1993a: 275).

9.3. Cranach the Elder

Half-faces, long after Giotto, remain reserved for the donators, who do indeed represent the closeness to the 'I' of the viewer. Yet their gaze running parallel to the surface of the picture is indeed a mind construct. When it comes to this procedure of the imaginary vision, physical variables of sight are ignored. Full-face and open eyes was privileges of the 'transcended' characters such as the Saints or Madonna. Speaking of composition, the Crucifixion here invariably occupies the symmetry axis. As a backdrop of this stability, any deviations with regard to the scheme require a definite interpretation effort, that is, the process of reception (in case of sacred image, also transcendence) ceases to be automatically conventional.

Lucas Cranach, in his celebrated composition (fig. 5) moves the Cross to the left and gives it a rotation so that it is seen half-face: this makes for an unusually strong emotional impact. Christ is no longer the zero-axis of the given algorithm: rather an individual whose uniqueness is no longer that of an exemplary being, but of an individual. Besides, this technique transforms the whole of spatial arrangement: Space, as representation, acquires volume, ceasing to be the penetrable-impenetrable plane of the window/borderline into the transcendental. The viewer's gaze is made at home with the frontal position of the Cross, the viewer now is able to imagine a vantage point within the constructed Space of the painting: from the depth, on the left.

Figure 5. Lucas Cranach the Elder, *The Lamentation Beneath the Cross*. Alte Pinakotek, Munich.

The 'I' of the viewer becomes ambivalent while assuming various perception stances. The 'I' looks at the painting in a normal way, facing it upfront, yet the unusual composition forces the viewer's mind to reconstruct the position of the 'I' at the left facing the Crucifix. The actual viewer assumes the position of the Virgin Mary, whose gaze is directed at Christ upfront (or nearly upfront: the Cross is still slightly turned towards the viewer, this being inevitable tribute to conventional forms of perception in order to prevent the scheme from being completely obliterated). This is not a virtual gaze of the donator along the surface of the painting: rather it is a communicating gaze left unanswered It is as if the gaze of John attempts to compensate for this lack of response, setting a plotline and graphic opposition-rhyme "live-dead", enhancing the visual and intellectual perspective of the viewer identifying himself with Christ.

9.4. Rembrandt

The Cross in all this becomes mobile in the mind of the author-recipient. It makes possible the freedom of choice being defined by a fixed system of co-ordinates. Rembrandt arranges the Crucifixion composition as *Elevation of the Cross* (fig. 6), namely, the Cross hasn't yet taken the place usually accorded to it: that at the central axis of symmetry. Rather, it is situated along the strong "natural" diagonal, bottom left towards top right. And thus, the whole dynamic of the event come to depend on the effort of elevating the cross as *against* the "natural" direction of reading the painting. One plotline effort of sustaining the Cross in an inclined position was far from sufficient for Rembrandt. He creates several visual counterbalances: a pyramidal shape at the back, a bent figure on the left and a cruciform shovel stem (at the bottom right) as if suggesting the next phase of incline for the Cross in a desired direction. Otherwise, the whole composition would hopelessly "collapse" to the right (fig. 7).

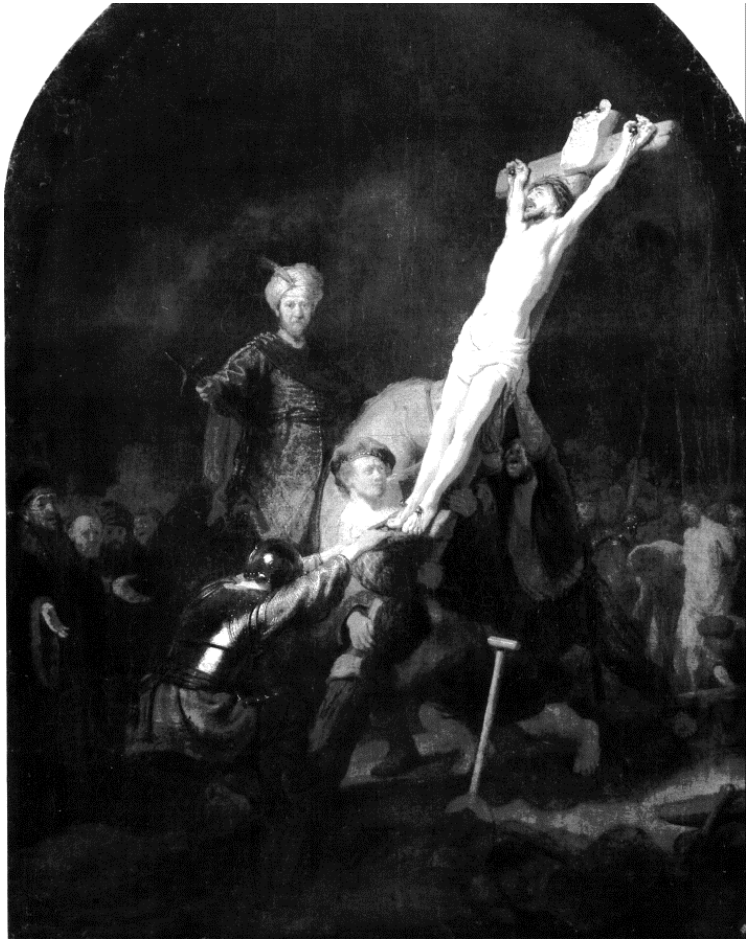

Figure 6. Rembrandt van Rijn, *The Elevation of the Cross*, 1633. Alte Pinakotek, Munich.

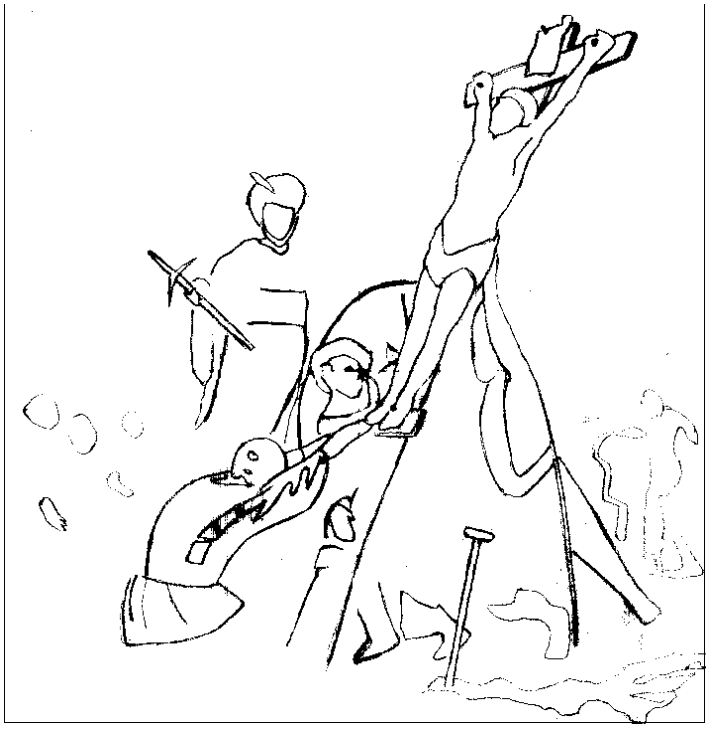

Figure 7. Outline for Rembrandt's *Elevation of the Cross* (fig. 6).

The "abnormality" of the Cross' position makes the viewer to perform the task of reconstructing the conventional one, just as it was in the Cranach's case. Otherwise, if such a task were to be completed graphically, it would follow that the Cross erected and made to stand vertically would cover the officer (the representative of the ruling authority, "of this world"). Yet neither a restored Cross would fail to stand along the central axis due to being shifted towards the left side, a more steady side of the regular field. Whereas there exists an alternative type of organizing symmetry, a rotational symmetry. It is also incomplete, if not vague. It is suggested initially by a bent figure in a flashing black armor, followed by the same trajectory along the bright neck of the horse. Using this bright spot as a background, Rembrandt paints his self-portrait, almost at the center of the image —

this is a sort of clock dial of the event registering the peculiar idea of the painter's role in the metaphysical as well as historical ceremony. It is the painter that takes up the zero point of the intersecting axes. The clock analogy (in the most "effect-frequency" sense of Time) here is almost perfect: the long hand is the Crucifix, the short and less visible one is the officer's sword with a cruciform handle. The "clock" shows 10:10. The above said does not mean that Rembrandt intended to depict the actual clock, it is just that he used the same geometric framework relevant even to this day, as an advertisement for watches.

9.5 Brueghel the Elder

Having attained to possibility of movement, the Cross makes use of it also through rotational symmetry. The dormant memory of the swastika and wheel re-awakened in an updated form against the backdrop of the established static scheme. Brueghel in his Road to Golgotha (fig. 8) expressly states this synonymy of cross and wheel both in terms of composition and motif. As is typical with Brueghel, the painting is structured in terms of the "Find Icarus" principle. An array of tiny figures cover the landscape dominated by a rock with a windmill placed on top of it. This is the dominant vertical line of the whole composition, which is identified with Golgotha along the lines of the biblical tradition. Here the impossibility of an exact translation between the word and image is highlighted. It is for the artist to decide the way the mountain has to look. The rock is situated within a V-shaped glen at the frontier between sky and earth, light and shadow — a terminus of sorts. Second vertical line (echoing the rhyme of the first one) is the wheel on a pole. The wheel almost coincides with the right edge of the frame (a proximity to the frontier, though of a different kind). The windmill, a moving wheel giving bread=life stands in opposition to the motionless wheel of death both in terms of semantics and functionality. The wheel on the pole is a near-sacrilegious iconographic parody of the Crucifixion: in its vicinity instead of the skull of the first man Adam there lies a horse skull, while Mary and John are nearby. The viewer is to be more and more bewildered: where are the familiar traditional Golgotha, the genuine Cross and Christ?

Figure 8. Peter Brueghel the Elder, *Road to Golgotha,* 1564. Kunsthistorisches Museum, Vienna. Outline for *Golgotha.*

I cannot insist on a specific order of discovering these objects: Brueghel's space is very fragmented, almost stochastic. Apparently, he is more inclined to work with semantic motifs than geometric universals. And yet… The Cross with Christ who fell and is lying at the bottom of it, can be found at the very center of the composition, amid the conglomerate of the flickering tiny characters. Whereas the Golgotha, beneath the wheel, to the left, is a sort of an empty elliptic tonsure-like (almost the 'Bald Mount' motif, although there is no sight of any mountain) space surrounded by the mob growing black. All in all, the Cross is gravitating towards the windmill, whilst the Golgotha towards the wheel. The motif rhyme of the image is becoming two, along with the juxtaposition. As a result, the Christ is bearing his Cross in order to combine it with an empty circle. What would result from this procedure, whether it is the wheel of life or death, is left unanswered. However, there is an evident geometric and metaphysical problem being suggested by it all: to combine the dissecting tool of the Cross with the full cycle of the circumference.

In the Renaissance iconography to the North of the Alps, executions done using the cross and the wheel are closely linked. (This motif is discussed in Mitchell Merback 1999, *The Thief, the Cross and the Wheel. Pain and Spectacle of Punishment in Medieval and Renaissance Europe*). The death on the wheel is even analyzed as "an emblem of state-sponsored death") inscribed within the same historical pattern alongside the guillotine and the gas chambers (Merback 1999: 158). Thus, the mechanistic nature of all these methods is highlighted: they are the "machinery of death". This appears to be convincing enough in the light of the retrospective judgment of progress within the European consciousness having promoted the wheel as the most important stage of technological civilization, "the Wheel of Progress", to use a linguistic cliché. And yet, Merback supposes that all the possible "solar" mythological interpretations of this instrument of murder lack any foundation, contesting the various statements, such as:

> The very shape of wheel and the cross, the very act of crucifying pinpoint the ideas of the cosmic order which are not felt, perhaps, only by the victim presented on the altar for cosmic purposes. (Merback 1999: 6)

As an historical source for the origin of the execution by wheel, Merback cites Gregory of Tours who in the 6th century mentions the

execution performed among the Franks: the criminal lying on the ground had his bones crushed by a heavily-laden wagon. It seems to me, this indication of genesis does not eliminate the "ideological" motivations either: only those figures and objects remain preserved throughout all times that satisfy a multiple range of variables. Frankish execution style, although evidenced by written records, does not explain, for instance, why in later times the victim (that is, the body with its bones crushed by the wheel) was placed on the another (large) wheel located at a high spot, so that the "birds of heaven could fly above and beneath the unfortunate". (Written records are equally in need of scrutiny, given that the medieval mind was prone to mixing history and myth and that a vast number of written historical and geographic testimonies from that era contains the mention and even graphic depictions of all sorts of fantasy creatures.) Moreover, the iconography of the execution by the wheel will closely approach another emblematic motif, the Wheel of Forture: an obvious metaphoric transposition of the idea of the change of the cycle phases onto the reality of punishment.

10. The Cross and and the Dial

A superposition of the Cross onto the Wheel occurs in the clock during the period when they begin combining a dial (guided by the fixed geometry of the Cross — division into quadrants or quarters) with the rotating hands. First public clock appeared in the 16th century. Set in motion using the weights, they implicitly suggested that the motion of Time was dependent on vertical orientation, the gravity force. The spring clock was invented in the 15th century. The spring clock's appearance recreates the more archaic solar clock, although the latter was never able to enact the full-circle rotation of the shadow-hand. The dial of the mechanical clocks perfects the reality unto an abstract ideal. The concept is more or less identical throughout the various specimens: a cross inscribed into a circle, both motionless and rotating at once. This model contains a graphic and ideological analog to the physical properties of the valve and the screw.

A good number of mechanisms enabling to control access/sealing-off properties (i.e. border control) are used in culture. These functions

can be assumed by a (fishing) net, a metal grill (a version of which is none other than the cross), a window, a glass, a door, a threshold (as well as the various terminus-type devices, such as *Jacob's Ladder*), a keyhole (or a very tiny hole as in the camera obscura), the skin, the veil/cover (packaging) and so on *ad infinitum*.[8] No doubt, all these motifs can be used in literature, arts and culture at large, as plot elements in their "nominative" function. Otherwise, as a graphic/structural basis of the whole narrative or image, that is: operating as a dominant feature within the composition, including the purely technical tool to enable projection of the visible Space onto the surface plane (cf.: "This precision in reproducing the Nature, according to Alberti, is ensured by the use of *velum* (a grid) enabling to transfer everything that is visible through it onto the paper which has the same grid [pre-stamped] on it", Alpatov 1976: 58). Typically, both principles co-exist within the same text.

El Greco structures the composition of *The Annunciation* (fig. 9) arranging two interconnecting worlds in the shape of hourglass with a dove in the middle, where the orifice between vessels is located. The dove twists the composition (as if with a screw) relative to that center of symmetry. The dove (=Spirit, Word) exercises the function of a plotline and composition mediator.[9] El Greco's composition tends to "swirl" into a funnel and dissect the space according to the touching vessels principle.

It is much later, towards the late 19th century, that the new awareness of unity between the historical and cyclical laws in Time, between mythological and civilized consciousness, led to an explicit realization of the entire compound described by us in art. An avant-garde painter could afford to say: "At the top of your Golgotha […] there is a wheel". This avant-garde attempt of reverse metamorphosis of the Cross into Wheel is analyzed by Mikhail Yampolsky with regard to intertextual situation surrounding Abel Gance's movie *The Wheel*

---

[8] For further discussion of the semiotics of frontier/border in art, see Grigorjeva 1997: 22–52.

[9] On the analogy between the cross and the bird with open wings see Toporov 1982.

Figure 9. El Greco, *The Annunciation,* circa 1600. Baron Thyssen-Bornemisza Collection.

(1921): "A cross rotating with madness adopts the shape of the wheel. Which is why at the top of your Golgotha, dear Gance, there is "The Wheel"". And furthermore:

> Religious motives are good in explaining also: why did the medieval theologians were so frenzied in attacking the perpetual motion and confessed the finite nature of movement, declaring the perpetuum mobile to be incompatible with the science on God. (Jampolsky 1993: 219, 223)

This rotating cross has discredited itself following the mythical quasi-incestuous syncretism of the Nazi swastika. Yet the swastika has proven to be only one of the expressions of a more large-scale trend. Symbolic force of the screw becomes an object of graphic depiction, an object that is detectable upon a simple translation of an image into word.

Dali, in his *The Virgin of Guadalupe* (fig. 10), brings together the concepts of the screw and the rose, contrasting them against (as well as equating them to) the framework of the lily-cross. At the base of a clearly pyramidal framework, he introduces the lily, which symbolizes purity or heavenly love, in the shape of a small 4-blade windmill. The lily rises from the hole of a glass vessel located at the very frontier between heaven and earth. From this orifice the whole figure rises, like the jinn out of the bottle. The roses, forming concentric circle around the pyramid, repeat this form of a screw in a multiplied version. A marked indifference towards 'realistic' pictorial causality linking the symbolic elements compels one to "read" this composition in terms of a mythological neology. The geometry of the myth is thus accentuated and becomes the dominant feature of an image.

The Crucifix and the clock are explicitly united in the numerous Crucifixes by Chagall (fig. 11, 12). He expressed that which was gradually taking a clear shape over the course of Christian history: a common pattern in the workings of the mechanism. Both visible (geometric) and metaphysical principles of their organization are consistent through and through. And both represent collective metaphors of a specific type of mind frame. In his geometric preferences Chagall gravitates towards the hourglass form (it would suffice to recall his celebrated compositions: *The Muse Inspiring the Poet*, *Wedding*, *I and the Village*, *The Fiddler*) as well as towards the circles divided into sectors. His graphic work *Motion* (1921, fig. 13) is

Figure 10. Salvador Dali, *The Virgin of Guadalupe*, 1959. Private Collection, Madrid.

Figure 11. Mark Chagall, Crucifixion with a Clock.

Figure 12. Mark Chagall, *Golgotha*, 1912.

Figure 13. Motion.

an expressly stated reflection on the cross=wheel=swastika with a human face residing in the point of symmetric rotation. In *Homage to Apollinaire* (1911–1912, fig. 14) Chagall places an androgynous character against the background of an abstract dial-cross: it is Adam and Eve, indivisible yet distinct on the Cross and on the Wheel of Time with a symmetry point in the genital area, or, in Jungian terms: anima and animus.[10] Furthermore, Chagall has another composition noteworthy to our subject, *The Crucified Ones* (1944, fig. 15). Crucifixes located along the road which gets contracted along the perspective. It is an organic combination of a legendary historical narrative (Via Appia), the macabre *here-and-now* reality of the Jewish settlement following a raid, as well as the realization of the Cross and the direct perspective as being functionally identical.

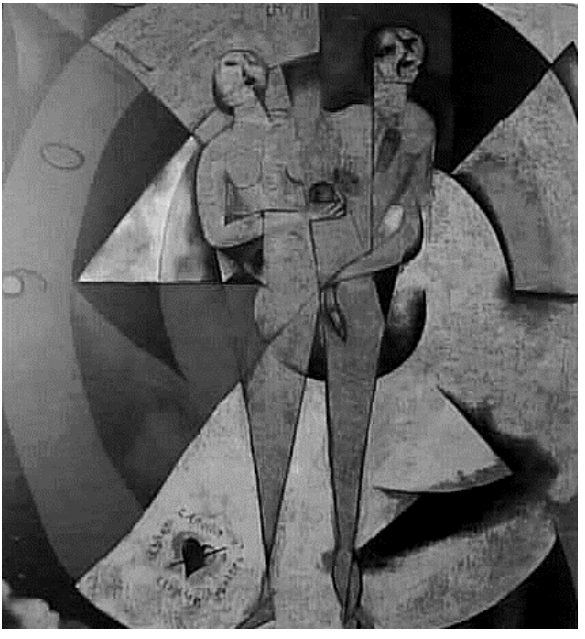

Figure 14. Mark Chagall, *Homage to Apollinaire*, 1911–1912.

[10] On androgynous nature of Christ see Meeks 1974: 165–208; Bynum 1984.

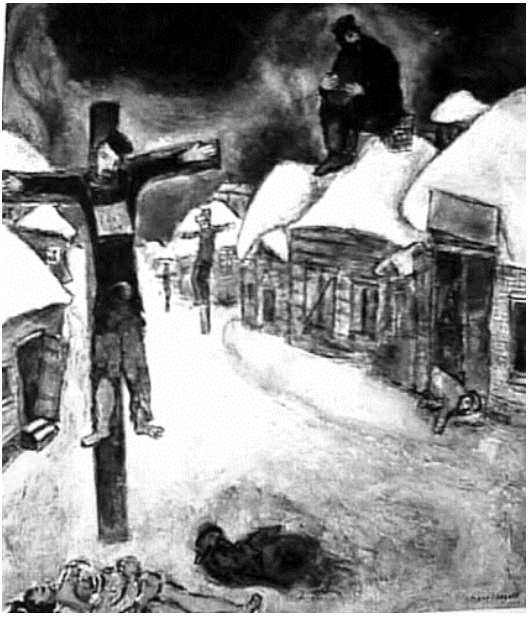

Figure 15. Mark Chagall, *The Crucified Ones*, 1944.

Figure 16. Maurice de Vlaminck, *Road Under the Snow*, 1925.

To provide a further analogy: the almost identical composition by Maurice de Vlaminck (1925, fig. 16) is worth a mention: here the Crucifix is absent, yet the snow is falling. These tiny particles, a result of the fragmentation of the matter, facilitate a mutual penetrability of heaven and earth in a horizontally oriented cone of a reductionist perspective of the visual pyramid. I already referred in this essay to the emblematic metaphor of the tiny particles. Jean Effel, both consciously and ironically, identifies the mechanics of the process of the Creation of the Universe with the work of God the Miller (fig. 17–19).

Apart from the specific painters distinctly displaying a clear tendency towards interpretation of the aforementioned mythological compound (El Greco, Chagall, Dali), there exist a range of formal semantic preferences, as if requiring interpretation within the framework of the motifs highlighted here. Among these definitely can be mentioned, for instance, various depictions of the female body and the tree within a diverse range of connotations (fig. 20–22). It appears to me, that these or similar examples need no further commentary in the light of what has been said above. The argument that the female body "in deed" gravitates towards the hourglass, cannot be deemed suitable here. The *depiction* of the female body is far from adhering to the said form throughout the ages: Neolithic Venuses are clear evidence to this. In the Middle Ages the contour of the Madonna, for instance, is tending rather towards the pyramid shape with an upward reduction. (This pattern was used by Dali in *The Virgin of Guadalupe.*) Meanwhile the medieval canon of the Crucified presented a downward V-style reduction. Thus, The Star of David as a symbol of androgyny was split into two distinct characters: it is this very method that is used in symbolizing the gender difference on the restroom door signs. Furthermore, the pictorial canon in art does not always coincide with that of the ideal feminine body exploited, say, by fashion. In the 60s, for example, when the Twiggy ideal was dominant, that of an almost shapeless two-dimensional line, artists continued to used the pattern of vessels narrowing towards the waist.

Figure 17–19. Jean Effel, from *The Creation of the World* series.

.

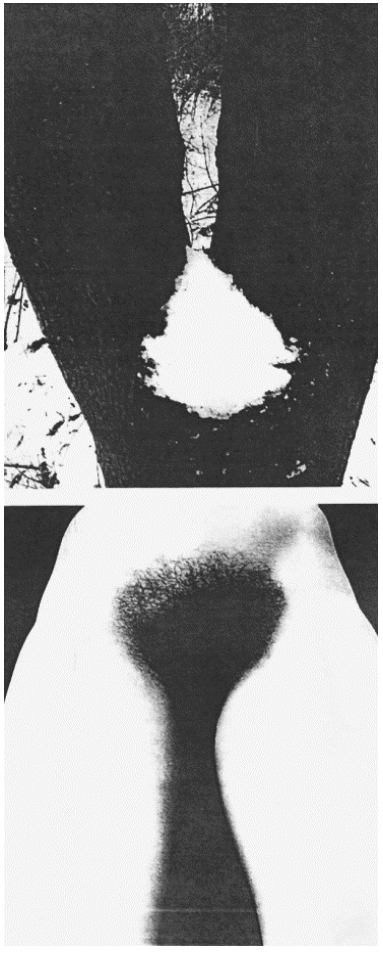

Figure 20. Anton Sladek, *The Nature*, photo, 1989.

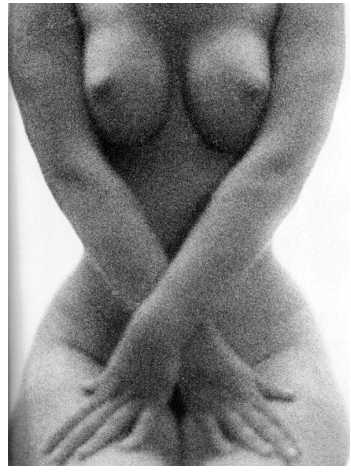

Figure 21. Kalju Suur, The Hourglass*, photo (from the book:* Seinast seina*, 1995).*

Figure 22. Käthe Kollwitz, *Hunger*, 1925.

11. Why 10:10?

Finally, as a rhetorical device, let us return to one particular question, posed at the beginning of the chapter. Why indeed do the clocks/ watches ever show 10:10? Considering the above said, let us attempt to work this out by the means of contraries: which other time may the clocks show in advertising? 12:30 and 6:00 may not represent the passing time, just as the right-angle versions of the clock hand positions, i.e. the quarters of an hour. "A half cut by half", the selfsame Cross model, a zero-nought point outside Time: this is not Time, but a state, a metaphysical state of passage, not real but thought, imaginary. The objective of the advertising is rather modest: to it is enough that the clock is working. The same, but to even a greater extent, applies to 12:00, noon, midnight it is neither Time nor Space, but a frontier which is by definition neither one nor the other and yet is both one and the other. If the clock hands end up being at the bottom of the dial (e.g., 5:40), the model is again far too static (upside-down V-shape), this time due to the notion that the pyramid with its base on the ground sort of uproots the clock hands within itself. This pattern is, rather, about the past (compare to the hourglass), it is closed (e.g. the steep roof of a house/refuge), although to some extent can be oriented towards the contact with the Other, but passively, so to speak. The only option remaining is 2:50, when the hour hand is pointing to the right. In this case time will reverse itself in the backward direction! The long arrow has to coincide with the "natural" diagonal along which the image is interpreted, that is, clockwise (or along the visible solar movement trajectory). Let us recall the way Rembrandt counteracts this natural collapse of the arrow left to right. If the difference in the length and thickness of the clock hands is not too well-defined, such an arrangement becomes synonymous with 10:10; whereas if the difference is significant, it clearly results in the "counterclockwise" movement. At any rate, whenever it is necessary to depict the clock working backwards, it is 2:50 pattern that is employed (fig. 23).

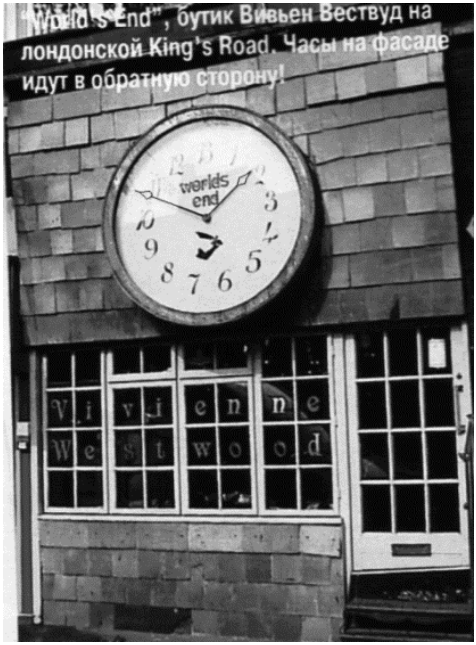

Figure 23. The clock is indeed moving backwards (from: *Burda Moden Magazine*).

There is obviously an intuitive feel to the goodness of 10:10 pattern which is dynamic, optimistic. This simple matter-of-factness of this particular example is linked to more universal rules of cultural consciousness than it may appear at first glance, which I have attempted to demonstrate. The premise I use, is that culture, as a product of consciousness, is a meaningful whole, a *semiosphere*, to use Juri Lotman's term. Henceforward, it is, being a pragmatic framework, by all means open to inquiry and has an explanation, just as its constituent parts equally have an explanation in all their existing modalities. Within the stated compound of issues it is primarily a modality of visible problems representing the more abstract conventions, in other words, signification relationships of emblematic kind.[11]

[11] An earlier version of this article has been published as Chapter 4 in Grigorjeva 2005: 130–174. Translated by A. Magergut.

References

Alpatov, Mikhail V. 1976. *Hudozhestvennye problemy ital'janskogo Vozrozhdenija*. Moskva: Iskusstvo.

Arutiunova, Nina D. 1998. Jazyk i vremja. In: Arutiunova, Nina D., *Jazyk i mir cheloveka*. Moskva: Jazyki russkoj kul'tury, 687–736.

Barthes, Roland 1984 [1957]. *Mythologies*. (Lavers, Annette, trans.) New York: Hill and Wang.

— 1989. *Izbrannye raboty. Semiotika. Poetika*. Moskva: Progress.

Bely, Andrey 1922. *Glossolalija*. Berlin: Epoha.

Bergson, Henri 1910. Ch. 2. The multiplicity of conscious states; The idea of duration. In: Bergson, Henri, *Time and Free Will: An Essay on the Immediate Data of Consciousness.* (Pogson, F. L., trans.) London: George Allen and Unwin, 75–139.

Borel, Emile 1960. *Space and Time*. New York: Dover Publications.

Buslaev, Fiodor I. 1886. Illjustracija stihotvorenij Derzhavina. In: Buslaev, Fiodor I., *Moi dosugi*. Ch. 2. Moskva: Izdatel'stvo Sinodal'noy tipografii, 80–105.

— 1910. *Istoricheskie ocherki russkoj narodnoj slovesnosti i iskusstva. Sochinenija.* Vol. 2. Sankt-Peterburg: Obshestvennaya pol'za.

Bynum, Caroline Walker 1984. *Jesus as Mother: Studies in the Spirituality of the High Middle Ages*. Berkeley: University of California Press.

Cassirer, Ernst 1955. *The Philosophy of Symbolic forms*. Vol. 2: Mythical Thought. New Haven: Yale University Press.

— 1998. Opyt o cheloveke. In: Cassirer, Ernst, I*zbrannoe*. Moskva: Gardarika, 440–722.

Chamberlin, E. Russel 1969. Pope Silvester II, 999–1003. *History Today* 19: 115–121.

Chertov, Leonid F. 1998. Chasy kak prostranstvennaya model' vremeni. Mifologija i povsednevnost'. In: *Materialy nauchn. konf. 18–20 fevralya 1998 goda*. Sankt-Peterburg: Izdatel'stvo Russkogo Hristianskogo gumanitarnogo un-ta, 101–114.

Danilova, Irina 1970. *Giotto*. Moskva: Izobrazitel'noe iskusstvo.

— 1975. *Ot Srednih vekov k Vozrozhdeniju. Slozhenie hudozhestvennoj sistemy kartiny kvatrochento*. Moskva: Iskusstvo.

Daniel, Sergei M. 1986. *Kartina klassicheskoj epohi: problema kompozicii v zapadnoevropejskoj zhivopisi 18 veka*. Leningrad: Iskusstvo.

— 1990. Iskusstvo videt'. Leningrad: Iskusstvo.

Dante Alighieri 1909–1914. *The divine comedy of Dante Alighieri: Hell, Purgatory, Paradise.* (Cary, Henry F., trans.) New York: P. F. Collier.

Eliade, Mircea 1959. *Myths, Dreams and Mysteries: The Encounter between Contemporary Faiths and Archaic Realities*. (Mairet, P., trans.) London: Harvill Press.

— 1961. *Images and Symbols: Studies in Religious Symbolism*. (Mairet, P., trans.) London: Harvill Press.

— 1963. *Myth and Reality*. (Trask, W., trans.) New York: Harper and Row.

— 1996. *Mify, snovidenija, misterii*. Moskva: Refl-buk, Vakler.

Elkin, David G. 1969. Vosprijatie vremeni kak modelirovanie. In: Elkin, David G., *Vosprijatie prostranstva i vremeni*. Leningrad: Nauka, 78–79.

Estienne, Henry 1646. *The Art of Making Devices: Treating of Hieroglyphics, Symbols, Emblems, Aenigma's, Sentences, Parables, Reverses of Medalls, Armes, Blazons, Cimiers, Cyphers and Rebus*. First written in French by Henry Estienne. London: WE & JG.

Favorsky, Vladimir A. 1988. *Literaturno-teoreticheskoe nasledie*. Moskva: Sovetskij hudozhnik.

Finegan, Jack 1964. *Handbook of Biblical Chronology: Principles of Time Reckoning in the Ancient World and Problems of Chronology in the Bible.* Princeton: Princeton University Press.

Florensky, Pavel A. 1922. *Mnimosti v geometrii. Rasshirenie oblasti dvuhmernyh obrazov geometrii. (Opyt novogo istolkovanija mnimostej)*. Moskva: Pomor'e.

— 1967. Obratnaja perspektiva. *Trudy po znakovym sistemam* (*Sign Systems Studies*) 3: 117–192.

— 1993. *Ikonostas. Izbrannye trudy po iskusstvu*. Sankt-Peterburg-Moskva: Russkaja kniga.

— 1993a. *Analiz prostranstvennosti i vremeni v hudozhestvenno-izobrazitel'nyh proizvedenijah*. Moskva: Progress.

— 1998. *Imena.* Moskva: Eksmo-press.

Gasparov, Boris M. 1969. Nekotorye voprosy strukturnogo analiza muzykal'nogo jazyka. *Trudy po znakovym sistemam* (*Sign Systems Studies*) 4: 174–203.

— 1984. Poetika «Slova o polku Igoreve». Vienna, 1984 (*Wiener Slawistischer Almanach*. Sonderband 12).

— 1988–1989. Iz nabljudenij nad motivnoj strukturoj romana M. A. Bulgakova "Master i Margarita". *Daugava* 10: 96–97 (1988); 12: 91–96 (1988); 1: 78–90 (1989).

— 1993. *Literaturnye lejtmotivy*. Moskva: Nauka.

Ginsburg, Carlo 1989. From Aby Warburg to E. H. Gombrich: A Problem of Method. In: Ginsburg, Carlo, *Clues, Myths, and the Historical Method*. Baltimore: Johns Hopkins University Press, 17–59.

Graves, Robert 1948. *The White Goddess: A Historical Grammar of Poetic Myth*. New York: Farrar, Straus and Cudahy.

Grigorjeva, Jelena G. 1997. Problema granicy v razlichnyh vidah iskusstva. *Studia Russica Helsingiensia et Tartuensia* 6. (Problemy granicy v kul'ture.) Tartu: Tartu University Press, 22–52.

— 1998. Prostranstvo i vremja Peterburga s tochki zrenija mikromifologii. *Sign Systems Studies* 26: 151–185.

— 2005. *Emblema: Ocherki po teorii i pragmatike regulyarnyh mehanizmov v kul'ture.* Moskva: Vodolei.

Grof, Stanislav; Halifax, Joan 1996. *Chelovek pered licom smerti*. Moskva: Izdatel'stvo transpersonal'nogo instituta; Kiev: AirLand.

Hall, Manly P. 1927. *An Encyclopedic Outline of Masonic, Hermetic, Quabbalistic and Rosicrucian Symbolical Philosophy*. San Francisco: H.S. Crocker Company.

Henkel, Arthur; Schöne, Albrecht 1967. *Emblemata: Handbuch zur Sinnbildkunst des 16. und 17. Jahrhunderts*. Stuttgart: J. B. Metzlersche Verlag.

Ivanov, Vyacheslav V. 1974. *Kategorija vremeni v iskusstve i kul'ture XX veka: Ritm, prostranstvo i vremja v literature i iskusstve*. Leningrad: Nauka.

Jampolsky, Mikhail 1993. *Pamjat' Tiresija. (Intertekstual'nost' i kinematograf)*. Moskva: Kul'tura.

Klibansky, Raymond; Saxl, Fritz; Panofsky, Erwin 1964. *Saturn and Melancholy*. (Studies in the History of Natural Philosophy, Religion and Art.) New York: Basic Books.

Krauss, Rosalind 1985. *The Originality of the Avant-Garde and Other Modernist Myths*. Cambridge: MIT Press.

Lévi-Strauss, Claude 1963. *Structural Anthropology*. (Jacobson, Claire, trans.) New York: Basic Books.

— 1970. *The Raw and the Cooked*. (Weightman, John; Weightman Doreen, trans.) New York: Harper & Row.

— 1985. *Strukturnaja antropologija*. Moskva: Nauka, Glavnaja redakcija Vostochnoj literatury.

Losev, Aleksei F. 1991. *Filosofija. Mifologija, Kul'tura*. Moskva: Izdatel'stvo politicheskoj literatury.

Lotman, Juri M. 1998. *Ob iskusstve*. Sankt-Peterburg: Iskusstvo .

Meeks, Wayne A. 1974. The image of the Androgyne: Some uses of a symbol in earliest Christianity. *History of Religions* 13(3): 165–208.

Merback, Mitchell B. 1999. *The Thief, the Cross and the Wheel: Pain and Spectacle of Punishment in Medieval and Renaissance Europe*. London: Reaction Books.

Mirzoeff, Nicholas 1999. *An Introduction to Visual Culture*. London: Routledge.

Mitchell, W. J. Thomas 1986. *Iconology: Image, Text, Ideology*. Chicago: University of Chicago Press.

— 1994. *Picture Theory: Essays on Verbal and Visual Representation*. Chicago: University of Chicago Press.

Panofsky, Erwin 1980. *Studien zur Ikonologie: Humanistische Themen in der Kunst der Renaissance*. Köln: Du Mont Buchverlag. [Ch. "Vater Chronos".]

— 1955. *Meaning in the Visual Arts*. Garden City: Doubleday.

— 1991. *Perspective as Symbolic Form*. (Wood, Christopher S., trans.) 1st ed. New York: Zone Books.

Podosinov, Alexander V. 1999. *Ex oriente lux! Orientacija po stranam sveta v arhaicheskih kul'turah Evrazii*. Moskva: Jazyki russkoj kul'tury.

Schapiro, Meyer 1973. *Words and Pictures: On the Literal and the Symbolic in the Illustration of a Text*. The Hague: Mouton.

Silard, Lena 2002. *Germetizm i germenevtika*. Sankt-Peterburg: Izdatel'stvo Ivana Limbaha.

Smart, John Jamieson Carswell 1955. Spatialising time. *Mind* 64(254): 239–241.

— (ed.) 1964. *Problems of Space and Time*. New York: Macmillan.

Steiner, Rudolf 1997. Kosmogonija. Cikl lekcij, prochitannyh pered chlenami Teosofskogo obwestva (1906 g.). In: Steiner, Rudolf, *Iz oblasti duhovnogo znanija, ili antroposofii*. Moskva: Enigma, 183–255.

Tarabukin, Nikolai 1973. Smyslovoe znachenie diagonal'nyh kompozicij v zhivopisi. *Trudy po znakovym sistemam* (*Sign Systems Studies*) 6: 472–481.
Toporov, Vladimir N. 1967. K rekonstrukcii mifa o mirovom jajce (na materiale russkih skazok). *Trudy po znakovym sistemam* (*Sign Systems* Studies) 3: 81–99.
— 1982. Krest. In: Tokarev, Sergei A. (ed.), *Mify narodov mira. Enciklopedija*, vol. 2. Moskva: Sovetskaya Entsiklopediya, 12–14.
— 1995. *Mif. Ritual. Simvol. Obraz: Issledovanija v oblasti mifopojeticheskogo: Izbrannoe*. Moskva: Progress-Kul'tura.
— 1997. Prostranstvo i tekst. In: Nikolaeva, T. M. (ed.), *Iz rabot Moskovskogo semioticheskogo kruga*. Moskva: Jazyki russkoj kul'tury, 155–515.
— 2003. *Peterburgskij tekst russkoj literatury*. Sankt-Peterburg: Iskusstvo.
Uspensky, Boris A. 1974. *Poetika kompozicii*. Moskva: Iskusstvo.
Wiener, Norbert 1958. *Kibernetika i obwestvo*. Moskva: Inostrannaya literatura.
— 1983. *Kibernetika, ili upravlenie i svjaz' v zhivotnom i mashine*. Moskva: Nauka.
Yates, Frances A. 1966. *The Art of Memory*. London: Routledge and Kegan Paul.
— 1997. *Iskusstvo pamjati*. (Malyshkina, E. V., trans.) Sankt-Peterburg.: Universitetskaja kniga.
Zelinskij, Fiodor F. 1911. Wilhelm Wundt i psihologiya yazyka: zhesty i zvuki. In: Zelinsky, Fiodor F., *Iz zhizni idej*, vol. 2. Sankt Petersburg: Brokgauz-Efron, 151–221.
Zobov, Roman A.; Mostepanenko, Alexander M. 1974. *O tipologii prostranstvenno-vremennyh otnoshenij v sfere iskusstva. Ritm, prostranstvo i vremja v lit erature i iskusstve*. Leningrad: Nauka.

Пространство-время: мифологическая геометрия

Статья рассматривает фундаментальные графические модели, которые используются культурным сознанием для закрепления в коллективной памяти абстрактных понятий. В статье затрагивается также проблема интер-семиотического, то есть эмблематического, перевода категорий пространства и времени друг в друга. Модели креста и пирамиды анализируются с позиций их идеологической (трансцендирующей) функции в качестве механизма эмблематизации абстрактных понятий пространства и времени. Данный подход помогает пониманию основных законов культурной ментальности и процессов эмблематизации значения любого феномена в целях его структурирования и мнемонической фиксации.

Ruum-aeg: Mütoloogiline geomeetria

Käesolevas artiklis käsitletakse graafilisi alusmudeleid, mille kaudu kultuuriteadvus kinnistab abstraktseid mõisteid kollektiivses mälus. Vaadeldakse ka intersemiootilise ehk emblemaatilise tõlke probleemi — aja ja ruumi kategooriate teineteisesse tõlkimist. Risti ja püramiidi mudeleid analüüsitakse nende ideoloogilistest positsioonidest lähtudes kui aja ja ruumi abstraktsete mõistete emblematisatsiooni mehhanisme. Antud lähenemine võimaldab kultuurse mentaalsuse ning iga fenomeni tähenduse emblematisatsiooni protsesside põhilistest reeglitest arusaamist, ühtlasi seda fenomeni struktureerides ja mnemooniliselt fikseerides.