

Sign, Knowledge, Schema, Model, Work of Art, Project (From Distinctions to Concepts)

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The article analyzes the semiotic concepts of sign, knowledge, and schema, as well as the concepts of model, work of art, and project. Three levels of reconstructing these concepts are indicated: structural (for example, the concept of a sign is defined as a structure containing the "sign" itself, its "meaning," "sense," and "denotation"; however, the structure of the sign varies in different semiotic conceptions), communicational (participants of communication, the created, transmitted, and understood text), and modal in relation to a specific reality of being (linguistic, conditional, virtual, as a simulacrum or, conversely, real events of the world). The author implements the proposed approach using a fragment from Mark Twain's novel *A Connecticut Yankee in King Arthur's Court* as material. In this fragment (referred to as MT text), the listed concepts are sequentially identified and reconstructed. The reconstruction results are presented in tables for operational purposes and better clarity. The article discusses the conditioning of the formation of the analyzed concepts by time and culture, distinguishing between semiotic technology and humanitarian and historical studies, which involve the reconstruction of the sociocultural context of semiotic concepts. By considering the conditions for the formation of these concepts, which also include the nature of European culture and its development, the author arrives at the hypothesis that the sociocultural context of these concepts formed historically is inseparable from their essence, and that when this context is eliminated, these concepts are reduced to the level of semiotic technology, which is precisely what Mark Twain used in his novel *A Connecticut Yankee in King Arthur's Court*. In an artistic form, the writer conducted a social experiment to see what would happen if the future invades the past, forcing it to develop by leaps and bounds, ignoring traditions and human capabilities (at first, the future wins and reshapes life, but sooner or later the pendulum begins to swing the other way, sweeping away all innovations). At the end of the article, using the example of C. G. Jung's adolescent experience, the necessity of analyzing the life context of the concept of a schema is illustrated. And in many other cases, when it comes to humanitarian research and practices, the reconstruction of the sociocultural context of the listed concepts is necessary.

Keywords: sign, knowledge, schema, model, work of art, project, reconstruction, text, semiotics, art

I. Introduction

When dealing with a specific text, it is difficult to understand what it represents from a semiotic point of view. For example, entering the subway, we read on the wall "scheme of the Moscow metro." The question arises, how to understand this and why, for instance, is it not a model, since, following this scheme, we can predict and plan our behavior in the subway (if we follow the depicted routes, we will arrive at the intended

destination; if, comparing two routes, we take the one with fewer stations, we will arrive faster, etc.)? Or why is it not knowledge, don't we receive information about our movement? Or a complex sign consisting of simpler signs whose meanings need to be mastered (circles – stations, colored lines – different routes, curved arrows – transfers, etc.). But perhaps the schematic depiction of the Moscow metro is not only a schema but simultaneously knowledge, and a sign, and a model? In short, I have outlined a problem requiring analysis – the distinction and establishment of relationships between the semiotic concepts indicated in the title. Naturally, the question arises of how to do this, figuratively speaking, the necessity of methodological navigation for solving this task.

The author's experience in semiotic research shows that it involves at least three levels of description (reconstruction): structural (for example, the concept of a sign is defined as a structure containing the "sign" itself, its "meaning," "sense," and "denotation"; however, the structure of the sign varies in different semiotic conceptions), communicational (participants of communication, the created, transmitted, and understood text), and modal in relation to a specific reality of being (linguistic, conditional, virtual, as a simulacrum or, conversely, real events of the world). For example, at the first level, the author defined the concept of a schema in the form of the following structure: a "problematic situation" (say, for aborigines, "a solar eclipse"), a schema in the form of a narrative ("a jaguar ate the sun"), resolving this problem (the sun disappears because it is eaten by a jaguar), an understanding of what is happening and a condition for practical action (we drive the jaguar away from the sun) [3, pp. 20-21; 57-64]. "In the Tupi language," writes E. Tylor, "a solar eclipse is expressed by the words: 'the jaguar ate the sun.' The full meaning of this phrase is still revealed by some tribes by shooting flaming arrows to drive the fierce beast away from its prey. On the northern continent, some savages also believed in a huge sun-eating dog, while others shot arrows into the sky to protect their luminaries from imagined enemies attacking them. But alongside these predominant notions, others also exist. For example, the Caribs imagined the eclipsed moon as hungry, sick, or dying... The Hurons considered the moon sick and performed their usual charivari with shooting and howling dogs for its healing" [9, p. 228].

At the second level, a schema is defined by different types of communication. In this example – the tribe's chief and all other participants; in Plato's works, most often Socrates and his listeners; in art – the artist (writer, composer) and his viewers (readers, listeners). At the third level, we are talking about understanding the reality of schemas (for aborigines – these are real events; for Plato – dialectical reasoning that allows one to recall the ideas that souls contemplated before their birth; in art – conditional events that, nevertheless, relate to life).

To understand how the concepts listed in the title are related, we will implement the approach described here, taking a passage from Mark Twain's novel *A Connecticut Yankee in King Arthur's Court* as a text for analysis (we will refer to it as the "MT text"). Perhaps the reader remembers that the hero of this work, after a head injury, finds himself at the turn of the 5th–6th centuries AD at King Arthur's court. The Yankee, considered a sorcerer on the advice of the magician Merlin, is to be burned at the stake. Remembering that a solar eclipse is due that day, the Yankee himself declares himself a great sorcerer and magician who can even extinguish the sun itself. Already at the stake, the Yankee orders the sun to go out and, suppressing the will of those present, stops the eclipse in exchange for the position of a powerful minister.

"I (the Yankee, the hero of the MT text – V.R.) paused a minute, to take in the meaning of this question, then said: 'What year is it, now?' 'Five hundred twenty-eight.' 'Five hundred twenty-eight! I stopped for a moment, then asked: '—What month? What day?' 'The nineteenth of June.'

I felt a mournful sinking at the heart, and muttered: 'I shall never see my friends again—never, never again. They will not be born for more than thirteen hundred years yet.' I seemed to believe the boy, I didn't know why. I believed him partly because he said so, and partly because he looked so—I mean, he was so damned convincing. But my reason rebelled, and very naturally. I didn't know how to manage my reason; the testimony

of other people could not help me, because my reason would have called them liars and lunatics. And then, by some inspiration, a great idea came to me. I knew that the only total solar eclipse of the first half of the sixth century occurred on June 21, 528 AD, and began exactly at three minutes past noon...

When the soldiers led me across the courtyard, there was such silence that, had my eyes been blindfolded, I could have imagined myself in a silent desert, not a crowd of four thousand people. All this huge gathering was motionless; people with pale faces stood frozen like stone statues; terror was in their eyes. This silence lasted while I was chained to the stake; it lasted while brushwood was piled around my ankles, my knees, my thighs, my torso. And it grew even deeper when a man with a burning torch knelt at my feet; the crowd, straining to see, leaned forward; all involuntarily rose from their benches; the monk stretched out his hands over my head, raised his eyes to the blue sky, and began mumbling something in Latin; he mumbled for quite a while and suddenly fell silent. I waited a few moments, then looked at him; the monk had turned to stone. The entire crowd, seized by a single impulse, stood up and stared at the sky. I also looked at the sky: damn it, the eclipse was beginning! My spirits rose, I came to life! The black rim deepened into the sun's disk, and my heart beat stronger and stronger; the crowd and the clergyman, frozen, did not take their eyes off the sky. I knew they would now look at me. And when they did, I was ready. I assumed a majestic posture and pointed my hand at the sun. The effect was staggering! A tremor ran through the crowd like a wave. And then two voices sounded, one right after the other: 'Light it!' 'I forbid lighting it!' The first voice was Merlin's, the second was the king's. Merlin jumped up from his seat—probably he wanted to light the fire himself. I said: 'Stay where you are! Whoever moves without my permission, be he the king himself, I will strike with thunder and burn with lightning!' As I expected, the entire crowd obediently sank back onto the benches. Only Merlin hesitated for a few moments; I watched him with trepidation. But finally, he too sat down, and I sighed with relief—now I was in control" [2].

II. The MT Text as a Schema

The problematic situation for the Yankee in trouble is the natural desire to avoid death. To do this, understanding who he is dealing with, he devises a move (scenario S) – to appear before King Arthur's public as a great magician, and to make them believe it, to use a solar eclipse (MT text S). Thus, the Yankee acts by reproducing (imitating) the communication of the Middle Ages. The addressees of his message are the medieval public of King Arthur's court (we will call its representatives, following *Harry Potter*, "Muggles": the Yankee is a great magician, his addressees are Muggles). The reality of the plan and the realized scenario is twofold: for the Yankee – it is a deception to save his own life; for King Arthur's public – a reality they cannot help but believe, for the Yankee promised to extinguish the sun, and now it goes out, precisely at the moment when the Yankee was about to be burned at the stake. If we accept such a reconstruction, then the MT text can be interpreted as a schema. Thus, the scheme is not just a text (narrative), but a structure containing the following elements: a **problematic situation** (the desire to avoid death), the **scheme as a text** (the MTS text), which sets a **new reality** that finally allows us **to understand the new action** (the imitation of the destruction of the sun).

III. The MT Text as Knowledge and Sign

Perhaps the first medieval semiotic study belongs to St. Augustine. "Now, proceeding to investigate signs," writes Augustine, "I say the opposite: let no one pay attention in them to what they are, but only to the fact that they are signs, i.e., that they signify. For a sign is a thing which, besides the species (species) impressing the senses, makes something else come to mind... And we have only one reason for designating, i.e., for giving a sign – to extract and transfer into the soul of another what produces in the soul what creates the sign" [1, pp. 66-67]. What is this "something else" here? In modern semiotics, this expression can be correlated with the denotation. Simultaneously, the expression "extract and transfer into the soul of another" indicates communication. But we can ask two questions: first, *how* do we "extract and transfer," with what, and second, for *whom* do we transfer?

In semiotics, the following answer is given to the first question: we transfer using signs (as things), but we return what was extracted through meaning. The answer to the second question is this: we transfer for a reader who already knows what is being transferred (not this specific thing, but as a class), i.e., in this case, we are dealing not with a sign but with knowledge. A sign is a peculiar instrument with the help of which communication is carried out, and with the help of knowledge, a phenomenon defined by meaning is recreated in it (i.e., there is a doubling: one time the phenomenon exists as a thing independent of knowledge, another – as a sign and knowledge). It turns out that the sign and knowledge are complementary; their difference as concepts is clarified if corresponding different functions in communication are indicated. Let's return to our text.

The MT text is a complex sign and knowledge. To explain, let's simplify the situation and take just one word "sun." Using this word, Mark Twain informs the reader about the sun as an object of his story; it also points to the sun as an object of the scenario of deceiving the Muggles, and this same word points the Muggles to the sun. In other words, the word "sun" – these are three different signs. If we now ask what this word points to, we will naturally answer: to the sun. But the word "sun" is not the sun itself, therefore, all three subjects (Mark Twain, the Yankee, and the Muggles) must have already known what the sun is. In this usage, the word "sun" is knowledge about the sun.

IV. The MT Text as a Model

Let us now single out from the MT text the part (MTS) in which the Yankee conceived the scenario of declaring himself a great magician and using a solar eclipse for this purpose. The knowledge used for this purpose, that the eclipse would occur on June 21, 528, is model-based; it was obtained within natural science on a mathematical model. Unlike a schema, which defines its object (a jaguar attacking the sun; the sun being hungry or dying), the acquisition of model-based knowledge relies on the modeled object (in this case, the arrangement of planets in space that prevents seeing the light coming from one of them). The second difference is that a model allows not only new actions but also to model (calculate) the behavior of the modeled object. Thus, for the Yankee, knowledge about the eclipse has a completely different nature than for the Muggles. By the way, the metro map can indeed be used both as a schema and as a model. If, for example, a person finds themselves in the subway for the first time and needs to navigate correctly there, they use the metro map precisely as a schema (it defines the object for them – the subway as a means of transportation and helps them act correctly – enter and exit at certain stations, choose a route, make transfers). But if they need to predict arrival at the desired station or determine which route is shorter, then this schema is used as a model. Schema and model define different objects and are used differently by a person, although, as a rule, they do not understand this.

V. The MT Text as a Work of Art

The MT text is a fragment of a work of art that Mark Twain addresses to the reader. Unlike the problematic situations resolved by the Yankee and the Muggles, Mark Twain strives to write a good story, entertain the reader, initiate certain thoughts and experiences in them, including realizing some of his own desires and aspirations. This is his problematic situation. For comparison, I will give an explanation in an interview with the magazine *Lechaim* by the famous Israeli writer Meir Shalev regarding some readers' reactions to his novel *Three She-Bears Left the Forest*. "To tell an interesting story. To write it well. I am a craftsman: just as you want to write a good article, a photographer wants to take a good shot, so I wanted to write a good story. A strong one. And I see that after people read the book, they cannot forget it. I am very glad about this, it means I have penetrated their soul, and they have nowhere to run from me. Readers say that the book, on the one hand, caused them suffering while reading, and on the other hand, they could not put it down. For me, this is a great compliment. I felt this in the process of working on the novel. It was very hard for me to write it, I put it aside, and then returned to it again, it became a special experience for me, more serious than other books <...> I am very interested in revenge as a literary idea. It's intriguing. The desire for revenge, in my

eyes, is much stronger than jealousy or some religious feelings. Its consequences are tragic. In the novel, there are three murders... this angered some of my Israeli readers, they said: it is immoral to write that murder has a therapeutic effect, murder cannot heal! Well, you say: 'impossible.' But the fact is that it is possible for certain people, as happened in my novel" [10].

To resolve the problematic situation, Mark Twain creates, with the help of words, schemas, and "artistic means of expression" (metaphors, images, themes, dramaturgy, etc.), an "artistic reality" that would, on the one hand, allow him to realize his desires and aspirations, and on the other – allow the reader to enter a world whose events are interesting, entertaining, initiate certain experiences and thoughts, etc.

A scientist, acquiring knowledge, building a theory, also generates a special reality ("scientific"), but this is a reality of ideal objects that allow obtaining consistent knowledge, solving problems (modeling for natural sciences, understanding for humanities), describing (comprehending) empirical objects from the desired perspective [4, p. 84]. Events of artistic reality can also be contradictory, relate to specific phenomena, define objects themselves; the main thing, as noted, is different – the possibility for the artist (writer, composer) to express their own and the viewer's desires, initiate certain experiences and thoughts [5; 6].

VI. The MT Text as an analog of a Project

Let's return to the Yankee's plan to pass himself off as a great magician, but stop him before its execution. What is the modality of the plan? Considering that it has just been formulated (arisen in the Yankee's mind), that he is considering its implementation and arrives at the idea of using a solar eclipse, and that the Yankee then manages to realize this plan, we have an analog of a project. Of course, Mark Twain probably did not create the MT text S with design in mind, but we are engaged in reconstruction and, comparing the logic of constructing the plan and its implementation, we can subsume the modality of this construction under the concept of design. Indeed, a project, as I show, involves a plan, its embodiment in sketches (why not in the MT text S?), an orientation towards implementation, consideration of the structure of the designed object (ascribing the above scenario to the Muggles), realization of the plan and the project developed on its basis [7, pp. 61-62].

VII. The Conditioning of Concept Formation by Time and Culture

Mark Twain's talent brought together the concepts of interest to us within the framework of artistic reality; it seems that all of them, including works of art, can perfectly coexist simultaneously. However, an analysis of cultural history shows that the concepts of interest to us did not arise simultaneously and in different cultures. The very first ones, signs and "attributive knowledge" (denoting objects, actions, situations, properties), appeared in deep antiquity. Then, in archaic culture, schemas appeared, and further they accompany the entire history of humanity. Scientific knowledge and models scientists learned to build only in ancient culture (Aristotle, Archimedes, Ptolemy, etc.). Design developed only at the beginning of the 20th century. This same analysis also allows us to assert that the necessary conditions for the formation of the listed concepts were, firstly, a certain level of cultural development, and secondly, often the very character (type) of this culture. For example, signs, knowledge, and schemas could not appear before the formation of primary social collectives (family groups, tribes) and the development of imagination in ancient people (after all, to reach the denotation via a sign, a person must imagine a non-existent object, for example, a jaguar eating the sun) [8, p. 97]. The construction of models and works of art already presupposed a sufficiently complex consciousness and thinking, in which one could distinguish the modeled object and its semiotic representation (the imitated phenomenon and what imitates it, Aristotle's *Poetics*), at least two relations (correspondence and non-correspondence), the ability to construct objects in these relations, etc. [8, p. 119]. The conditions for the formation of design were even more complex things – engineering, models used in the construction of buildings and machines, the division of labor between designers and manufacturers, the ability to model the future object on paper and in semiotics, the development of the practice of implementing these models, etc. [7, pp. 16-32].

Considering these conditions, which also include the nature of European culture and its development, one involuntarily comes to the hypothesis that the sociocultural context of the concepts analyzed by us, formed in history, is inseparable from their essence, and that when it is eliminated, these concepts are reduced to the level of semiotic technology, which Mark Twain used. Moreover, in an artistic form, he conducted a social experiment to see what would happen if the future invades the past, forces it to develop by leaps and bounds, ignoring traditions and human capabilities. It seems that at first the future wins and reshapes life (for example, the Yankee alone defeats the flower of English chivalry and starts a technological revolution), but sooner or later the pendulum begins to swing the other way, sweeping away all innovations. At the end of the novel, the knights and the church unite and besiege the Yankee, who has taken refuge in Merlin's cave with fifty of his followers. And although the Yankee, with the help of dynamite and artillery, destroys a large detachment of knights, he still loses the battle. In the end, Merlin bewitches him, and the Yankee sleeps for thirteen centuries, restoring the normal connection between the past and the present. When Mark Twain wrote, it's as if he foresaw the beginning of our century and Trump, proclaiming the interpretation of the future as the past (and it seems, indeed, the pendulum is starting to swing back).

For solving certain tasks, like those that concerned Mark Twain, it is probably normal and even effective to work with semiotic technology, combining different concepts in one reality (scientific, artistic, or practical). But for others, this is hardly correct. For example, historical and humanitarian research and reconstructions involve not simply using the concepts of sign, knowledge, schema, model, work of art, project, but also analyzing their sociocultural contexts. Here is one example – Carl Jung's story about how, as a teenager, he was frightened by a fantasy that came to mind.

"The world is beautiful and the church is beautiful," he recalls, "and God, who created all this, sits far, far away in the blue sky on a golden throne and... Here my thoughts broke off and I felt suffocated. I was paralyzed and could think only one thing: Don't think now! Something terrible is coming. (Three days later Jung allowed himself to finish the thought). I gathered all my courage, as if I had suddenly decided to jump immediately into hellfire, and allowed the thought to appear. I saw before me the cathedral, the blue sky. God sits on His golden throne, high above the world – and from under the throne a piece of excrement falls on the sparkling new roof of the cathedral, breaks through it, everything collapses, the cathedral walls shatter into pieces" [11, pp. 45, 50].

It is astonishing that instead of fear, Jung experienced an extraordinary uplift: "So that was it! I felt unspeakable relief. Instead of the expected curse, grace descended upon me, and with it an inexpressible bliss that I had never known before... I understood much that I had not understood before, I understood what my father never understood – the will of God... Father accepted biblical commandments as a guide, he believed in God as the Bible prescribed and as his father taught him. But he did not know the living God who stands, free and almighty, above the Bible and above the Church, who calls people to become equally free. God, to fulfill His Will, can force a father to abandon all his views and beliefs. Testing human courage, God forces one to renounce traditions, no matter how sacred they may be" [ibid., 45, 50].

The given narrative can well be interpreted as a schema. The fact is that before the described incident, Jung talked about problems that concerned him and probably required resolution (i.e., it was a real problematic situation). Jung had a serious conflict with his father, a hereditary pastor, and with the church (he suspected both of inconsistency and delusions). Resolving these problems, Jung creates over three days a schema in which God appears as a revolutionary, giving Jung sanction to break with the church and his father. "In this religion," he writes, "I no longer found God. I knew that I could never again take part in this ceremony. The church is a place I will never go to again. Everything there is dead, there is no life there. I was overcome with pity for my father. I realized the whole tragedy of his profession and life. He fought with death, an existence he could not

acknowledge. An abyss opened between him and me, it was boundless, and I saw no possibility of ever overcoming it" [Ibid., 64].

In this case, it is impossible to understand the fantasy and the schema without knowing the life context that conditioned Jung's invention of the schema. And in many other cases, when it comes to humanitarian research and practices, the reconstruction of the sociocultural context is absolutely necessary.

VIII. Conclusion

Thus, we have tried to characterize the concepts of sign, knowledge, schema, model, work of art, project, showing their difference and the possibility of joint use if they are considered at the level of semiotic technology. In humanitarian and historical studies, the use of these concepts presupposes the reconstruction of their sociocultural and life contexts.

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