Colin McGinn: "Cognitive Closure" - Verdict or Challenge?

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Abstract

In this article, I address the strongest counterargument against my entire program. If the hard problem of consciousness is a paradigmatic problem (Article 1), and if its solution requires the development of the knowing subject (Article 5), then a question arises: is a human being even capable of such development? The British philosopher Colin McGinn gave a pessimistic answer: no. His "cognitive closure" hypothesis asserts that the human brain evolved to solve survival tasks, not to understand its own nature. We are fundamentally incapable of solving the hard problem, just as a dog is incapable of understanding the Pythagorean theorem. In this article, I show that McGinn is right in his statement of biological limits, but wrong in his conclusion. He considers the brain as a static structure, whereas humans are the only creatures capable of managed cultural and pedagogical evolution. Through the ideas of Lev Vygotsky on cultural tools and the zone of proximal development, I show that human cognitive limits are not fixed: they can be expanded through pedagogy. Thus, Article 2 lays the foundation for the response that will be unfolded in Article 9 (Vygotsky) and concretized in the CCFP model (Article 5).

Keywords: cognitive closure, evolutionary epistemology, biological limits, cultural tools, zone of proximal development, Vygotsky, hard problem of consciousness, neuroplasticity, communicative-cognitive framework of personality.

Introduction: The Strongest Counterargument

In the previous article, I analyzed David Chalmers' "hard problem of consciousness" and showed that it is not a problem of missing data, but a problem of an exhausted conceptual framework. If this is so, then the solution requires not just a "more powerful scanner," but a cognitive act of re-conceptualization. And such an act, in turn, requires certain operational abilities - those that I formulated as six requirements (Article 1) [3] and concretized as six core mechanisms within the CCFP model (Article 5) [4].

But here a question arises, which I have hitherto postponed. Is a human being even capable of such an act? Can we develop in ourselves the abilities that will allow us to go beyond the limits of the exhausted paradigm? Or is our cognitive apparatus fundamentally limited - and no pedagogy can help? This question is not idle. In the philosophy of mind, there is a powerful tradition that gives a pessimistic answer to it. The most prominent representative of this tradition is the British philosopher Colin McGinn. In 1989, he published the article "Can We Solve the Mind-Body Problem?", which became one of the most provocative challenges to the optimism of neuroscience [1].

If Chalmers showed that the "hard problem" exists, McGinn asked an even more radical question: can we solve it at all? And he answered: "No. We cannot." This answer sounds like a verdict on my entire program. And this is precisely why I must analyze it - not to dismiss it, but to show exactly where McGinn is wrong and why his error is important for understanding what pedagogy can achieve.

McGinn's article "Can We Solve the Mind-Body Problem?" (1989) is not just a "skeptical argument." It is an epistemological argument asserting that the mind-body problem is not a problem that can be solved in principle, not just "in practice." McGinn does not say that we "do not yet know" the solution; he says that we cannot know it - just as a dog cannot know the Pythagorean theorem. This is a strong claim, and it requires serious analysis. If McGinn is right, then my entire program - from Article 1 to Article 14 - is an illusion.

The Hypothesis of Cognitive Closure: What is its Essence?

McGinn proceeds from a simple but devastating observation: the human brain is a product of evolution. And evolution does not create universal cognitive tools. It creates specialized tools for solving specific survival tasks. Imagine a bat. Its brain evolved to navigate space using echolocation. The bat perfectly "sees" the world through sound waves, but it is fundamentally incapable of understanding what it is like to see the color red. Its cognitive apparatus is "closed" to visual experience.

In exactly the same way, McGinn asserts, the human brain evolved to solve survival tasks in the savanna: finding food, avoiding predators, and social interaction. It did not evolve to understand its own nature. And this means that we may be "cognitively closed" to solving the hard problem, just as the bat is closed to visual experience. McGinn provides a famous analogy that has become a textbook example. Imagine a dog. A dog can learn to sit, lie down, and fetch a stick. It can even learn to press a button to get food. But a dog is fundamentally incapable of understanding the Pythagorean theorem. Not because it is stupid, but because its cognitive apparatus is not designed for abstract mathematical thinking.

In exactly the same way, McGinn asserts, humans are fundamentally incapable of solving the hard problem of consciousness. Not because we are stupid, but because our cognitive apparatus is not designed to understand how neural processes generate subjective experience. "We may be cognitively closed to solving the problem of consciousness just as a rat is cognitively closed to understanding astrophysics" [1].

The analogy with the dog and the Pythagorean theorem is not just an illustration. It is an argument from analogy, and its strength depends on how close the analogy is. McGinn asserts that the relation "human - hard problem" is analogous to the relation "dog - Pythagorean theorem." But this claim requires justification. Why should we believe that the human cognitive apparatus is as limited with respect to the problem of consciousness as a dog's is with respect to mathematics? McGinn answers: because evolution did not design our brain for this task. But this answer invites an objection: evolution did not design our brain for quantum mechanics either, yet we have mastered it. Why? Because we created cultural tools (mathematics, physics) that expanded our cognitive capabilities. It is precisely this objection that I will unfold in Section 4.

Why This Seems Destructive to Optimism

McGinn's hypothesis seems destructive to any optimism. If we are fundamentally incapable of solving the hard problem, then why try at all? Why develop new methods, build new scanners, create new theories? It is like trying to teach a dog the Pythagorean theorem. No matter how hard we try, the dog will not understand. Not because we explain poorly, but because its brain is not designed for this.

McGinn asserts: we can endlessly accumulate data on the neural correlates of consciousness, but we will never understand why these correlates are accompanied by subjective experience. We are trapped in the cage of our own cognitive architecture. This sounds like a verdict on all of neuroscience - and, let us add, on my entire program. If McGinn is right, then no pedagogy can help: one cannot develop an ability that fundamentally cannot exist. One cannot "train" a brain for what it is not designed for. This is precisely why I must answer this argument. Not to "save" my program, but to understand exactly where the boundary lies between biological limits and cultural possibilities.

McGinn's argument is often interpreted as "we cannot solve the hard problem because we cannot step outside our own brains." This is not a completely accurate formulation. McGinn does not say that we are "locked inside the brain", but rather that our brain has a specific cognitive architecture that determines which problems we can solve. This is closer to the Kantian idea that cognition is determined by a priori forms. But if Kant believed that these forms are universal for all rational beings, McGinn believes that they are specific to our species. This is an evolutionary interpretation of Kant: our cognitive forms are not a priori structures of pure reason, but the result of natural selection.

Here it is appropriate to recall Plato's "Cave." The prisoners in the cave are chained to the wall and see only shadows on it. They cannot turn their heads and do not know that behind their backs there is an exit, and beyond the exit, the sun. They consider the shadows to be the only reality. McGinn tells us: we are all such prisoners. Our cognitive apparatus is the cave, and we cannot step outside its limits. The hard problem of consciousness is the sun that we will never see. But Plato did not stop at describing the cave. He told of how one prisoner was freed, saw the sun, and

returned to tell others about it. This prisoner is not a superhuman. This is a person who has gone through education (paideia). And it is precisely this - education as an escape from the cave - that I will oppose to McGinn.

Where McGinn is Wrong: A Static vs. Dynamic View of the Brain

Now I turn to the main point. McGinn is wrong - but not in his statement of biological limits, rather in his conclusion drawn from this statement. He commits an error that I call the "error of the static brain." McGinn considers the human brain as a biologically given, unchanging structure. Its cognitive limits are determined by evolution and cannot be overcome. This is as if we considered the eye as an "optical device with fixed characteristics" and claimed that it cannot "see" what falls outside its spectral range.

But humans are the only creatures possessing the unique ability for managed cultural and pedagogical evolution. We do not just use the brain - we upgrade it. And this is not a metaphor: neuroplasticity research shows that the adult human brain restructures itself under the influence of purposeful activity. L.S. Vygotsky proved that higher mental functions are not biologically given, but are formed through the appropriation of cultural tools [2]. A child is not born with thinking - they "appropriate" it from culture, just like language. They are not born with logic - they master it through mathematics. They are not born with scientific thinking - they form it through education. This means that the human brain is not a closed system, but an open structure capable of radical restructuring under the influence of purposeful pedagogical activity. And it is precisely this that makes possible what McGinn considers impossible.

The distinction between a "static" and "dynamic" view of the brain is not just a philosophical subtlety. It is the distinction between two empirical programs. The static view leads to the conclusion: "If we cannot solve the problem now, we will never be able to solve it." The dynamic view leads to the conclusion: "If we cannot solve the problem now, it may be because we have not yet created the cultural tools that would allow us to do so." The history of science confirms the second position: we could not solve the problem of planetary motion until we created Newtonian mechanics; we could not understand heredity until we created genetics. Cultural tools expand our cognitive capabilities - and this applies not only to "external" problems, but also to the problem of consciousness.

Vygotsky's Response: Cultural Evolution as a Way Out

The answer to McGinn's hypothesis is provided by Lev Vygotsky, the Soviet psychologist and founder of cultural-historical psychology. I analyze his ideas in detail in Article 9 [5], but here I want to outline the key move. Vygotsky showed that human thinking is not a product of biological evolution in the same sense that, for example, vision is. Vision indeed evolved - we have eyes that are "tuned" to a specific range of light. But thinking is not an "organ", but a function that is formed through the appropriation of cultural tools. Cultural tools are signs, symbols, and concepts that humanity has created in the process of historical development. Language, mathematics, writing, scientific theories - all of these are tools of thinking. And these tools do not just "help" us think; they shape how we think. A child who masters mathematics is not just "learning to count" - they are mastering a new way of thinking, which becomes possible thanks to mathematical tools.

This means that human cognitive limits are not fixed. They are determined not only by biology, but also by culture. And if culture creates new tools, it expands cognitive limits. This is exactly what happened with quantum mechanics: we did not "evolve" to understand it, but we created mathematical tools that made its understanding possible. The same can happen with the hard problem. If we create cultural tools - mental mechanisms - that will allow us to hold the multidimensionality of neurobiological processes, we will be able to step beyond the limits that McGinn considers insurmountable.

Vygotsky's answer to McGinn is not just an "optimistic declaration." It is an empirically justified answer. Neuroplasticity research shows that the brain restructures itself under the influence of learning. Studies of London taxi drivers show that purposeful training increases the hippocampus. Studies of bilinguals show that learning a second language changes the brain's structure. All of this confirms that cognitive limits are not fixed. They can be expanded through pedagogy. This does not mean that any limit can be overcome; it means that the boundary between "biologically possible" and "biologically impossible" is not fixed. It depends on the cultural tools we create.

Connection to the Paradigmatic Problem: Why This Matters

Now I can explain why the answer to McGinn's hypothesis is important for my entire program. In Article 1 [3], I showed that the hard problem is a paradigmatic problem. This means that its solution requires not just "more data", but a cognitive act of re-conceptualization - stepping beyond the limits of the exhausted paradigm. But if McGinn is right and we are "cognitively closed", then such an act is fundamentally impossible. We are locked in the paradigm, just as a dog is locked in its cognitive world. Vygotsky's answer shows that this is not so. Cognitive limits are not fixed; they are determined by culture. And culture is what we create. Consequently, we can create the conditions for stepping beyond the limits of the exhausted paradigm. These conditions are pedagogy, which forms mental mechanisms that allow us to hold complexity, contradiction, and multidimensionality. It is precisely in this sense that pedagogy becomes a strategy for the evolution of the cognitive potential of the species. It does not "solve" the hard problem directly. It creates the conditions of possibility for its solution - by forming a subject capable of the act of re-conceptualization.

The connection between the answer to McGinn and the paradigmatic problem can be formulated as follows. McGinn says: "We cannot solve the hard problem because our cognitive apparatus is limited." I answer: "Our cognitive apparatus is biologically limited, but culturally open. Pedagogy is a practice that expands cultural limits. Consequently, pedagogy can create the conditions for solving the hard problem - not guarantee it, but make it possible." This is not a refutation of McGinn; it is a clarification of his thesis. He is right that biological limits exist. He is wrong that these limits are insurmountable.

Connection to the Six Requirements: What This Means for the CCFP

If Vygotsky's answer is correct, then what specific abilities must be formed in order to step beyond the limits that McGinn considers insurmountable? In Article 1 [3], I formulated six requirements, and in Article 5 [4], six core mechanisms. Here I want to show how they are connected to the answer to McGinn. Requirement 1 (distinguishing correlation from causality) is the ability that allows us to step beyond the "trap of correlations." McGinn believes that we can only fixate on correlations. MM-1 allows us to build causal models - and thereby step beyond the limits that McGinn considers insurmountable. Requirement 2a (access to experience as data) is the ability that allows us to hold the first-person perspective. McGinn believes that we can only describe neural correlates. MM-3 allows us to work with experience as data - and thereby approach an understanding of what subjective experience is. Requirement 2b (holding the tension between perspectives) is the ability that allows us not to reduce one perspective to another. McGinn believes that we are locked in one perspective. MM-5 allows us to hold both - and thereby see the problem from a new angle. Requirement 3 (deconstruction of axioms) is the ability that allows us to step beyond the exhausted paradigm. McGinn believes that we cannot "see" the limitations of our paradigm. MM-6 allows us to question the foundations - and thereby open up new possibilities. Requirement 4 (holding a multidimensional model) is the ability that allows us to see the brain as a complex system, not as a flat diagram. McGinn believes that we can only "simplify." MM-10 allows us to hold complexity - and thereby approach an understanding of what the brain is. Requirement 5 (foreseeing consequences) is the ability that allows us to build new research programs. McGinn believes that we can only "solve puzzles" within the existing paradigm. MM-11 allows us to see what consequences follow from a theory - and thereby open up new directions.

The connection between the answer to McGinn and the six requirements is not accidental. McGinn asserts that we are "cognitively closed" to solving the hard problem. The six requirements are a description of what must be formed in order for this "closure" to be overcome. Each requirement corresponds to one of the aspects of "closure": the inability to see causality (Requirement 1), the inability to work with experience (2a), the inability to hold tension (2b), the inability to deconstruct axioms (3), the inability to hold multidimensionality (4), the inability to foresee consequences (5). The development of these abilities is precisely the "escape from the cave" that Plato spoke of. This is not the cancellation of biological limits, but the expansion of cultural possibilities.

Conclusion: From Closure to Openness - But Without Naive Optimism

I do not want to create the impression that the answer to McGinn is simple. It is not simple. McGinn is right in his statement: the human brain has biological limits, and these limits cannot be overcome by an "act of will." We cannot "train" the brain for what it is not designed for. But McGinn is wrong in his conclusion. He considers the brain as a static structure, whereas humans are the only creatures capable of managed cultural evolution. This evolution does not cancel biological limits, but it expands them. It creates cultural tools that allow us to solve problems for which we did not "evolve."

This is precisely what pedagogy does. It does not "solve" the hard problem. It creates the conditions of possibility for its solution - by forming a subject capable of the act of re-conceptualization. This subject is not a "superhuman." He is a person who has mastered cultural tools that allow him to step beyond the limits that McGinn considers insurmountable. In the next article (Article 3, Morin), I will analyze what exactly is required for such an exit: complex thinking, which allows us to hold contradictions and see the whole, not just the parts. This is the next step in building an answer to McGinn's challenge.

The conclusion marks the boundaries of my optimism. I do not claim that pedagogy "guarantees" the solution to the hard problem. I claim that it creates conditions without which a solution is impossible. This distinction between a "condition of possibility" and a "sufficient cause" (Article 1) [3] protects me from the accusation of naive optimism. McGinn is right that biological limits exist. I am right that cultural tools can expand them. The truth lies in the synthesis: biological limits are real, but they are not final.

References

1. McGinn C. Can We Solve the Mind-Body Problem? // Mind. - 1989. - Vol. 98, No. 391. - P. 349-366.
2. Vygotsky L.S. History of the Development of Higher Mental Functions. - M.: Pedagogika, 1983.
3. Kleymenov A. Epistemological recursion in cognitive science: mental mechanisms as a tool for overcoming the "hard problem" of consciousness // Fractal Academy. - 2026. - Issue 3. - Art. 1. https://fractal-academy.com/articles/article-3-1/
4. Kleymenov A. Basic mental mechanisms: the structure of the communicative-cognitive framework of personality // Fractal Academy. - 2026. - Issue 1. - Art. 5. https://fractal-academy.com/articles/article-1-5/
5. Kleymenov A. Lev Vygotsky: the brain as an open cultural system // Fractal Academy. - 2026. - Issue 3. - Art. 9. https://fractal-academy.com/articles/article-3-4-9/
6. McGinn C. The Problem of Consciousness. - Oxford: Blackwell, 1991.
7. McGinn C. Consciousness and Its Objects. - Oxford: Clarendon Press, 2004.
8. Chalmers D.J. Facing up to the problem of consciousness // Journal of Consciousness Studies. - 1995. - Vol. 2, No. 3. - P. 200-219.
9. Levine J. Materialism and Qualia: The Explanatory Gap // Pacific Philosophical Quarterly. - 1983. - Vol. 64, No. 4. - P. 354-361.
10. Nagel T. What Is It Like to Be a Bat? // Philosophical Review. - 1974. - Vol. 83, No. 4. - P. 435-450.

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