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# Liberation of the signified from a rigid connection with the signifier as one of the conditions of the arbitrary nature of the sign

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**Abstract.** How do arbitrary signs occur? The article suggests that the basis of arbitrariness is the liberation of the signified from a rigid connection with the signifier. An important role is played by the psychological present. The psychological present is not one-dimensional but is represented by dimensions of sequence, simultaneity, and duration. Non-arbitrary signs are as if one-dimensional: the signifier and the signified are in undifferentiated unity – in one dimension of the present time. When forming arbitrary signs, the signified and the signifier are separated from each other and are embodied in different dimensions – the levels of the psychological present tense, invariant and variable. At the same time, the signified occupies an invariant level, and the signifier is variable so that the signified remains constant with any change in the signifier. Therefore, different signifiers can be applied to the same object at will, and the content of the designated object does not change. The signified thus becomes relatively independent and free from the signifier.

**Keywords:** arbitrariness; conditioned reflex; present tense, information; code; sign; signal; signifier; language

Does the sign have an arbitrary nature, or is it rather marked by a non-arbitrary natural character? Ancient Greek thinkers tried to answer this question. In his dialogue *Cratylus*, Plato (1997: 101) suggests that names should take into account the nature of the named. Names act as a kind of tool, and since any tool must be adequate for its subject, so too must the name be adequate for its subject. Therefore, according to Plato, the name is not arbitrary, but is given by nature (Plato 1997: 109). Aristotle believes that there is no natural name. Names are essentially arbitrary; they are set by agreement (Aristotle 1984b: 25).

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In Saussure's semiology, the arbitrary nature of the sign acts as an essential principle of the sign: "The bond between the signifier and signified is arbitrary. Since I mean by sign the whole that results from the associating of the signifier with the signified" (Saussure 1959: 67).

For Saussure, the sign is arbitrary but not in an absolute sense. Since the meaning of words is set at the collective level, it is not possible to change the meaning at the discretion of the individual; it is the result of an agreement. Therefore, Saussure (1959: 69) refers to an arbitrary connection between the signified and the signifier.

## The arbitrary and non-arbitrary nature of the sign

The arbitrary and non-arbitrary nature of the sign is reflected, first of all, in the analysis of the sign and the symbol. According to Hegel, the sign is arbitrary. The sign is a pyramid that contains another's soul (Hegel 1971: 36). In a symbol, unlike other signs, there is a close connection between the meaning and its expression; that is, the symbol is rather of a non-arbitrary nature. Thus, the lion is a symbol of magnanimity, and the fox is a symbol of cunning (Hegel 1988: 304). According to Saussure (1959: 68), the symbol has a non-arbitrary nature. A symbol always contains a natural connection between the signifier and the signified, even if only in a minor way. Piaget (1965: 191) stated that the sign is based on convention, whereas the symbol has a similarity to the signifier and the signified.

Peirce believed that the symbol performs its function without resemblance to the designated object; the symbol is conditional, arbitrary, and iconic signs are characterized by similarity to their objects (CP 5.73). Morris (1971) also believed that unlike signs that have a similarity to an object, symbols have a conditional nature. Jakobson (1985: 322) distinguished between a symbol and other signs as a result of a natural and arbitrary relationship.

## The transition of non-arbitrary signs into arbitrary signs

The arbitrary nature of the sign is the subject of many modern theoretical and empirical studies. According to Wescott (1971), signs are located in a continuum in which there is a transition from completely non-arbitrary signs to arbitrary ones (symbols).

The opposite of the arbitrary – the non-arbitrary nature of the connection between the signifier and the signified – is characteristic of gesture signs. Gesture signs are iconic, but as they develop, iconicity may decrease, and there is an

increase in arbitrariness (Frishberg 1975; Sandler 2018). A striking example of non-arbitrariness is the so-called sound symbolism. It manifests itself in a persistent association between the sound and the object. So, Köhler (1947) showed that the sound of 'takete' is preferentially combined with pointed objects, and the sound of 'maluma' with rounded objects. The question of the origin of sound-symbolic associations is debatable. In the work of Bottini, Barilari and Collignon (2019), sound associations were tested in the blind from an early age and in the sighted. Both the sighted and the blind associated the sound of 'maluma' with rounded objects, and the sound of 'takete' with pointed objects. At the same time, the use of other pseudo-words showed that spelling itself can influence sound symbolism: in blind people who never encountered the spelling of these words, there was a weakening of the association between the sound and the shape of the object (Bottini, Barilari, Collignon 2019).

The transition of initially non-arbitrary, motivated signs to arbitrary ones is a general trend, which, nevertheless, is not absolute and has its own limitations. Flaksman (2015) showed how the deiconization of signs occurs from the plane of expression and content. The iconic signs in particular are onomatopoeia, but, as Duan (2012: 56) points out, onomatopoeic words are never exact imitations of natural sounds, they are only approximate imitations.

Monaghan *et al*. (2014) investigated correlations between the sound and meaning of English vocabulary words. A positive correlation indicated that sound and meaning in the semantic space formed a non-arbitrary connection. Values close to zero showed that sound and meaning are not related, that is, arbitrary. In addition, the analysed words were correlated with the estimated age of their assimilation. It has been shown that words learned later are more arbitrary. At the same time, it was assumed that arbitrariness is associated with the expansion of vocabulary and is necessary for effective learning.

Based on the idea of the arbitrariness of natural signs, Peressotti, Scaltritti and Miozzo (2018) investigated cognitive effects of using the hand as an articulator. The study involved deaf people who use sign language and people who speak Italian, with no knowledge of any sign language. So-called Simon tasks were modelled for the participants. The subject had to press the right (in response to green) or left (in response to red) letter on the keyboard with a specific hand. At the same time, distracting images (arrow, eyes, hand) oriented to the right or left were superimposed on the colour images. The difficulty of forming an arbitrary sign here lies in the need to overcome the original non-arbitrary character of the designation. For all subjects, the Simon effect was pronounced: the formation of an arbitrary association between the colour and the movement (S–R) was difficult in the case of a mismatch between the colour and the image indicating the direction.

However, this effect was not established in the deaf when presenting an image of the hand. This index was not a distracting spatial factor, which is obviously due to the peculiarities of processing ideas about the hand in these subjects (Peressotti, Scaltritti, Miozzo 2018).

The transition from iconic signs to arbitrary symbolic ones was demonstrated in a study by Fay *et al.* (2018). The participants had to pass the meanings (places, people, entertainment, objects, abstract) to each other graphically, without using letters or numbers. In one case social interaction was allowed, in the other this interaction was excluded (a virtual whiteboard was used). In the course of the game, the connection between the signifier and the signified became more and more arbitrary, the signs were simplified and symbolized. It is noteworthy that in the condition of social interaction this occurred more strongly, which indicates the importance of communication between participants for the development of an arbitrary system of signs.

## Dependence of the signified on the signifier in non-arbitrary signs

Saussure used the term 'unmotivated' for arbitrary signs: "I mean that it is unmotivated, i.e. arbitrary in that it actually has no natural connection with the signified" (Saussure 1959: 69). In turn, it can be assumed that, unlike arbitrary signs, non-arbitrary signs are motivated. This may mean that there is a strong dependence of the signified on the signifier, the influence of the signifier on the signified. Let us explain this.

Piaget (1953[1949]) investigated the development of intelligence and, in particular, the development of children's ideas about the preservation of matter. Thus, children of a certain age poured liquid from a vessel of one shape into a vessel of another shape, for example, from a higher and narrower vessel to a lower and wider one. As these studies show, children have the impression that changing the shape of the vessel changes the amount of liquid itself, its volume (Piaget 1953[1949]: 8). The perceived shape of the vessel in this case can be interpreted as a way of designating, as a signifier, and the volume of liquid contained in this form, as a signified. Thus, with the change of the signifier, the signified itself – the amount of water – changes as well. Consequently, there is a strict dependence of the signified on the method of designation. Changing the shape of the vessel inevitably leads to the impression of a change in volume: what is meant depends on the form of representation. You can see that the designated content is distorted and deformed – that is, it is displayed not objectively but through the prism of subjectivity.

The dependence of the signified on the signifier can explain certain phenomena of mythological consciousness. In mythological consciousness, the name and the object are in unity and often identified with each other. The name has priority for the object. Obviously, this may be related to the idea that acting on a name can affect the bearer of this name. The pronounced name in mythology has a special, even magical character. Lévy-Bruhl (1994: 40) pointed out the special treatment of the name in some tribes, not just as a word but as a part of the person. Therefore, malicious use of the name can harm its owner.

Many Bantu-speaking African peoples convey colours with non-derived, proper adjectives. For example, in one of the Bantu-Lingala languages, '*elamba ya mpondu*' is 'green cloth', where '*elamba*' is 'fabric', '*ya*' is an attribute formant, and '*mpondu*' is 'cassava leaves', so '*elamba ya mpondu*' literally translates as 'fabric as cassava leaves'. Also, Koro '*ya langi ya malala*' 'orange cup' literally means 'orange-coloured cup' (Shingarov, Tatarovskaya 2016: 151).

In the Bismarck Archipelago (the Gazelle Peninsula), the natives used a comparison with objects taken as a sample to indicate blackness. For example, everything that is the colour black is called with the word '*kotkot*' ('crow'), especially items that are shiny black (Lévy-Bruhl 1994: 135).

This fact also indicates that the considered feature 'black' exists only in the 'body' of a particular phenomenon or thing. This thing or phenomenon is the only way to denote black. In this case, the black colour as a signified is connected with its signifier – the crow – and does not exist in an independent form.

The cases considered in one way or another reveal the rigid relationship between the signifier and the signified. We believe that the arbitrary nature of the sign is based on overcoming this rigid connection, freeing the signified from the signifier. The process of freeing the signified from the signifier can be clearly shown in natural signs that are characteristic of both humans and animals – conditional stimuli. At the same time, the conditioned reflex can be considered as a natural science model for studying sign systems.

## The conditioned reflex as a natural science model for studying sign systems

Ivan Pavlov (1949, 1973) showed that in the normal life of an animal its reactions are determined not only by essential, biologically important, directly favourable or destructive unconditional stimuli but also by phenomena and numerous agents that only signal unconditional stimuli. Conditioned reflexes represent an important point of the body's integrity, forming the main source of nervous

activity both in animals and in humans (Pavlov 1973: 488). However, conditioned reflexes alone are not enough for the strong and long-term existence of the body.

In the experiments of Goltz (1881) it appeared that when the large hemispheres (the main organ of higher nervous activity) were removed, animals (dogs) turned into complete invalids, doomed to death without outside help. With the removal of the large hemispheres, only unconditioned reflexes remain, which are caused by small and spatially very close, common and elementary genetically determined stimuli. These reflexes do not allow them to live in a wide range of surrounding reality.

In this regard, Pavlov considered the activity of the large hemispheres of the brain primarily as a signal:

> If our sensations and visions related to the world around us are the first signals of reality, concrete signals, then speech is a primarily kinesthetic stimulus that goes to the cortex from the speech organs, there are second signals, signals of signals. They represent a distraction from reality and allow for generalization, which is our bonus, specifically human, the highest mentality, which creates first universal empiricism, and finally science – an instrument of higher orientation of man in the world around him and in himself. (Pavlov 1973: 425)[2]

The signals themselves change their meaning under certain conditions: the signalling is variable. A conditional stimulus is a signal that, according to Pavlov, performs a warning (preventive) role, preparing the animal for future events. As a reaction to future food, the dog's saliva flows; in response to a signal of a damaging nature, the animal moves away from it or prepares for defense:

> A strong animal uses a small, weak animal as food. The latter must cease to exist if it begins to defend itself only when the enemy touches it with its teeth and claws. And it is another matter if a defensive reaction occurs at the sight of an enemy from a distance, at its sounds, etc. Then the weak animal will be able to escape, hide, that is, survive. (Pavlov 1949: 32)

Conditional stimuli (signals) serve as substitutes for unconditional stimuli. Experiments on the physiology of higher nervous activity show how a conditional stimulus becomes a substitute for an unconditional stimulus:

> A conditional stimulus is a signal, as it were, a substitute for an unconditional stimulus. Therefore, for example, the dog reaches for the lamp, even licks it, if the flash is a conditional food irritant. And, *vice versa*, with a conditional acid stimulus, the dog does all the same movements as when when acid is poured into its mouth. (Pavlov 1973: 484)

[2] Translations from Russian are by the author of the article, K. M.

Thus, in a conditioned reflex, a signal conditional stimulus can be considered as a sign, and an unconditional stimulus can be considered as an object of designation (Shingarov 1978, 2008).

Classic conditioned reflexes, being special cases of associations, play an important role in the life of both animals and humans (Konorski 1967). In particular, various aspects of conditioned reflexes activities in children were studied in the works of Krasnogorsky (1954).

Pavlov's students and followers investigated the interaction of the first and second signal systems. In one of the experiments, children developed a positive conditioned reaction to images of birds (rooster, duck, crow) and an inhibitory conditioned reaction to images of animals (wolf, tiger, bear). After strengthening these reactions, replacing the image with a word immediately caused a conditioned reaction: the word 'bird' caused a positive reaction, the word 'beast' a negative one (Ivanov-Smolenskij 1963: 313). In another experiment, a bell produced a conditioned reaction of pupil dilation, changes in the rhythm of breathing, increased blood pressure, and increased heart rate. Further, it was possible to make sure that replacing the conditional stimulus with the word 'bell' leads to the same reactions. The word is pronounced by the experimenter, as well as by the subject himself.

The following experiment is also noteworthy. In seven-to-eight-year-old children, a conditioned motor reaction to the bell was developed, which was then specially slowed down (they were not given reinforcements – sweets). Before and after the disapperance of this reaction in the children, an associative experiment was conducted: the child had to pronounce other words associated with the word 'bell', for example, 'sharp', 'loud,' 'electric'. It turned out that after the fading of the reaction, the word 'bell' did not cause any reactions, and the reaction proceeded according to the lowest type of echolalic or consonant character. The associations to other words were fully preserved in the subjects (Ivanov-Smolenskij 1963: 356).

The interaction of signal systems was also studied in the aspect of their counter-activity, when the immediate conditional stimulus and the verbal stimulus are directly opposite to each other in action. For example, children developed a conditioned motor reflex to bell. Then both the bell and the words 'no bell' were used, which negated the effect of the actual interaction. It was found that in children aged from seven to eight there was a positive motor response in 78.6% of the cases, and in children of 12 years of age – a negative one in 70.5% of cases. Thus, in the first group, it was the action of the direct stimulus that prevailed, and in the second, it was the verbal signal: the older the subjects were, the more often the motor reaction was inhibited by words (Dmitriev 1964: 359).

The experiments considered are attempts to bridge the gap between the first and second signal systems, which are certainly debatable and require careful interpretation.

## Liberation of the signified from a rigid connection with the signifier as a condition for the arbitrariness of signs

The levels of functioning of both non-arbitrary and arbitrary signs are well defined on the conditioned reflex. Initially, at the level of the unconditioned reflex, there is only one single way of representing the signified, only one carrier of meaning (the unconditioned stimulus). The signifier and the signified here are naturally merged with each other. For example, a food substance contained in meat is designated by a strictly fixed sensory image that occurs when it is directly affected by the receptors of the food apparatus. Pavlov (1973) pointed out that these reflexes are inevitable, non-arbitrary in nature, and they, in fact, characterize a narrow necessity: they are realized by spatially close and contact stimuli. The next level is represented by so-called natural conditional stimuli (natural signals). Natural stimuli have a natural character, such as the appearance or smell of food. The howl of wolves and the shadow of an eagle are natural signals. At this level, we can see that the signified content already goes beyond its original carrier of meaning – the unconditional stimulus. However, the relationship between the signifier and the signified is still non-arbitrary. For example, meat cannot look arbitrary; its appearance depends on the nature of the meat itself. Only at the stage of the actual conditioned reflexes is the arbitrariness of the sign achieved. Now, any signifiers, any artificial stimuli can be used, not just natural ones. For example, a food-conditioned reflex can be created from a sound stimulus, although before that food and the sound of a certain tone were not related to each other in any way. Pavlov wrote in this regard that an infinite number of agents of the surrounding world can become a conditional stimulus, and the signalling itself is variable: "The physiological role of the cerebral cortex is, on the one hand, closing (by mechanism), on the other – signalling (by value), moreover, with variable signalling, in exact accordance with external conditions" (Pavlov 1973: 300). From this, we can also conclude that if non-arbitrary signs are set as if from within the sign system, then arbitrary ones, since these are variable in nature, are introduced from the outside: initially they are non-system.

The levels of functioning of non-arbitrary and arbitrary signs are also determined in the model of the hierarchical nature of reference by Deacon (1997). Deacon draws on Peirce's concept of classifying signs into icons, indexes and symbols, and believes that indexical relationships are based on iconic relationships,

and symbolic relationships are based on indexical relationships. If the indexical level is characterized by the relationship with the object, then the relationship between the signs themselves is important for symbols. The associations between the signs themselves, at the symbolic level, find their expression in the so-called effects of generalization of the stimulus. Describing these effects, Deacon (1997: 97), in fact, gives an example of the formation and functioning of a conditional connection:

> Receiving a mild electric shock every time you hear the word "cat" would cause you to learn to spontaneously produce physiological correlates of stress response (such as change in heart rate or galvanic skin response) upon hearing that word repeated. But a similar but less intense response will also be produced whenever you hear a word like "dog", even though there had never been shocks associated with these sounds. A lesser response will also be produced whenever you hear a word like "meow" or "animal", demonstrating lexical (word-word) associations, and in response to a rhyming word like "mat", demonstrating stimulus generalization effects. All of these distinct associative relationships are brought into relationship to one another by the symbolic relationship.

Deacon interprets the study by Savage-Rumbaugh *et al*. (1980) using lexigrams to teach monkeys. This experiment showed that not all monkeys were able to make the transition from indexical reference to symbolic reference. Thus, the task of classifying food items and tools was successfully solved by all animals (indexical level), but the transition to the use of new lexigrams (symbolic level) was only possible for some monkeys.

As Deacon (1997: 91) explains, an index requires a physical-spatial association of the sign and the object, while a lexigram requires only a temporal correspondence. It is noteworthy that for natural conditional stimuli (natural signals), a physical-spatial association is necessary, and for artificial stimuli of a conditioned reflex, only temporary conditions are required.

Thus, in the conditioned reflex model, the boundary between non-arbitrariness and arbitrariness is overcome when moving from a natural conditional stimulus to an artificial one, and, in the representations developed by Deacon – when moving from an index to a symbol. Thus, it becomes possible to use new signifiers (lexigrams) that were previously unrelated to the object of designation (food, tools).

Speaking of arbitrariness, we must of course make the reservation that we are talking here about the biological arbitrariness of signs, which in this case is created in an experiment, or in natural conditions of nature.

What possible mechanisms for the liberation of the signified from the signifier can be used to explain the arbitrariness of the sign? To form an arbitrary

connection between the signifier and the signified, appropriate conditions are required. We believe that these conditions arise due to the peculiarity of the psychological present tense in sign systems.

## The uniqueness of the psychological present tense

Physical time can be considered as a line, a one-dimensional formation. The present time is only a brief, barely perceptible moment, the boundary between the past and the future. The psychological present time, in contrast to physical time, is an integral range of a certain duration, which includes both part of the past and the future time. For example, part of today has already passed, and part has not yet come, but both of these parts belong to the same present time. Aristotle (1984a: 376) writes: "He will come now, because he will come to-day; he has come now, because he came to-day".

The uniqueness of the psychological present is also noted in Bergson's philosophy:

> What I call 'my present' has one foot in my past and another in my future. In my past, first, because 'the moment in which I am speaking is already far from me'; in my future, next, because this moment is impending over the future: it is to the future that I am tending, and could I fix this indivisible present, this infinitesimal element of the curve of time, it is the direction of the future that it would indicate. The psychological state, then, that I call my present, must be both a perception of the immediate past and a determination of the immediate future. (Bergson 1929: 177)

Husserl (1964: 61) wrote that if the intention is directed to a particular tone in the perception of a melody, then the tone that has just been heard will be considered already past. However, if the intention is directed at the entire melody as a single temporary object, then the entire melody and all its tones will be perceived as real, assumed in a single connection of grasping, until the last of them finishes sounding. You can also use the Whitrow metaphor to describe the nature of the psychological present. In it, time is a moving line in which there is both a sequential change of states and their simultaneous retention (Whitrow 1961). According to the linguist Gustave Guillaume, the grammatical present tense contains particles of the past and future – the so-called chronotypes (Guillaume 1992: 186).

Lev Vekker correlates physical and psychological time and discovers a discrepancy between them. The nature of physical time is such that its events either follow each other or are presented simultaneously. The characteristics of sequence and simultaneity in physical time are divorced and mutually exclusive.

Unlike physical time, sensory time combines these characteristics, and therefore represents a kind of paradox in relation to the basic laws of physical time. The result of the paradoxical structure of sensory time – the joint datum of the beginning and end of a series – is the possibility of returning from the end of a time interval to its beginning, so psychological time has an extremely important property of reversibility (Vekker 2000: 550).

According to Edward Titchener (1928: 340), psychological time is represented by two dimensions: "It seems, that psychological time is rather a surface, a bi-dimensional manifold, and that its two dimensions are simultaneity and succession". If the psychological present, for example the time of day, is placed in the coordinate system (x, y), we can see that it in fact consists of two dimensions: the x-axis of time in regard to the sequence and the y-axis are in a relation of simultaneity. If we add a third axis, the z-axis, we get a dimension of duration.

Kalevi Kull (2018) shows the key role of the subjective present (the specious present) in semiosis. An important thesis is put forward that semiosis is what happens in the present. The complication of semiosis is closely related to the expansion of the subjective present. The widening of the inner present takes place during the advancement from iconic to indexical to emonic to symbolic semiosis.

In this regard, we assume that the development of dimensions of psychological time lies at the heart of the signified liberation from the rigid meaning, the forming of arbitrary links.

## The significance of the psychological present time in the liberation of the signified from its rigid connection with the signifier

The development of dimensions of the psychological present leads to the creation of mutually consistent levels: invariant and variable. The coordination of invariant and variable components based on the multidimensional structure of the psychological present was considered by Vekker and applied to the entire hierarchy of mental processes, from elementary sensory processes to human thinking: "The invariance of mental psychological structures is an intellectual analogue of perceptual invariance, expressed by the property of constancy. The measure and range of invariance of thought structures, respectively, are analogues of the measure and range of perceptual constancy" (Vekker 2000: 304). The experiments of Piaget (1953[1949]), in which children were given the impression that the volume of the liquid itself changed when transfused from a vessel of one shape to a vessel of another shape, Vekker explains by the lack of consistency between

volume and shape. Volume and form are not separated from each other: invariant and variable are identified here. Later, with the development of mature thinking, the shape of the vessel occupies a variable level, and its volume is invariant (Vekker 2000: 331). This way, any shape leaves the volume unchanged.

We suggest that the signifier and the signified are also initially in an undifferentiated unity, as though in one dimension of the present time. Their relationship is non-arbitrary. With the development of the dimensions of the psychological present tense, the signifier and the signified are separated from each other. They are embodied on different levels: the signified occupies the invariant level, and the signifier the variable level. On the one hand, the signifier and the signified are separated by different levels (the dimension of sequence); on the other hand, they retain their unity (the dimension of simultaneity). Because of this, the signified becomes relatively independent of the signifier but retains a connection with it. Thus, there is a departure from the non-arbitrary connection and the emergence of a new type of connection – an arbitrary connection. The division into invariant and variable in sign activity means that when the signifier changes, the signified remains unchanged. Therefore, we can use different names to refer to the same item, while the essence of the item does not change. It overcomes the natural unity, the undifferentiation of the object and name.

As Deacon (1997: 95) showed, the use of new lexigrams (new signifiers) for the same objects when successfully moving to the symbolic level, does not destroy the previous associations. When a new signifier is chosen at random, the signified is not destroyed or deformed, but is preserved in an invariant form.

The nature of an arbitrary and non-arbitrary sign can also be correlated with the visions of Hegel (2010: 146), in relation to qualitative changes in the signified. Non-arbitrary signs can correspond to the stage of existence (*Dasein*). In this case, each new signifier leads to a change in the signified. In the case of arbitrary signs, we are talking more about the category of measure. In fact, a quantitative range is formed within which the signified is not distorted but retains its quality (Hegel 2010: 168).

## Liberation of the signified from the rigid connection with the signifier from the point of view of the information approach

It can be assumed that the liberation of the signified from the signifier means the liberation of information from material carriers. Information acts as the content of the external world. Wiener (1989: 17) states that "information is the name of

the content of what we exchange with the outside world as we adapt to it and feel our adjustment to it".

From the point of view of information theory, it is necessary to distinguish between the concepts of message and its carrier. A material carrier is a certain structure that contains information. The essence of the structure is not in its physical and chemical properties but in the content (message). According to David Dubrovskij (1971: 264), information is indistinguishable from a structure at the biophysiological level for self-organizing systems. At the mental level, however, there is a kind of bifurcation: information is released from the carrier, which is embodied in the subjective form of images, ideas, and thoughts. Psychological phenomena are pieces of information released from their material carrier; they are information in its purest form: "Subjective phenomena, including the sensory image, represent information in its 'pure form', in its apparent detachment from its carrier" (Dubrovskij 1971: 287). Now the same information can be translated into different carriers, regardless of its energy and physical and chemical properties. The content can now be transmitted in various ways. "The same information can be embodied and transmitted by different carriers. This means that the same model can in principle be built on different substrates, as long as they meet the requirements of a specific signal organization" (Dubrovskij 1971: 260).

Therefore, from the point of view of the informational approach, the liberation of the signified from the signifier can be considered as the liberation of information from its carrier and its further implementation on any other carrier, a substrate.

Encoding mechanisms are an important aspect of transmission of information. According to Chertov (1993: 36), the code can be initially embedded in the system, fixed genetically, given that it is a product of evolution. Unconditional reflexes represent systems in which codes are initially built in, being genetically fixed. The presence of hard codes does not allow the unconditional reflex to change the reaction under the action of certain stimuli; they determine and "program" the unambiguity of the response to certain influences. At the same time, codes can arise, change, and be lost. There is a freedom to operate with codes, which is revealed during the formation of conditioned reflexes. The appearance of a code accompanies the appearance of a new reflex, the loss of the code, its abolition. The appearance of a signal, a conditional stimulus, allows an individual to react to certain objects not so rigidly and unambiguously but more remotely and indirectly. "If hard-programmed unconditioned reflexes set a reaction directed directly at the stimulus object, then in the case of conditioned reflex signal codes, the reaction is directed at an object more remote" (Chertov 1993: 38). Here, therefore, we are already planning to get rid of external natural laws – a tendency to increase the arbitrariness of the code: "The absence of a natural connection between the signifier and the

signified, i.e., the arbitrariness of the code, allows us to reach a greater generality and independence from the specific situation" (Chertov 1993: 38).

The mechanism of separating the signified from the signifier due to the development of a system of dimensions of the psychological present, in which the signified occupies an invariant pole and the signifier a variable one, characterizes the process of forming an arbitrary code. Here, the methods of notation, encoding methods, become variable, and the information itself (the signified) is allocated and remains invariant. The transfer of information in an invariant form by highly variable codes expresses the abolition of the dependence of information on specific encoding methods. Now the same information can be transmitted without distortion by different encoding methods.

## Conclusion

The liberation of the signified from a rigid connection with the signifier may be one of the grounds for the arbitrary nature of the sign. The specific organization of the psychological present plays a role in the formation of arbitrariness. In an arbitrary sign, the connection between the signified and the signifier is probably formed by a combination of dimensions of the psychological present: on the one hand, the signified and the signifier maintain their unity, but, on the other hand, they are separated from each other, which determines the arbitrary nature of sign activity.

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## Освобождение означаемого от жесткой связи с означающим как одно из условий произвольной природы знака

Как возникают произвольные знаки? В статье высказывается предположение, что в основе произвольности лежит освобождение означаемого от жесткой связи с означающим. Важную роль при этом играет психическое настоящее время. Психическое настоящее время не является одномерным, а представлено измерениями последовательности, одновременности и длительности. Непроизвольные знаки как бы одномерны: означающее и означаемое находятся в нерасчленённом единстве – в одном измерении настоящего времени. При формировании произвольных знаков означаемое и означающее отделяются друг от друга и воплощаются в разных измерениях - уровнях субъективного настоящего времени: инвариантном и вариативном. При этом, означаемое занимает инвариантный уровень, а означающее вариативный, благодаря чему означаемое сохраняется постоянным при любом изменении означающего. Поэтому к одному и тому же предмету можно произвольно применять разные означающие, а содержание обозначаемого предмета при этом не меняется. Означаемое становится, таким образом, относительно независимым и свободным от означающего.

## Tähistatava vabastamine jäigast seotusest tähistajaga kui üks märgi meelevaldse olemuse tingimustest

Kuidas tekivad meelevaldsed märgid? Artiklis osutatakse, et meelevaldsuse (arbitraarsuse) aluseks on tähistatava vabastamine jäigast seotusest tähistajaga, mille juures mängib olulist rolli psühholoogiline olevik. Psühholoogiline olevik pole ühemõõtmeline, vaid

seda esindavad järgnevuse, üheaegsuse ja kestvuse mõõtmed. Mittemeelevaldsed märgid on justkui ühemõõtmelised; tähistaja ja tähistatava ühtsus on jagamatu ning oleviku ühesainsas mõõtmes. Meelevaldseid märke moodustades eralduvad tähistatav ja tähistaja teineteisest ning kehastuvad erinevates mõõtmetes – psühhooloogilise olevikuaja invariantsel tasandil ja muutlikul tasandil. Tähistatav asub invariantsel tasandil, samas kui tähistaja on muutuv, nii et tähistatav jääb tähistaja kõigi muutuste puhul konstantseks. Seega võib erinevaid tähistajaid rakendada soovi järgi samale objektile ning tähistatava objekti sisu sellest ei muutu. Nõnda muutub tähistaja tähistatavast suhteliselt vabaks ja sõltumatuks.