



## Evald Ilyenkov: Towards the Concept of “a Human's Body” versus “the Human Body”

*Translated and introduced by Kyrill Potapov<sup>1</sup>*

**ABSTRACT:** This article presents the first English translation of Evald Ilyenkov's late, unfinished essay “Towards the Concept of 'a Human's Body' versus 'the Human Body’” (1978), together with an introduction situating the text in its intellectual and political context. Written near the end of Ilyenkov's life, against the lingering ideological dominance of Pavlovian doctrine after the 1950 Pavlov Session, the essay mounts a sustained critique of physiological reductionism and its convergence with cybernetics and behaviourism. Ilyenkov argues that the human body cannot be grasped as a biologically given organism but only as a socially constituted form of life. Through a thought experiment imagining an infant raised in total isolation from culture, he isolates the “purely biological” in order to show that almost everything specifically human is a product of labour rather than nature. His central target is the Pavlovian “second signal system” and the concept of the “conditioned reflex”: Ilyenkov contends that signality and conventionality are not natural properties later projected onto the human psyche, but historically specific achievements of socially organised activity. The accompanying introduction links these arguments to ecological niche construction, dialectical biology, and contemporary 4E approaches to cognition, while drawing out the political stakes of Ilyenkov's Spinozist, anti-functionalist alternative. A.G. Novokhatko's 2008 commentary is also included, further exploring Ilyenkov's contemporaries and influences.

**KEYWORDS:** Evald Ilyenkov, Ivan Pavlov, embodied cognition, Soviet psychology, biology

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## Introduction

In 1950 Stalin's government organized The Pavlov Session to formalize Pavlov's teachings as mandatory doctrine. Pavlov's former students split into accusers and accused; those who deviated from orthodox Pavlovianism were denounced and urged to admit their mistakes (Windholz 1997). Scientists and university professors across the biomedical and psychological sciences were forced to adopt Pavlovian doctrine, and the reforms extended into hospitals and clinical practice (Popova 2025). With parallels to the Lysenko affair in genetics, this marked a pattern of ideological interventions that flattened much of the nuance and debate in the Pavlovian work of the 1920s (Strick 2016).

The Stalinist formalization of Pavlov included the insistence that the nervous system exercises dominant control over every bodily function and that psychology was reducible to the physiology of higher nervous activity (Razran 1958). The *second signal system*: Pavlov's characterisation of language as "signal of signals" (Windholz 1990), became a mandated theory of human consciousness, while "subjective" or introspective aspects of consciousness were rejected. Trauma and psychological disorders were understood in terms of the patterns of excitation and inhibition caused by conditions in the environment.

Even as Pavlov's theories fell out of fashion, they continued to shape Soviet science. The Stalinist climate of accusation and censorship also persisted well into 1970s, when Evald Ilyenkov wrote *Towards the Concept of "a Human's Body" versus "the Human Body"*. This essay was written at the end of Ilyenkov's life as he suffered from alcoholism and depression caused in part by the persecution and restrictions he faced from the academy (Bakhurst 2023, 113–31) – one of the last Ilyenkov would write before his suicide. It is an impassioned draft with Pavlov as its perhaps surprising central target. It's hard not to read the multiple references to the "Tower of Silence" (the soundproof lab in which Pavlov carried out many of his experiments) as holding a wider symbolic significance for Ilyenkov.

As Ilyenkov rails against treating anthropomorphic concepts like "information" and "purpose" as properties of nature, there are clear allusions to the cybernetics of his own time. Both the Pavlovians and the cyberneticians ultimately understood life activity in terms of mechanistic functions (Gerovitch 2002). Ilyenkov's Spinozist counter-move is to insist that the psyche is not in the brain, but in the real activity of the whole body in its environment, and that for humans, that environment is always already shaped by labour.

The political stakes here are also clear. Pavlovian reflexology in its convergence with American behaviorism promises something similar to Soviet cybernetics: that the “conditions” of human behaviour can be engineered for the ends of social improvement. Of course, centralised state power is needed to achieve such a vision. This runs contrary to the “pedagogical utopia” (Maidansky 2015)<sup>2</sup> sought by Ilyenkov: in which capitalism is transformed into communism through everyone’s capacity to learn.

At the same time, Ilyenkov draws clear parallels between the focus of his criticism and his own work; for example, between Pavlov’s *second signal system* and his own theory of the ideal. As in much of his work, he reinterprets and reverses the surface resemblance into his own dialectical register. He turns the charge of anthropocentrism which he has often faced onto his scientific critics and at the culmination of the argument we see that Pavlov’s “signal” is not the foundation of consciousness but itself a human artefact.

Against dominant contemporary views in biology, which focus on genetically predetermined essential properties of the individual organism, Ilyenkov here promotes a focus on ecological niche construction: a process by which organism and environment are mutually constituting. A decade later, this approach would be championed by Lewontin and others in the West as a way to appreciate the dialectical character of organic life (Levins and Lewontin 1985). Ilyenkov’s dynamic anti-functional view of organisms as extending into and formed by their environment are resonant with contemporary 4E approaches to cognition (Di Paolo and Potapov 2024).

Adopting a more nuanced stance than in earlier work, Ilyenkov here emphasizes that social learning and niche construction are also vital to non-human animals: that all of life should be understood in terms of an organism’s activity in its metabolism with nature. What makes human beings unique is that they follow conventions. Recent developmental work confirms that a sense of conventionality emerges remarkably early in humans and appears absent in other great apes, but Ilyenkov’s account of why differs sharply from the cognitive-psychological mainstream (Rakoczy et al. 2008). Contra Rakoczy, Tomasello and others, Ilyenkov does not think of conventions in terms of the “mind-reading” of interlocutors but as embodied in symbols (cf. Potapov 2021). He is here closer to Deacon (De Villiers 2007; Deacon 1998). Even within cognitive

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2. Thank you to Sascha Freyberg for this point.

science, there is today widespread recognition that the “natural” functions that define human uniqueness are the product of social learning (Heyes 2018). In Ilyenkov’s own time, it was much harder to swim against the mechanistic mainstream, though Leontiev and Vygotsky reached similar views via Baldwin.

In presenting this translation, the aim is not only to make available a late and neglected text, but to foreground a line of critique that remains insufficiently absorbed even where its conclusions are now partially echoed. Ilyenkov’s argument resists easy assimilation: it does not simply anticipate contemporary anti-reductionism, but challenges the conceptual grammar of “information,” “signal,” and “function” through which such positions are often still articulated. Read today, the essay forces a more radical question than whether mind can be reduced to brain, or organism to mechanism. It asks instead how these very oppositions arise from historically specific forms of practice, and what it would mean to think the human body not as a given object of science, but as a socially constituted form of life. If this text still has the capacity to unsettle, it is because the problems it addresses have not been resolved so much as reformulated. The “Tower of Silence” it invokes has, in many respects, yet to be dismantled.<sup>3</sup>

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### **Towards the Concept of “a Human's Body” versus “the Human Body**

We must not think of the human body—must not hold it in our imagination as the premise of our reasoning—as simply a biologically formed organism: the body of an individual specimen of *Homo sapiens*, a body whose only organs are those that are genetically programmed (the brain, hands, legs, teeth, and so forth). To think of it this way would already be an ABSTRACTION—an abstraction of just the same kind as a brain cut from a skull and lying on the anatomist’s table. Such a body is far from the whole human body. It is only a fragment, and within this fragment it is impossible to see—let alone understand—those real functions that, taken together, constitute the specifically human mode of life-activity. In the morphophysiology of the individual body, considered on its own terms, these functions simply do not exist.

After all, we could observe a morphophysiologicaly defined body of an individual of our species in only one case: if an infant could be raised

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3. Thank you to members of International Friends of Ilyenkov for the helpful discussion of Ilyenkov’s text, and to Andrey Maidansky for comments.

in absolute isolation from everything belonging to the culture within which every normal individual develops. That is to say, the infant would be surrounded by all the conditions that are **BIOLOGICALLY** necessary for its existence and development—the conditions of its purely biological existence and maturation into an adult specimen—but every component of the “external environment” that is not a necessary condition of its purely biological existence would be scrupulously excluded.

Is such an experiment conceivable (not merely a “thought experiment” but a perfectly real one)? Yes, although it is a priori forbidden on moral and legal grounds. But let us set those aside for a moment, since from a purely biological standpoint they not only do not exist but cannot exist.

In practice it would look like this: the infant develops solely by virtue of the genetically programmed regularities built into it, into its body—and under no circumstances outside it. This means it must exist among objects (components of the environment) necessary for the satisfaction of the organically built-in needs, the “requirements” of the natural order: food, oxygen, temperatures within a certain range. That is roughly all. Very little. And the organism will not merely exist but will develop in accordance with the genetic programs built into it.

At the same time, every component of the “environment” that represents a product of **SOCIO-HISTORICAL** (social) activity of other human beings must be rigorously excluded. Of other people *as* people, not as biologically functioning “other” specimens of the species. That is, if the presence of another human being is also a necessary condition for the infant’s biological survival, then this other person, under the conditions of such an experiment, must function not as a “human being” but exclusively as a biologically defined body. Say—a mother, or more precisely—the mother’s body, her breast. The infant’s contact with her must be strictly limited to those actions of the mother that are absolutely necessary for its biological survival—and not one grain more. Acts of feeding, removing excretions, ensuring it neither freezes nor overheats, and does not suffocate. That is all.

If you permit any actions on the part of the other person beyond these, you have already violated the “purity” of the experiment—you have introduced “contamination,” you have introduced into its development something that is in no way dictated or shaped by **BIOLOGICAL** necessity. In other words: no human clothing, no human eating utensils, no sanitary-hygienic devices for removing excretions, and certainly no toys. The infant must be strictly surrounded, as its environment, only

by what is given by NATURE—nature not yet worked over by human labour.

The mother has no right to speak to the child, nor to teach it to walk on two legs (since neither the one nor the other is genetically-biologically “provided”), and she must disappear from the infant’s field of vision as soon as the need for her organism, her body, ceases to be necessary for the infant’s purely biological existence. In other words—as soon as it has acquired the biological capacity to digest something other than mother’s milk—to grab and chew pieces of food found in the natural environment: fruits, vegetables, raw meat, water from a stream, and so on. No bread, no cooked meat, no sugar—these are already historically, not biologically, “necessary” kinds of food. They do not exist in nature.

After this, the child must be left alone with “pre-human” nature and must develop further in the spirit of purely genetic programs, exclusively in accordance with them.

Only in this case would you be able to observe, as the result, the ABSTRACTLY PURE BIOLOGY of the human organism—not yet “spoiled” or “distorted” by any influences external to it. Then you would experimentally obtain only what is genetically-biologically pre-programmed in the body, and nothing more.

Such an experiment—and only such an experiment—would reveal in pure form the genuine facts about what is inherited biologically and what is not. The slightest violation of the listed conditions of a pure experiment would immediately destroy all its scientific demonstrative force.

Although no one has ever conducted such an experiment (and, God willing, no one ever will), it is nonetheless possible to sketch in broad strokes the appearance of its result, where everything purely biological would be presented “in pure form,” cleansed of everything that the SOCIO-HISTORICAL principle might have introduced—i.e. the influence of non-biological, socio-historical components of development.

This would be, first of all, a creature devoid of all specifically human needs without exception, and devoid of all specifically human ways of satisfying them. One can say with nearly one hundred percent certainty that this creature would move through space on all fours, like any mammal, since upright walking is not genetically provided for in its deoxyribonucleic acids, in the chains of DNA—every child must be TAUGHT to walk upright, and with great effort, patience, and persistence.

No facial expressions, since facial expression is an artificial language that a person LEARNS just as they learn verbal language. Still less any

degree of articulate speech—that goes without saying. Most likely, there would be no need for communication with another individual of the same species, since any purely organic need can be satisfied without and outside of such communication. Even the sexual need (this has been proven beyond any doubt by experiments with apes, and proven absolutely unambiguously). Its satisfaction is achieved here by the same means as the act of any other excretion. Still more so the “maternal instinct”—a mythical instinct that is in reality, at 100% already among higher primates, a need CULTIVATED BY THE GROUP, in no way genetically built in.

This, then, would be the creature that demonstrates, in pure form, in abstractly pure form, the PURELY BIOLOGICAL—the purely “animal” principle (component) in the human being. For everything else in the real human being that we observe in ourselves and in others is 100% the product of LABOUR—i.e. not biology as such, but what labour has made of biology. Biology transformed by labour, not biology “*als solche*” [German: as such].

One can hypothesize with a very high degree of confidence that this creature—a fur-covered creature—would run on all fours only as long as and whenever it is hungry, in search of food and water, and having eaten and drunk its fill, would have no further stimulus for movement through space and would therefore sleep and doze until it became hungry again.

What “psychic” mechanisms could form in such a creature? Only those that support the described “way of life,” and no others. This would apparently be that “reflex” which contemporary zoopsychology considers the FUNDAMENTAL psychic phenomenon—the SEARCH-ORIENTATION reflex—that is, the ability to move through space in the direction of food and water, orienting itself by NATURAL signals (sight, smell, sound, etc.) directly emitted and radiated by the NATURALLY OCCURRING object of the BODY’S NATURALLY OCCURRING NEED. And then, probably, “conditioned” (but necessarily connected in a NATURALLY OCCURRING way with the “object of need”) stimulus-signals—such things as, say, the tracks of game on the ground or snow—and nothing more: things that constantly accompany the present object of need.

In contrast to the laboratory conditions in which I.P. Pavlov studied the formation of “conditioned reflexes,” in nature as such, things that have nothing in common with each other are never linked together—a “signal” becomes only a PART OF THE OBJECT OF ORGANIC NEED

ITSELF. The appearance of food will never be linked there, say, with the lighting of a lamp or with a whistle—and precisely for this reason, even in Pavlov’s setup, the animal in which such an unnatural “reflex” has been forcibly created—i.e., a connection created by the ARBITRARY WILL (the will and consciousness of the experimenter)—continues to treat this absurd connection as “natural,” i.e., it takes the lamp to be a PROPERTY OF FOOD—it starts licking it and trying to eat it... And this is hardly surprising.

For the physiologist investigating the BRAIN (and only the brain), it is genuinely irrelevant whether food and “signal” are or are not connected by NATURAL MEANS. But for an animal in nature this is in no way irrelevant. It “connects” only what in the nature of the thing is “connected” inseparably, and it will never fix a PURELY CONDITIONAL connection in the form of a reflex... If it did so, it would perish. An animal—unlike a human being—does not know CONVENTION.

This—and nothing else—is why an animal does not know the “second signal system”: it connects, within the composition of a conditioned reflex, only a signal directly “emitted” by the body of food, i.e. only its own natural property. That is precisely why not merely a joke but a deeply true and witty critique of I.P. Pavlov’s methodology is contained in the well-known anecdote about Pavlov’s dogs (in the frame of the Tower of Silence, two dogs stand, tied up; the newcomer asks her companion: “What’s a conditioned reflex?”; the other answers: “See those two idiots over there? As soon as that light goes on, they’ll immediately bring us something to eat...”).

This is precisely why, upon finding itself in an UNNATURAL (human-created) “environment,” an animal acquires a heap of “conditioned reflexes” that completely disorient it in the forest and condemn it to perish if it ends up there again.

One can therefore successfully study the physiology of the BRAIN in the “Tower of Silence,” but the PSYCHIC ACTIVITY OF AN ANIMAL—absolutely not, because the latter is precisely the ACTIVITY OF THE ANIMAL’S BODY (and by no means of its brain alone), consisting in the active search for food (water, a mate, etc.), of which the “conditioned connections” and “conditioned reflexes” that form in the course of this activity are merely a “moment.” And here the word “conditioned” must be placed in large quotation marks—for there is nothing CONDITIONAL in these connections; what there is, is the fixation of a naturally occurring connection between TWO PROPERTIES OF THE OBJECT OF NEED ITSELF (food, etc.).

This is why the attempt to understand the secret of the psyche even of a DOG by investigating the “reactions” of ITS BRAIN is doomed to failure. The brain is merely one of the organs of its real body, and in it, as such, “psychic activity” can never arise or develop.

This is why the PHYSIOLOGY OF HIGHER NERVOUS ACTIVITY, which investigates the phenomena and processes that occur INSIDE THE BODY OF THE ANIMAL, does not at all touch upon the facts pertaining to the COMPOSITION OF THE PSYCHE, the patterns and laws of its operation. For the psyche is realized not in the space of the ORGANIC BODY but in that real space where the ANIMAL'S BODY SEARCHES AND FORAGES for FOOD, WATER, and so on. In that very real space-time in which the real SEARCH-AND-ORIENTATION activity is actually carried out—the active movement through the space of the naturally occurring “environment,” the space of the ecological niche.

But precisely for this reason, the concept of “signal,” in which the difference between the psyche of an animal and the psyche of a human being is obliterated, strictly speaking is applicable to the human being but in application to the animal represents only the crudest METAPHOR, and can first appear in an animal only where this animal is forced to act in UNNATURAL—human-created—CONDITIONS.

There is not a grain of CONVENTIONALITY in nature, and the very term “conditioned” as applied to a “reflex” is ABSURD. Especially when it is used to characterize the PSYCHE of an animal, rather than the physiology of its brain.

To attempt to describe the situation connected with the analysis of the animal's psyche through the terms “SIGNAL” and “CONDITIONED” (and if so, then also through the term “UNCONDITIONED”) is to already FALL INTO THE CRUDEST ANTHROPOMORPHISM—for both “signality” and “conditionality” directly express only specific phenomena of the HUMAN PSYCHE and are inapplicable to animals in any capacity other than as anthropomorphizing METAPHORS.

Moreover, this anthropomorphising has lodged itself in the minds of natural scientists all the more firmly because it was carried out not only in the imagination but also in the artificial conditions of the Pavlovian EXPERIMENT, where the arbitrary connection that arose in Pavlov's head (the connection between the lamp and food) was realized OBJECTIVELY and thereby turned into a REAL condition of the brains of those unfortunate dogs.

The secret of the “conditioned reflex” lies in PAVLOV’S CONSCIOUSNESS. It is THAT—i.e. Pavlov’s theoretical fantasy about the dog’s psyche—that appeared here under the pseudonym of CONDITIONED REFLEX... And the content of this fantasy is that the PSYCHE supposedly resides IN THE BRAIN, and not in the real life-activity of the animal’s whole BODY among the naturally occurring bodies of the ecological niche—in the space of that niche, and not in the narrow space of the dog’s SKULL.

And from here the next plot follows: the anthropomorphising of the animal’s psyche has as its reverse side the NATURALIZATION of the human psyche—the phenomenon of the CONDITIONALITY of the connections that make up the system of psychic orientation, i.e., psychic connections physiologically fixed in the nervous system.

So-called CONDITIONAL connections between objects and their properties—connections established only within culture, connections between objects that have nothing “in common” with one another in a natural sense (say, between a flash of a lamp and the physicochemical properties of a piece of meat)—PURELY IDEAL CONNECTIONS—in all their UNNATURALNESS are first attributed to the PSYCHE OF THE ANIMAL, and then treated as “natural”—as properties already present in the animal—as properties of the HUMAN PSYCHE, as its fundamental properties—as the “SECOND SIGNAL—CONDITIONAL—ALSO KNOWN AS CONVENTIONAL—system”

Here we have absolutely the same anthropomorphising of nature as in the theologians, so clearly exposed by Spinoza. That is to say, first the INCORRECTLY (in a Cartesian manner) understood psyche of the human being, with all its properties, is projected onto Nature, and instead of nature the human being begins to see God outside itself. And then the INCORRECTLY understood human psyche begins to be presented as a CHARACTERISTIC OF GOD, merely “incarnated” in the human body.

It is absolutely the same here. The positivistically-conventionalistically interpreted HUMAN psyche is projected—through the experiment—onto the dog, and then the dog, as a part of nature, is declared the subject of such specifically human psychic functions as the CONDITIONALITY (conventional character) of psychic connections, which in reality manifest themselves in the WORD. And in the end, the human psyche—its essence—is treated as a synonym of the SECOND-SIGNAL character of connections in the brain...

A double—and therefore inescapable—falsehood. The falsehood of an anthropomorphic understanding of the dog's psyche, which is then taken for a “scientific” understanding of the natural foundation of the human psyche...

The experiments in the Tower of Silence, which supposedly proved the presence of the psyche in the animal's brain in the form of a system of “conditioned reflexes,” in fact proved something entirely different, for they experimentally revealed a quite different fact. Namely: together with the naturally occurring mobility of the dog's body in the real space of its natural ecological niche, I.P. Pavlov experimentally SWITCHED OFF the SEARCH-AND-ORIENTATION ACTIVITY of this dog as well; he carried out an OBJECTIVE-EXPERIMENTAL ABSTRACTION precisely from it, from its presence...

Thereby he ensured ideal conditions for observing only those processes that take place INSIDE the dog's organism—processes that in reality require no psyche and reveal no psyche, but yield a sum of phenomena of the dog's brain at work.

And what is revealed, what appears in these phenomena that I.P. Pavlov named CONDITIONED REFLEXES? The search-and-orientation activity of THE EXPERIMENTER—i.e. the psyche of I.P. Pavlov himself, which was characterized precisely by its MECHANISTIC conception of the connection between psyche and brain, supplemented, naturally, by a purely Cartesian interpretation of the essence of the HUMAN PSYCHE—an interpretation based on the myth of CONDITIONALITY, of PURE CONVENTIONALITY—that is, the COUNTER-NATURALNESS, the NON-NATURALNESS of the “connections” that constitute its essence.

This is why, for him, the Word IS A SIGNAL-SYMBOL, a SYMBOLICALLY CONDITIONAL, merely conventionally established connection between two objects that HAVE NOTHING IN COMMON WITH EACH OTHER IN A NATURAL SENSE, nothing OBJECTIVELY SHARED—like between a whistle and the smell of food, like between the letters composing the word “M-E-A-T” and real meat...

And this is precisely the positivistic-mechanistic interpretation of, first and foremost, the HUMAN psyche, the human intellect, which is then projected onto the DOG'S psyche and thereby commits a double sin—the anthropomorphising of the HIGHER NERVOUS ACTIVITY OF THE ANIMAL and the naturalization of the HIGHER NERVOUS ACTIVITY OF THE HUMAN BEING.

Inescapable Cartesianism with not the slightest hope for a Spinozist way out of the dead end in the treatment of the secret of THINKING.

For the “brain” as such, it is indeed a matter of indifference what kind of “connection” arises in it—whether a connection reflecting an OBJECTIVELY GIVEN connection (between the physicochemical properties of food and its smell, colour, etc.; between a hare and the tracks of its paws in the snow, etc.)—or a “connection” that REFLECTS NOTHING, NO CONNECTION OF A NATURAL CHARACTER (between the smell of food and the flash of a lamp or the word “eat”)—i.e. a PURELY CONDITIONAL connection—in Latin, CONVENTIONAL—a connection existing only in an ARTIFICIALLY CREATED setting, in the BODY OF CULTURE CREATED BY LABOUR.

LABOUR—this is what gave birth to all so-called conditional connections. “Conditional,” “conventional” connections between things and their “properties” are in reality not at all CONDITIONAL but rather objectively real connections, established by human labour between things as conditions for the course of labour itself. The connection between a piece of flint and the stick to which it is bound by THE SINEWS OF A KILLED ANIMAL. And not at all by “convention,” not by the imagination, which supposedly can “connect” anything whatsoever with anything else.

Connections of this kind—UNNATURAL, non-natural, and from the standpoint of pure nature INEXPLICABLE—are the prototype of the CONDITIONALITY, the “CONVENTIONALITY” of the connections of the “second signal system.” For a “signal”—unlike a property of food itself—is a completely unrelated DIFFERENT object, placed in connection with food ONLY WITHIN THE PROCESS OF LABOUR, in the process of socially organized life-activity that transforms what is given by nature.

And in nature as such there is no “signal,” no “signality” or “conditionality” (conventionality) of CONNECTIONS BETWEEN THINGS—just as there is no “information,” no “meaning,” no “purpose,” or any other categories brought there only by a mind that anthropomorphizes nature.

This is why the real psyche of the animal includes (so long as it has not, to its misfortune, ended up in a human home) only such “connections” as REALLY EXIST outside its brain and body between two or more properties of one and the same object and are given only “together”—in the way that taste, smell, and the visual properties of food are given together.

In order to obtain facts pertaining to the PSYCHE of the animal (the dog), experimentally purified of all traces of ANTHROPOMORPHISM, what was apparently needed was precisely the reverse experimental abstraction from the one achieved in the “Tower of Silence.” Namely—to isolate the animal not from the naturally occurring conditions of psychic functioning, but from the UNNATURALLY CONDITIONAL, from the ARTIFICIAL—the arbitrarily human-organized “connections” between the objects of psychic activity—from connections that exist only for human beings and only within human culture. That is—from the SIGNAL relation in the proper sense of the word.

THE SIGNAL as such (and this term, thanks to Pavlov, penetrated into physiology and the “psychology” based on it) and everything connected with it—this is a word that has from time immemorial designated a phenomenon specific only to human beings and occurring only within human life-activity. According to the definition of this word in the *Explanatory Dictionary*: “Signal—a CONVENTIONAL SIGN for the transmission of information, orders, etc. Storm signals. Railway signals. Light signals. Time signals. Signal of departure. Air-raid signal.” “In the darkness and night a cannon shot was heard, then another.—‘Ah, a signal!’—he thought.—‘The water is rising’” (Dostoevsky).

CONVENTIONALITY—that is what distinguishes a “signal” from any other sensuously perceived object, from a “sign” as an “indicator” (i.e. a part of an object by whose presence one can judge the whole object or situation). Here “conventionality” derives not from the term “condition” as an objective category, but from *to agree upon*—i.e. to conclude an agreement that has meaning only for the participants in that agreement.

A “sign” that is not CONVENTIONAL (thus, a scar is a “sign of a wound,” the mewing of cats is “an indiscreet sign of assignments,” wrinkles are “a sign of time,” etc.)—i.e. a NATURAL consequence or manifestation, independent of any agreement—is not a SIGNAL.

A sign as an INDICATOR—one of the distinguishing features of an object, its hallmark, its own sensuously perceivable (this is essential!) characteristic, property, manifestation, by which one can recognize the object, the thing. In this sense, smell, taste, and the directly visible appearance of a thing are its INDICATORS, its own sensuously perceivable properties and qualities.

A signal, however, is something altogether different. It is a sensuously perceivable object that expresses not itself but something entirely other—ANOTHER object, and is connected with this other object not by

a natural bond inherent in the nature of the object, but by a wholly CONVENTIONAL, ARTIFICIAL bond, established BY AGREEMENT, BY CONVENTION, by ARRANGEMENT.

Remove from the definition of “signal” this CONVENTIONALITY—and nothing of the word “signal” itself remains; it simply becomes a synonym for a sensuously perceivable object, THIS object, which is precisely what is being perceived.

An indicator is a characteristic—a sensuously perceivable one—of the very object that is being perceived. A SIGNAL, however, is something directly opposite. It is a sensuously perceivable characteristic NOT of THIS but of some OTHER object, one that has NOTHING IN COMMON with what is directly perceived. A given sensuously perceivable object with its sensuously perceivable indicators may serve as a signal or may not. Whether it becomes a signal or not depends solely and exclusively on AGREEMENT, on ARRANGEMENT, and the connection here is therefore purely arbitrary, dependent on “good will” and consciousness, and “posited” by them.

Thus the very use of this word (signal) already PRESUPPOSES will and consciousness, includes them as part of its direct meaning. A signal, therefore, exists ONLY for consciousness and will, for a being that possesses them—that is, for a human being.

Typical “signals” are therefore the SYMBOL, the HIEROGLYPH, and similar figures that have nothing in common with the objects they designate, apart from a conventionally established connection.

**The following commentary by A.G. Novokhatko accompanied the 2008 Russian publication of this text**

It is becoming ever clearer that Ilyenkov turned to Spinoza whenever his thought found itself in the most complex and theoretically intractable circumstances. In this connection, the problem of “Ilyenkov and Spinoza” must also be placed in an adequate worldview context: for Ilyenkov, Spinoza comes into full view (although he is visible in his grand stature from other angles as well—and more than one!) only in the perspective of the general logic of Western European civilization. For Ilyenkov, this is ultimately the standpoint of Hegel and Marx—that is, the communist perspective. This is why Ilyenkov formulates the vector of his relationship to Spinoza sharply and unambiguously, in the spirit of Plekhanov: “Marxism is a species of Spinozism.”

In Ilyenkov’s creative legacy one can identify at least three groups of problems that, in his words, “cannot in any case be untangled without Spinoza.” This was the situation with the analysis of the essence of the

categorial “forms of thought” at the end of the 1950s; later with the fundamental article-conception “The Ideal” in 1962, prepared for the second volume of the Philosophical Encyclopedia; and finally, in connection with the acute need for historico-philosophical foundations in the psychological-pedagogical science that was developing at that time (above all, typhlo-surdo-pedagogy, though not only that!), to which he devoted arguably the greater part of his subsequent life—not only as a theorist but also as a close friend and ally of A.M. Meshcheryakov and his students.

In the 1970s, the Soviet school of theoretical and experimental psychology experienced its flowering. Major synthetic works by A.N. Leontiev, A.R. Luria, P.Ya. Galperin, D.B. Elkonin, V.V. Davydov, and many other outstanding psychologists were published. For the first time, S.L. Rubinstein’s manuscript *Man and World* was published. The Institute of Psychology of the USSR Academy of Sciences was established. A multi-volume collected works of L.S. Vygotsky was being prepared for publication. International congresses of psychologists were held with the active participation of Soviet scholars; all-Union congresses and conferences were held regularly. Meshcheryakov’s scientific-experimental research received wide domestic and international recognition, and he was posthumously awarded the State Prize of the USSR. The dean of the Faculty of Psychology at Moscow State University, A.N. Leontiev, invited E.V. Ilyenkov and M.K. Mamardashvili to give special courses for his students.

These processes did not go unnoticed in the philosophical community. In the second half of the 1970s and early 1980s, famous theoretical and methodological discussions were held regularly—in some years monthly—at the “Davydov” institute (the Research Institute of General and Educational Psychology of the USSR Academy of Pedagogical Sciences), where A.N. Leontiev, E.V. Ilyenkov, V.V. Davydov, G.P. Shchedrovitsky, F.T. Mikhailov, A.S. Arseniev, and other well-known philosophers and psychologists filled auditoriums of young scholars with their papers and polemical contributions.

The text represents the opening part of a work broad in conception but never completed. It was written in the last years of Ilyenkov’s life. The text is sharp, laid out and constructed on carefully verified, precise historico-philosophical intuitions. For all its brevity, it is deeply thought through and seems to have been sketched within the coordinates of the epistemological ideas of Spinoza, Fichte, Schelling, and Hegel. The problem is investigated by Ilyenkov from a direction unexpected for many

psychologists and zoopsychologists. It proved especially difficult, and far from immediately possible, to establish a dialogue with physiologists, neurophysiologists, and geneticists. Even the ever-gentle and tolerant P.Ya. Galperin—one of the most subtle Soviet psychologists, whose opinion Ilyenkov always respected—was never able to agree with Ilyenkov’s critique of those apologists of I.P. Pavlov who used the authority of the brilliant Russian physiologist to justify their reductionist programs for the investigation of consciousness, for the vulgar conflation (and even identification!) of physiology and psychology. Ilyenkov’s closest allies here were always Academicians A.N. Leontiev and N.P. Dubinin.

## References

- Bakhurst, David. 2023. *The Heart of the Matter: Ilyenkov, Vygotsky and the Courage of Thought*. BRILL.
- De Villiers, Tanya. 2007. “Why Peirce Matters: The Symbol in Deacon’s Symbolic Species.” *Language Sciences* 29 (1): 88–108.
- Deacon, Terrence W. 1998. *The Symbolic Species*. WW Norton & Company. <https://www.orton.co.uk/books/9780393317541-the-symbolic-species>.
- Di Paolo, Ezequiel A., and Kyrill Potapov. 2024. “Evald Ilyenkov and the Enactive Approach.” *Studies in East European Thought* 76 (3): 439–63. <https://doi.org/10.1007/s11212-024-09645-2>.
- Gerovitch, Slava. 2002. “Love-Hate for Man-Machine Metaphors in Soviet Physiology: From Pavlov to ‘Physiological Cybernetics.’” *Science in Context* 15 (2): 339–74.
- Heyes, Cecilia. 2018. *Cognitive Gadgets: The Cultural Evolution of Thinking*. Harvard University Press. <https://books.google.co.uk/books?hl=en&lr=&id=lbpTDwAAQBAJ&oi=fnd&pg=PA1974&dq=cecilia+heyecognitive+gadgets&ots=6fWPBP5AYr&sig=PKYyDUf10ViWfapPnXD5GyK2QxA>.
- Levins, Richard, and Richard Lewontin. 1985. *The Dialectical Biologist*. Harvard University Press. <https://books.google.co.uk/books?hl=en&lr=&id=DKK--xiZKeoC&oi=fnd&pg=PA1&dq=dialectical+biologist&ots=sIS3RVSBDf&sig=8UZIIszUDsQHR4JA2h9pwOg1YJ8>.
- Maidansky, Andrey. 2015. “Russian Leviathan and the Marxist Idea of Dying out of the State.” *Научный Результат. Социальные и Гуманитарные Исследования*, no. 4 (6): 37–44.
- Popova, Kristina. 2025. “The Soviet Export of Sleep Therapy to the Eastern Bloc Countries after the Pavlovian Session in 1950.” *Medical History* 69 (4): 573–91. <https://doi.org/10.1017/mdh.2025.10043>.
- Potapov, Kyrill. 2021. *A Marxist Psychology of Language and Representation*. <https://philpapers.org/rec/POTAMP>.
- Rakoczy, Hannes, Felix Warneken, and Michael Tomasello. 2008. “The Sources of Normativity: Young Children’s Awareness of the Normative Structure of Games.” *Developmental Psychology* 44 (3): 875–81. <https://doi.org/10.1037/0012-1649.44.3.875>.

- Razran, G. 1958. “Soviet Psychology and Psychophysiology.” *Science* (New York, N.Y.) 128 (3333): 1187–94. <https://doi.org/10.1126/science.128.3333.1187>.
- Strick, James E. 2016. “Ivan Pavlov: A Russian Life in Science by Daniel P. Todes (Review).” *Bulletin of the History of Medicine* 90 (2): 344–45.
- Windholz, George. 1990. “The Second Signal System as Conceived by Pavlov and His Disciples.” *The Pavlovian Journal of Biological Science* 25 (4): 163–73. <https://doi.org/10.1007/BF02900699>.
- Windholz, George. 1997. “The 1950 Joint Scientific Session: Pavlovians as the Accusers and the Accused.” *Journal of the History of the Behavioral Sciences* 33 (1): 61–81. [https://doi.org/10.1002/\(sici\)1520-6696\(199724\)33:1%253C61::aid-jhbs3%253E3.0.co;2-n](https://doi.org/10.1002/(sici)1520-6696(199724)33:1%253C61::aid-jhbs3%253E3.0.co;2-n).

## Biography

Kyrill Potapov is BRAID research fellow at the University College London Interaction Centre. His work in human-computer interaction explores how technology mediates everyday experience and social practice, with a focus on personal data interpretation and participatory design. This has involved empirical work with teenagers in schools, in a lab with adults with chronic pain, and in homes to explore households’ sense of their domestic conditions and routines. Theoretically, he is interested in the work of Lev Vygotsky and Evald Ilyenkov as well as the philosophical traditions of enactive cognitive science and the Pittsburgh School of neo-pragmatism. A core focus here is on the role of representation in meaning-making. Most recently, he has explored how systems involving artificial intelligence support or undermine human agency. He is currently researching the potential role of AI in helping people on council estates manage collectively owned and shared solar energy. He is co-convenor of International Friends of Ilyenkov.