

The place of art among other modelling systems

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Abstract. This article by Juri Lotman from the third volume of *Trudy po znakovym sistemam* (*Sign Systems Studies*) in 1967, deals with the problem of artistic modelling. The general working questions are whether art displays any characteristic traits that are common for all modelling systems and which could be the specific traits that can distinguish art from other modelling systems. Art is seen as a secondary modelling system, more precisely, as a play-type model, which is characterised simultaneously by practical and conventional behaviour and constant awareness of the possibility of alternate meanings to the one that is currently being perceived. At the same time art has play-like elements but is not the same as play, since play is inherently rule-bound, whereas art is a more flexible model the purpose of which is truth. Art is a special type of modelling system, since it is on one hand suitable for storing very large amount of complex information, but on the other hand it can increase the stored information and transform the consumer.

I

1.0. Art is one of the forms of modelling activity.

1.1. In the “theses” presented here, we consider the question what can be gained by understanding art through its inclusion among other modelling systems and whether such inclusion is productive, that is:

1.1.1. Will it enable us to reveal traits in works of art that are common to models in general?

1.1.2. Will it enable us to reveal specific traits that distinguish art from other modelling systems?

1.2.0. No definition of art or a work of art will be given here. For the present work, an intuitive conception, allowing us to distinguish art from non-art, will be sufficient. Particular definitions will be given below when necessary. But giving an explicit definition of art is not the aim of this work.

1.2.1. From the multitude of definitions of *model*, the most general one will be used here: a model is an analogue of an object of perception that substitutes it in the process of perception. It is presumed that more detailed definitions are either concerned with particular individual forms of models, or can be derived from the present definition.

1.3.0. *Modelling activity* is human activity in creating models. In order that the results of this activity could be taken as analogues of an object, they have to obey certain (intuitively or consciously established) rules of analogy and, therefore, be related to one modelling system or another.

1.3.1. A *modelling system* is a structure of elements and rules of their combination, existing in a state of fixed analogy to the whole sphere of the object of perception, cognition, or organization. For this reason, a modelling system may be treated as a *language*.

1.4. It is useful to call those systems that have natural language as their basis and accumulate additional superstructures, thus creating second-order languages, secondary modelling systems. *We will discuss the place of art among secondary modelling systems.*

2.0. Therefore, art is always an analogue of reality (of an object), translated to the language of the given system. Therefore, a work of art is always conventional [условно] and, at the same time, must be intuitively recognized as an analogue of a certain object, that is, it must be “similar” and “dissimilar” at the same time. Emphasizing only one of these two inseparable aspects breaks the modelling function of art. The formula of art is: “I know that it is not what it depicts, but I clearly see that it is what it depicts”.

2.1. The content of art as a modelling system is the world of reality, translated to the language of our consciousness, translated in turn to the

language of the given form of art. In this case, the oppositely directed processes of creation and reception of art may be seen as occurrences of re-encoding with specific rules of semantic equivalency distinctive to each stage.

2.1.1. The fact that at one stage, the necessity arises to translate the system to a natural language, is what allows us to define the broad range of modelling systems where we will include art as a “secondary” one. In this case, “secondary” systems do not refer to only systems with two layers, but also multi-layered ones with different numbers of levels.

2.2. A model differs from a sign as such in that it not only substitutes a certain denotat, but substitutes it productively in the process of perception or organization of an object. In that case, if the relation between language and denotat in a natural language is historico-conventional, then the relation between model and an object is determined by the structure of the modelling system. In this sense, only one type of signs — *iconical signs* — can be equated to models.

2.3. Works of art are constructed by the principle of iconical signs. It follows therefore, that the information contained in the work of art is inseparable from its modelling language and from its structure as a sign-model.

2.3.1. Therefore, the structural nature of a work of art is not an external “form” that — no matter how much is spoken about its “unity” with content — could be disentangled from it. It is a realization of the information contained in the model. It can be said that specifically artistic content is syntagmatic content. Semantic relations only give us a translation from the language of art to a language of non-art.

2.3.2. However, the previous definition is true only in the broadest and roughest of sense. Since both the denotats and our conceptions of them (meanings) may be different from each other, forming only small chains of related elements with differentiated meanings, the distinction between semantic and syntagmatic relations as a whole may be reduced to syntagmatic meanings of different levels.

3.0. From the definition of a work of art as a sign-model, it follows that all the main characteristics of not only of a model but also of a sign apply to it. From this in particular, it follows that a work of art must be realized in a certain material substance.

II

Art is a *special* form of modelling activity.

In order to clarify the specificity of art among other forms of modelling activity, some more explanation is necessary.

1.0. Let us suppose that, when performing some kind of activity, a person is facing the necessity to turn to a model of this activity in order to gain some sort of knowledge. For instance, a tourist plotting his route will pause moving through the countryside while moving on the map, and then resume his real journey. Without going into details on the nature of each of these actions, we will only note one thing: their strict differentiation. In one case, what is realized is a practical behaviour, in the other — a conventional [условное] one. In the first case, the goal is to reach practical results, in the second case — to gain certain knowledge necessary for reaching these results. In the first case, the situation the person is in is real, in the second — a conventional one.

1.1. A characteristic feature of behaviour realized using scientific-cognitive models is their clear distinction from practical, everyday behaviour. No one using a geographic map imagines that he is at the same time performing real movements in geographic space.

1.2.0. There exists, however, one kind of activity where such a distinction is not made. This activity is play.

1.2.1. There is no reason to oppose play to cognition. Play has an important role in the life of both humans and animals (see Groos 1896).

Play is, without a doubt, one of the most serious and organic necessities of the human psyche. Different forms of play accompany humans and

the humanity on all stages of their evolution. Carelessly neglecting this fact will hardly do any good to science. And, what is especially important, play is never opposed to cognition — on the contrary, it is one of the most important tools for mastering different real-life situations and learning different types of behaviour. Higher animals teach their young all the ways of behaviour that are not automatically stored in their genetic programme, only through play. Play has great importance in learning a type of behaviour, as it permits the modelling of situations where the participation of an unprepared individual would put him in a risk of death, or situations, the creation of which does not depend on the will of the learning individual. Here, a conventional (playful) situation is a substitute for a non-conventional (real) one. This is extremely important. First, the learning individual gets the possibility to freeze the situation in time (change his move, “move again”). Second, he learns to model the situation in his consciousness, as he will envisage a certain amorphous system of reality as a game, the rules of which can and must be formulated. Related to this is another important feature: play gives a person the chance of a conditional victory over an unconquerable (for instance, death) or a very strong (the game of hunting in a primitive society) opponent. This determines both its magical significance and extremely important psychological-pedagogical quality: play helps us overcome fear in the face of such situations and develops an emotional structure necessary for practical activity. Suvorov’s “penetration attack” was a military exercise that turned battle situation into a (conventional) play situation and consisted of two lines (sometimes cavalry and infantry) swiftly closing in on each other and breaking through the gaps in the ranks; the goal of the exercise was to overcome fear in the face of a real analogical situation and it constructed an emotional model of victory. A similar significance in human education is held by sport, which in relation to work also functions as play.

1.2.2. Play is a model of reality of a special kind. It reproduces some of the features of reality by translating them to the language of its rules. Related to this are its pedagogical and training significance, long before noted by psychology and pedagogy. The fear of some aestheticians in

front of discussing (in fear of accusations of Kantianism) problems of play, and their deep conviction that any juxtaposition of play and art would lead to preaching “true art” and denying the existence of connections between art and the society, reflects a deep unfamiliarity with the questions of mixed sciences (psychology, pedagogy).

1.2.2a. Play is the realization of a certain kind of — “playful” — behaviour, which is different from both practical behaviour and behaviour based on models of the cognitive type. Play is the *simultaneous* realization (not their *alternation in time!*) of practical and conventional behaviour. The player must simultaneously remember that he is participating in a conventional (not real) situation (a child knows that the tiger in front of him is a toy and is not afraid of it), and not remember it (when playing, the child considers the toy tiger to be a real one). The child is only afraid of the living tiger, the only thing he is not afraid of is the stuffed tiger; he is *slightly afraid* of a striped gown thrown on a chair and *representing* a tiger in the game, that is, he *simultaneously* is and is not afraid of it.

1.2.3. The ability to play means mastering such twofold behaviour.

1.2.3a. An example of a violation of this twofold behaviour, where practical behaviour wins and the game is taken “for real”, considered reality, is an episode recorded by Pushkin after Krylov: children who, soon after the suppression of Pugachev’s rebellion started to play “Pugachev’s revolt”, “were divided into two factions, the *gorodovoye*¹ and the rebels, and the fights between them were serious”. The game transformed into a real feud. “A certain Anchalov (who is still alive) nearly became a victim of this. Mertvago, who had caught him during one of his raids, tried to hang him to a tree by a belt. He was cut free by a passing soldier” (Pushkin 1940: 492).

1.2.3b. An example of a violation of this twofold behaviour, where conventional behaviour wins and the game is taken as pointless, “non-serious” behaviour that has completely lost its connection to reality, is

¹ that is, the gendarmerie — T. P.

an episode from L. N. Tolstoy's novel, *Childhood*: "Woloda's condescension did not please us much. On the contrary, his lazy, tired expression took away all the fun of the game. When we sat on the ground and imagined that we were sitting in a boat and either fishing or rowing with all our might, Woloda persisted in sitting with folded hands or in anything but a fisherman's posture. I made a remark about it, but he replied that, whether we moved our hands or not, we should neither gain nor lose ground — certainly not advance at all, and I was forced to agree with him. Again, when I pretended to go out hunting, and, with a stick over my shoulder, set off into the wood, Woloda only lay down on his back with his hands under his head, and said that he supposed it was all the same whether he went or not. Such behaviour and speeches cooled our ardour for the game and were very disagreeable — the more so since it was impossible not to confess to oneself that Woloda was right. I myself knew that it was not only impossible to kill birds with a stick, but to shoot at all with such a weapon. Still, it was the game, and if we were once to begin reasoning thus, it would become equally impossible for us to go for drives on chairs. [...] If we were always to judge from reality, games would be nonsense; but if games were nonsense, what else would there be left to do?"²

1.2.4. In this case, if a person using a cognitive model of the ordinary type practices a single type of behaviour at any given moment in time, then a play-type model engages a person in two types of behaviour at any given moment — a practical and a conventional one.

1.2.5. The fact that the same stimulus will simultaneously evoke more than one conditioned reaction, that the same element can evoke two different behaviour structures, and while being included in both of these, it carries different meanings and, therefore, becomes different from itself — this fact has a deep significance and reveals the social significance of play-type models in a remarkable manner.

² Tolstoy 1991: 29–30. — T. P.

1.2.6. In a play-type model, each of its elements and the model itself as a whole, being identical to itself, is more than just itself. Play models randomness, incomplete determination, the probability of processes and phenomena. This is why a logical-cognitive model is more suited for recreating the *language* of a perceived phenomenon, its inner nature, while a play-type model is more suited for recreating its *speech*, which is incarnated in a material that is arbitrary in relation to language.

Examples:

1.2.6a. The verbal text of a play functions as the language of the system in relation to its stage performance. Its incarnation is coupled with the univocal becoming equivocal due to the introduction of circumstances that are “random” in relation to the verbal text. The meaning of the verbal text is unchanged, but it ceases to be the only one. The theatrical performance is a *played* version of the text of a play.

Note: The relationship between language and speech is different in art than it is in linguo-semantic systems: the speech of the model is perceived as the language of the modelled reality (in a work of art, randomness becomes and is perceived as a recreation of regularity in reality).

1.2.6b. Play is a special kind of representation of a combination of regular and random processes. Thanks to the pronounced repeatability (regularity) of situations (rules of the game), any deviation becomes especially significant. At the same time, the base rules do not permit to predict all the “moves”, which appear as random in relation to the basic repetitions. This means that each element (move) has a double meaning, serving as a confirmation of a rule on one level and a deviation from it on another. The double (or multiple) meaning of the elements makes us perceive play-type models as highly significant and semantically richer in comparison to corresponding logico-scientific models:

Сколько надо отваги,
Чтоб играть на века,
Как играют овраги,
Как играет река,

How much courage is needed
To play for ever,
As the ravines play,
As the river plays,

Как играют алмазы,	As the diamonds play,
Как играет вино,	As the wine plays,
Как играть без отказа	How we sometimes have to play
Иногда суждено,	With no way to refuse,
Как игралось подростку	As a young girl played
На народе простом	To simple folks
Б белом платье в полоску	In a white dress with a ribbon
И с косою жгутом.	And her hair in a plait.

(Pasternak 1965: 417)

1.2.7. In relation to a logical model homomorphic to it, a play-type model is not perceived through the antithesis, “true—false”, but as a “richer—poorer” (both of them true) reflection of life. Cf. a deterministic ethical model of human behaviour is considered to be too correct, and is contrasted with a play-type (artistic) model that permits non-univocal decisions. At the same time, both of these are opposed (as true) to the model of amoral behaviour.

1.2.7a. Example: In *Redemption*, Tolstoy contrasts Lisa’s and Karenin’s ethical images, on one hand, and Fedya Protasov’s, on the other, to state institutions. This is the antithesis of morality and amorality. But Lisa’s morality is too correct, unambiguous: “The thing that tortured me the most was I seemed to love both of you at once, and that made me seem so indecent to myself”³.

A different position: “Oh, my wife was quite an ideal woman. I don’t know why I should say was, by the way, because she’s still living. But there’s something — I don’t know; it’s rather difficult to explain — But you know how pouring champagne into a glass makes it froth up into a million iridescent little bubbles? Well, there was none of that in our married life. There was no fizz in it, no sparkle, no taste, phew! The days were all one colour — flat and stale and grey as the devil. And that’s why I wanted to get away and forget. You can’t forget unless you play.”⁴

Notes: From the context of the play, it follows that here, “to forget” means reaching a conditional, playful solution for the conflicts that

³ Tolstoy, Hopkins 1919: 39 — T. P.

⁴ Tolstoy, Hopkins 1919: 39 — T. P.

are unsolvable in practical behaviour in general or in the limits of the current social system.

This phenomenon that psychologically can be interpreted as psychotherapy, may be compared to the phenomenon of catharsis in art (compare to Lermontov's "I was saved from him [the Demon — J. L.] by poetry").

1.2.8. Play-type models most often emerge as intuitive ones. It may be possible to develop a framework for studying them based on multivalent logic.

2.0. Whereas in relation to the logical-cognitive systems corresponding to it, play is a model with a greater degree of randomness, it can be characterized as a more deterministic system in relation to the activity it models.

2.1. Independent of whether its rules have been formulated or not, by turning a life situation into a game, we subject amorphous reality to the laws of play (the organizing principle of a real situation is perceived through modelling it in conventional categories of "rules" and "moves").

2.1.1. This is what the analysis of conflict situations using mathematical game theory is based on. It must be emphasized, however, that game theory, which studies the most efficient behaviour in conflict situations, gives the term "game" a different meaning than what it has in psychological literature (and in the present study). Employing the terminology used in this work, it would be more accurate to say that game theory studies not conflict situations but play-type models of conflict situations created by mathematicians, which can in certain cases be considered to be equivalent to real conflicts. The realization that the mathematical apparatus is to be applied not directly to real life conflict situations but to the play-type models that these conflicts have first been transformed to and that a thorough study of the structure of play-type models is therefore needed, could open up new perspectives for game theory.

2.2. [An explanation to 2.0.] In relation to the real-life situation that corresponds to it, a play-type model is:

a) More deterministic. Let us imagine a situation, the cause of which we cannot establish in real life. In a game, however, having transformed this situation into some sort of a game state (move), we can explain its development from a previous state using the rules of the game.

b) Less deterministic. In real life, a large number of restrictions is placed on every existing situation, which determine the possibility of its transition to just one subsequent situation. In a play-type model, all restrictions not determined by the rules are lifted. As a result, the player always has the possibility to choose, and his actions have alternatives (the moment when the player has no more choices, the game has lost its meaning; a certain set of games is based on exactly placing the “opposing” player in a situation where no choices exist, that is, in a situation that is already not a play-situation). Another thing related to this is the conventionality of time in a game, its reversibility, the possibility to “re-play”.

2.2.1. As a result of this, the same event in a game situation will have a different information value than in a life situation. Let us imagine a situation where a year has passed during the events and all the participants have become a year older. This information follows directly from the objective duration of the events and is completely predictable. Now, let us imagine a different situation: we are acting as if a year has gone past and everyone is a year older. Naturally, we could play differently, propose a different move (just like a playwright does when he sets the period of time between the acts according to his conception). In this case, the choice of a “move” from among all the possible moves becomes highly informative. The question, “Why did a year go by?” which is meaningless in a real-life situation, acquires a deep meaning in any play-type model of this situation.

2.2.2. Hence, a play-type model is suitable for the reproduction of a creative act.

Example: In Pasternak's poetry, a creative act is an act of play, whereas the creator, God, often takes the guise of an actor (director) who "played" the Universe⁵:

Так играл пред землей молодую	A talented director once played
Одаренный один режиссер,	In front of the young Earth in this way,
Что носился как дух над водою	Floating above the waters like a ghost
И ребро сокрушенное тёр.	And holding a broken rib.
И, протискавшись в мир из-за дисков	And, making his way into the world from behind the spheres
Наобум размещенных светил,	Of scattered spotlights,
За дрожщую руку артистку	Led an actress to her fateful debut,
На дебют роковой выводил.	Holding her trembling hand.

(Pasternak 1965: 202)

3.0. Art has a number of characteristics that are related to play-type models. The perception (and creation) of a work of art requires a certain — artistic — kind of behaviour that has several characteristics in common with playful behaviour.

3.0.1. The most important characteristic of artistic behaviour is that the person practicing it simultaneously carries out two different actions: he experiences all the emotions that an analogous real-world situation would evoke and is, at the same time, clearly aware that there is no need to perform the actions related to the situation (for instance, helping out the hero). Artistic behaviour is a synthesis of the practical and the factitious.

Note: The rather important distinction between the artistic behaviour of the author and that of the reader (audience) is not explored here.

⁵ It would be very tempting to construct a history of the attitude towards modelling based on a study of the representation of the act of creation in world literature: mythological texts, cosmogonic themes in world literature (Milton, Lomonosov, Radishchev) and contemporary poets would provide an extremely interesting subject matter. The inverse side of this would be a study of the concept of destruction — of eschatological texts.

3.0.2. Example:

Над вымыслом слезами обольюсь. I Weep over fiction.
(Pushkin 1940: 228)

What we have here is a brilliant characterization of the dual nature of artistic behaviour: it would seem as if the knowledge that what is in front of us is a piece of fiction should rule out tears. Or vice-versa: the emotion that evokes the tears should make us forget that what is in front of us is a piece of fiction. In reality, both of these — opposite — types of behaviour exist simultaneously and one enhances the other.

3.1. This characteristic becomes especially meaningful in art: each element of an artistic model and the model as a whole are simultaneously parts of more than one behavioural system, while acquiring their own distinctive meaning in each of these. The meanings *A* and *A'* of each of the elements, levels, and the structure as a whole do not replace but are in a relation with each other. The principle of play becomes the basis of semantic organization.

3.1.2. Let us look at three kinds of texts: an example presented in a scientific treatise, a parable in a religious text, and a fable. The example presented in a treatise is unambiguous, and this is the source of its value. It is an interpretation of a general law and is in this sense a model of an abstract idea. The ecclesiastical-ritual text is often constructed by the principle of multi-layered semantics. In this case, however, the same signs serve to express different content on different structural-semantic levels. Moreover, the meanings that are accessible to a given reader because of his level of sanctity, devotion, “learning” etc, are inaccessible to another who has not yet reached this level. When a new semantic level “opens up” before the reader, the old one is discarded because for him, it no longer contains the truth. Masonic symbolism and — following Masonic example — the writings of early Decembrist societies are based on this principle. The same text could have a secret (conspiratorial) meaning for the devoted and a trivial one for the “profane”. Meanwhile, a truth is uncovered for everyone — according to their capacity to admit it. For the “profane”, the text contains a truth that

ceases to be one for the devoted. For a given reader, then, the text carries only a single meaning.

An artistic text is constructed differently: each detail, but also the text as a whole is a part of different systems of relations; as a result, it concurrently has multiple different meanings.

3.1.3. Example: Let us take a look at the monument to Russian spiritual grandiloquence, *The story of Law and Grace* (*Слово о законе и благодати*), as a piece of ecclesiastical discourse and as an artistic text. This work of metropolitan Illarion is characterized by a clear distinction between the different levels.

On the first level, freedom and slavery are contrasted to each other as positive and negative:

Freedom	Sarah	Isaac
Slavery	Hagar	Ishmael

After this, another level of oppositions is introduced: “Christianity-Paganism”, which implies both new signs and a new reading of the old ones.

Christianity	Christ — crucifixion	Christian lands
Paganism	Isaac — Abraham’s feast (eating the calf)	Judaea

The third level is the opposition of “new” and “old”:

New	New Christians	Kievan Rus’
Old	Old Christians	Byzantium

And all this taken together is packed into the antithesis of “grace-law”.

This way, a member of the audience who saw fables as just short prose stories could here, too, receive a message about the rivalry between Sarah and Hagar. In this case, each word would be a sign with a common linguistic content. The antithesis of Grace and Law presented throughout the text would, however, attune the reader to look for a

hidden text — “figurative speech”, which is described in the *Compendium of Svyatoslav* (*Изборник Святослава*) from 1073 as “one thing is what is said, but another thing is what is meant”⁶. In this case, upon reception on the first semantic level, Law was given the following synonyms: Hagar, Ishmael (in opposition to Isaac), Isaac (in opposition to Christ), Sarah (in opposition to the Virgin Mary), Judaea (in opposition to Christianity), Old Testament, and Byzantium (in opposition to the Kievan Rus’). The meaning of all these and other signs was slavery — a word that for the XI century Rus’ was full of social meaning and was related to the semiotics of rejection, abjection, the lowest social status. Grace was given the synonyms: Sarah (in opposition to Hagar), Isaac (in opposition to Ishmael), Virgin Mary, Christ, Christianity, New Testament, Rus’. All these signs had a common meaning — freedom, social value, the right for social ambition, and religious significance (“Law and Grace are embodied in Hagar and Sarah — the servant Hagar and the free Sarah [...] and Grace and Truth was born, not Law; a son, not a slave”)⁷.

On the second level, the social-symbolic opposition between the free man and the slave took a new turn — it was equated to the opposition, “Christianity–Paganism”. Christianity was perceived as spiritual emancipation, giving every true believer that kind of moral significance that only a free man would have in the social hierarchy.

And finally, a member of the audience familiar with the complicated relationship between the court of Prince Yaroslav and Byzantium would equate the antithesis of “new” and “old” people (“A servant you were formerly, *then free*”⁸; my italics — J. L.) and interpret Grace and all its synonyms as symbols of Rus’, and Law — as Byzantium.

The Story of Law and Grace is, however, a work of art, which in this case is reflected in the fact that the meanings do not invalidate each other, ensuring the gradual immersion of the non-initiated to the secret

⁶ «Есть ино нечто глаголюшти, а ин разум указуюшти» — Т. Р.

⁷ «Образ же закону и благодати — Агарь и Сарра, работнаа Агарь и свободнаа Сарра. [...] И родися благодать и истина, а не закон; сын а не раб» — Т. Р.

⁸ «работная прежде ти, потом свободная» — Т. Р.

wisdom, but exist concurrently, creating the play effect. Illarion allows his audience to relish in the abundance of meanings and possible interpretations of the text.

3.2. The mechanism of play involves not the static simultaneous coexistence of different meanings, but the constant awareness of the possibility of alternate meanings to the one that is currently being perceived. The play effect means that different meanings of the same element do not appear in static coexistence but “twinkle”. Each interpretation makes up a separate synchronic slice, yet retains a memory of earlier meanings and the awareness of the possibility of future ones.

3.3. Hence, an exclusive and unitary definition of the meaning of an artistic model can only be made possible by encoding it into the language of non-artistic modelling systems.

3.3.1. An artistic model is always more extensive and closer to life than its interpretation, and the interpretation can always be only an approximation.

3.3.2. This also relates to the widely known phenomenon where encoding an artistic system into a non-artistic language always leaves an “untranslatable” residue — that sort of surplus information that is possible only in an artistic text.

3.4. Play and art, both of them working towards the important goal of getting a grasp of the world, both share the same common trait: the conditional solution of situations. By exchanging the immensely complicated rules of the reality for a simpler system, they psychologically present following the rules of the given modelling system as solving a real-life situation. Consequently, play and art (even a bloody spectacle like bullfighting, or tragic art) are not only (gnoseologically) means of perception but also (psychologically) means of recreation. They provide solutions, which are psychologically absolutely necessary for a man.

4.0. Art is not a form of play.

4.0.1. The existence of a genetic link between art and play, established by ethnography, just like the fact that the bi- or multivalence originating in play has become one of the core structural characteristics of art, does not mean that art and play are the same.

4.0.2. Play means mastering certain skills, training in a conditional situation; art means mastering the world (modelling the world) in a conditional situation. Play is “just like an activity”, art is “just like life”.

4.0.3. It follows therefore, that the goal of play is following the rules. The goal of art is the truth, expressed in the language of conventional rules.

4.0.4. Hence, play cannot be a means of storing information and developing new meanings (it only serves as a way to master skills that have already been acquired). This, however, is what the essence of art is.

4.1. Especially complicated is the question of performing arts, the relationship of which with play (it is not by accident that we speak of “the actor’s play”, “the pianist’s play”) is a more complex problem.

4.1.1. Art is not a form of play, but the elements of play exist (in a different manner) both in the behaviour of the creator and the audience (analogous to technical mastery).

4.1.2. Acting and ballet dancing historically and typologically take up a transitional position between play and art. But while both have some aspects or others in common with either play or art, these common traits serve to emphasize the difference between these kinds of modelling activity.

4.1.3. The relationship between the performance and the performed text is the same as between a performed artistic text and a non-artistic modelling structure equivalent to it: it sharply increases “play” — that is, the multitude of functions that elements have in interlinked semantic fields and the relative randomness of these links (see 5.1 and 5.2). It can be said that if a stage show is the performance of a play, then the play is the “performance” of the artistic idea equivalent to it. The term “performed idea” is different from “materialized idea” because it does

not presume the illustrative materialization of an abstraction, but the creation of a system of multi-layered probabilistic intersections, a system that does not illustrate a non-artistic idea but, building upon it as on a lower-level modelling system, carries information that cannot be transmitted by any other means.

5.1. The theoretical, but not genetic, grounds of the connection between the two spheres psychologically as distant as art and play can be seen in an important trait of artistic models: a scientist creates a model based on a hypothesis, whereas an artist creates a hypothesis based on a model. He models an uncomprehended (or not completely comprehended) object.

5.2. A model of this type cannot be strictly deterministic. It must inevitably be more flexible than any theoretical model.

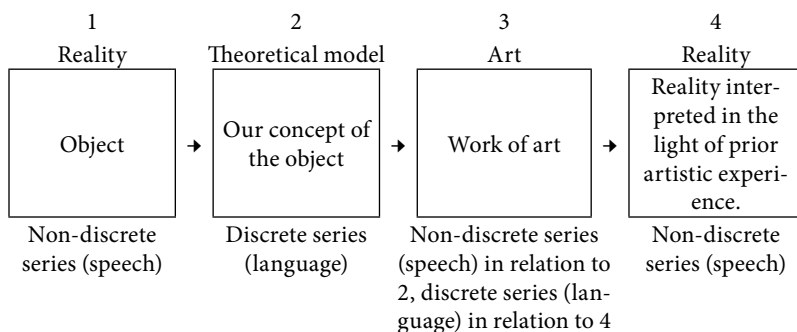
5.3. Related to this is the problem of the reasons for the high stability of artistic models, still not completely understood.

5.4.0. This leads us to the most essential characteristic of a work of art as a model. A scientific model recreates the system of the object in a descriptive form. It models the “language” of the system being studied. An artistic model recreates the “speech” of the object. In relation to the reality that is perceived in the light of an already mastered artistic model, however, this model functions as a language that discreetly organizes the new perceptions (speech).

Воображаясь героиней	Imagining herself the heroine
Своих возлюбленных творцов,	Of her beloved authors —
Клариссой, Юлией, Дельфиной,	Clarissa, Julie, Delphine —
Татьяна в тишине лесов	Tatiana in the stillness of the woods
Одна с опасной книгой бродит,	Alone roams with a dangerous book;
Она в ней ищет и находит	In it she seeks and finds
Свой тайный жар, свои мечты...	Her secret glow, her daydreams...
(Евгений Онегин)	(Eugene Onegin, III, X ⁹)

⁹ Vladimir Nabokov's translation. — T. P.

For Tatiana herself, her personality is a non-discrete series (“speech of the system”). She perceives herself through the identification with certain artistic types that here fulfil the function of a language. At the same time, in relation to the theories of pre-romanticism, expressed in an abstract form, the figures of Clarissa, Julia, and Delphine function as speech.



5.4.1. From the above, it follows that the work of art is not created as a strictly deterministic actualization of a given constructive principle. The constructive idea is actualized with a certain degree of independence on different levels, and if each level taken separately is constructed based on certain specific structural laws, then their combination most likely follows only probabilistic laws.

5.4.2. In the case of a scientific model, these random elements would simply be eliminated as accidental. In the case of an artistic model, the language it actualizes, one that is artistically presupposed (language of a style, of a movement), is related to not only a natural language (“Russian”, “French” in literature, the language of natural visual shapes in painting), but also the language that is yet to be reconstructed based on the speech of the given artistic text (model). Meanwhile, a “random” element, clearly part of the speech in one system, could turn out to belong to the language of another. This is the basis for the suggestive meaningfulness of details characteristic to newer and most recent art. It is important to note here that the randomness of the given concatenation

of the details is not eliminated but, remaining random and meaningless for one constructive language, they are simultaneously highly meaningful for another.

III

1.0. The specific constructive nature of art makes it an extremely exceptional means for storing information. Works of art are not only characterized by an extremely large capacity for and economical storage of very complex information, but they also:

1.1. Can increase the amount of information stored in them. This unique characteristic of works of art makes them similar to biological systems and gives them an extremely special place among everything created by the mankind.

1.2. Give their consumer exactly the kind of information they need and are prepared to receive. Adapting itself to the consumer, a work of art simultaneously adapts the consumer to itself, preparing him for the reception of a new portion of not yet transmitted information.

2. Studying these characteristics of art as a means for storing information (just like the characteristics of art as a model in general) not only has theoretical significance, stimulating the creation of an apparatus for the description of extremely complex systems, but also a practical purpose. If bionics allows us to use the constructive principles of biology accessible to us for technological purposes, then it should not be impossible, in principle, for a science to emerge that would study the constructive principles of art with the goal of solving certain technical problems (for example, of storing information).

3. Scientific models are means of perception that organize the intellect of a human being in a certain way. Play-type models, which organize behaviour, are a school of activity (in this sense, it is clear how the unsubstantiated idea that the existence of a playful element in art is opposed to the notion of its social effectiveness — in reality, the

contrary is true: play is one of the means of transforming an abstract idea into behaviour, into reality).

3.1. Artistic models are a unique combination of scientific and play-type models, which simultaneously organize both the intellect and behaviour. In comparison to art, play is *without content*, while science is *without effect*.¹⁰

Translated by Tanel Pern

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Искусство в ряду моделирующих систем

Эта статья Ю. М. Лотмана, опубликованная в третьем томе *Трудов по знаковым системам* в 1967 г., посвящена рассмотрению того, что нового в понимании искусства дает включение его в ряд моделирующих систем, а также выяснению вопроса о том, позволяет ли такое включение раскрыть в произведениях искусства черты, присущие моделям вообще. Искусство при этом рассматривается в ряду вторичных моделирующих систем с целью обнаружения специфических черт, выделяющих искусство из ряда других моделирующих систем, и сравнивается с игровой и научной моделями.

¹⁰ Originally published in Russian as Лотман, Ю. М. 1967. Тезисы к проблеме “Искусство в ряду моделирующих систем”. *Труды по знаковым системам (Sign Systems Studies)* 3: 130–145.

Художественные модели представляют собой соединение научной и игровой модели, организуя интеллект и поведение одновременно.

Kunst modelleerivate süsteemide seas

Käesolev Juri Lotmani artikkel, mis on algselt avaldatud 1967. aastal *Töid märgisüsteemide alalt* 3. köites tegeleb kunstilise modelleerimise probleemidega. Artikli püstitatud põhiküsimused on, kas kunstil kui modelleerival süsteemil esineb mingeid jooni, mis on ühised kõigile modelleerivatele süsteemidele, ja millised võiksid olla need iseloomulikud jooned, mis kunsti teistest modelleerivatest süsteemidest eristavad. Kunsti käsitletakse teisese modelleeriva süsteemina, täpsemini, mängulaadse mudelina, millele on iseloomulik praktilise ja tingliku käitumise üheaegne esinemine ning pidev teadlikkus alternatiivsetest tähendustest sellele, mida hetkel tajutakse. Samal ajal on kunstil küll mängulaadseid omadusi, kuid ta ka erineb mängust, kuna mäng on olemuslikult orienteeritud reeglite järgimisele, samas kui kunst on oluliselt paindlikum mudel, mille eesmärgiks on tööde. Kunst on eriline modelleeriv süsteem, kuna sobib ühelt poolt suure hulga keerulise informatsiooni talletamiseks, aga teisalt ta kasvatab seda infot ning transformeerib ka mudeli tarbijat.