

University of Pardubice
Faculty of Arts and Philosophy

Searle's Conception of Biological Naturalism

A Summary of Ph. D. Thesis

John Searle's biological naturalism is an answer to the mind-body problem – that is, the problem of the relationship of mind and body. The problem appears within our philosophical tradition from ancient philosophy, however certain answers to the question of the relationship of mind and body can be found much earlier in various religious theories. René Descartes, who distinguishes between two mutually exclusive substances, became famous by formulation of this problem in the 17th century. One of the substances is *res extensa* which is associated mainly with the attribute of extension, i.e., with all corporality. The second is *res cogitans* which is associated with thinking. According to Descartes, their connection takes place in a part of the brain called the pineal gland, which, according to him, is the “seat of the soul.” This solution is highly controversial not only because of the question of why the pineal gland should be the part where the soul interacts with the human body, but mainly because of what can be described as the very core of the mind and body problem: how is it possible that the immaterial thing, the soul, can act on something completely material, our body, and vice versa? Although the substantial dualism in the form of which we know it, for example from the already mentioned Descartes, is rather in decline, the mind-body problem is far from being solved. Nonetheless, there has been a shift in its perception as a result of new scientific knowledge and inventions. The problem have gained new relevance. The position of the soul has been replaced by the mind or consciousness, and the position of the body has been replaced by the neural structure of the brain.

However, the mind-body problem is not only a problem of connection of mind and body but involves several related questions. We must (at least implicitly) answer the question of what the mind and body are and perhaps how they are possible at all and how they interact. We should also try to define the relationship between mind and world to explain how the mind can be about something else (the problem of intentionality). Another question is whether it is possible to act autonomously, that is whether our choices are fully determined (the problem of free will) or how the self exists (the problem of self). Biological naturalism is a complex theory that, as we shall see, provides more or less successful answers to these and other questions.

As already mentioned, science flourished in the 20th century, which shed new light on the traditional problem of the mind. This thesis focuses on one of the current theories of mind, the theory of contemporary analytic philosopher John R. Searle. Searle calls his solution to the problem of mind and body “biological naturalism.” According to him, the mind is a biological phenomenon that arises from neural processes of the brain, which is common to all humans and higher animals. It is, therefore,

biological. It is also part of the natural world, which is *naturalism*.¹ His approach is remarkable, especially because it is a non-reductive theory of mind. He does not try to eliminate or convert mental states into something else. The theory is also built on a scientific basis, thus it is not only based on scientific discoveries but also does not seek to explain the mind religiously or similarly. It is also based on the first-person experience.

Searle's philosophical endeavor is unique in another respect: as one of the few, it is currently a philosophical project that seeks a comprehensive account of human reality – not only the mind but also, for example, language, actions or institutions. Searle, as he puts it, seeks to answer the question, “how can we square this self-conception of ourselves as mindful, meaning-creating, free, rational, etc., agents with a universe that consists entirely of mindless, meaningless, unfree, nonrational, brute physical particles?”²

Searle's philosophical journey began in the 50s when he first gained attention for his analysis concerning the philosophy of language. From the philosophy of language, he got into the area of philosophy of mind, which he considers more fundamental because, according to him, speech acts are primarily mental acts.³ In the 80s, he became famous also because of the Chinese room thought experiment which goes against the dominant theory of functionalism. At that time, he began to devote himself to the philosophy of mind, and in the following decades, he published many books on the subject (the first was *Intentionality: An Essay in the Philosophy of Mind* in 1983, and the last was *Seeing Things as They Are: A Theory of Perception* in 2015). Searle's interest over the years expanded to other areas, e.g., the theory of action or theory of social reality. Although we will focus on biological naturalism separately, we should keep in mind that it is part of one relatively broad philosophical project with other topics of which it is closely related.

The aim of the thesis is to critically introduce Searle's concept of biological naturalism along with related topics of intentionality, the problem of free will, and self. We try to determine the coherence of the theory. The doctoral thesis presents some of the objections against biological naturalism that have already been raised, and we will show whether these objections are relevant and whether it is

¹ Searle, 2004b, p. 331.

² Searle, 2007a, p. 5, similarly elsewhere.

³ See, e.g., Searle, 1983, p. vii.

possible to deal with them from positions of biological naturalism. In the following sections of this summary, we will focus on each chapter individually.

1. Critique of Materialism as a Starting Position of Biological Naturalism

The first chapter of the thesis shows how Searle deals with the main materialistic theories in the philosophy of mind of the 20th century, to which we outline the basic arguments against them. The first step was taken to obtain Searle's answer to the mind-body problem. We focused on behaviorism, identity theories, and functionalism. We showed that to all these theories, we can raise at least one major common objection: although they try to grasp the mind, the theories are reductive. They try to reduce mental states into something else (disposition, physical realization, or function in the causal chain), but by this, they also eliminate them by not explaining what makes them first-personal, subjective, qualitative, meaning what mental states make mental. We also focused on thought experiments created in favor of the qualitateness of our experience, including the famous John Searle's Chinese room thought experiment.

The critique of the materialist tradition of the 20th century is, thus, one of the sources of biological naturalism. Subsequently, we have shown Searle's definition of consciousness. He claims that “consciousness is a real biological phenomenon. It consists of inner, qualitative, subjective, unified states of sentience, awareness, thoughts, and feelings. These states begin when we awake in the morning from a dreamless sleep, and they continue throughout the day until we become unconscious again.”⁴ Searle’s definition consists of three parts: (1) defines consciousness as a biological phenomenon; (2) defines consciousness on the basis of its components; (3) defines consciousness both temporally (when we wake up) and negatively (unless we are unaware). Simultaneously with this definition, we showed conscious states with respect to their main characteristics, i.e., as conscious, subjective, mostly intentional, and unified (that is, we never have experience alone, but only as a whole with other experiences).

⁴ Searle, 2001a, p. 271; similarly elsewhere.

2. Principles of Biological Naturalism

The second chapter of the thesis continues in defining biological naturalism and its principles. In this chapter, we focused, among others, on Searle's critique of (Cartesian) dualism. Searle rejects dualism because everything mental, according to him, is also physical. Consciousness is a feature of our brain – according to him, it is causally reducible (because consciousness is caused by brain processes), but not ontologically reducible (i.e., our conscious states with their qualitative character cannot be reduced to brain structures, e.g., as identity theory does). Consciousness is, thus, a natural phenomenon comparable to, for example, photosynthesis or digestion, according to Searle.

Searle determines the relationship of biological naturalism to consciousness in four statements:

1. *Conscious states, with their subjective, first-person ontology, are real phenomena in the real world.*
2. *Conscious states are entirely caused by lower-level neurobiological processes in the brain.*
3. *Conscious states are realized in the brain as features of the brain system, and thus exist at a level higher than that of neurons and synapses.*
4. *Because conscious states are real features of the real world, they function causally.*⁵

In addition to what has already been said, it follows that consciousness and the brain can be seen as two levels of the same system. At the same time, however, Searle points out that they are only an analogy to help understand the whole principle. Searle uses several comparisons to grasp the ratio of consciousness to the lower level. He takes one from Roger Sperry:

*Consider a wheel rolling down hill. The wheel is entirely made of molecules. The behavior of the molecules causes the higher-level, or system feature of solidity. Notice that the solidity affects the behavior of the individual molecules. The trajectory of each molecule is affected by the behavior of the entire solid wheel.*⁶

Searle shows the principle of emergence in this example where a part of the system arises – emerges from the system as a whole. The emergent feature is not obvious from its parts; for example, the

⁵ Searle, 2004a, p. 113-114.

⁶ Searle, 2007a, p. 48.

mentioned strength of objects is determined by the arrangement of its molecules but is not deducible from the molecules as such. The principle of emergence, according to Searle, shows how consciousness is possible – the system features of the brain are generated by its parts, possibly neurons or synapses. Searle admits that it can be discovered that a different level of the brain causes consciousness.

In addition to these analogies, Searle also uses a comparison to the melting of an ice cube or the function of an engine to show the interconnectedness of higher and lower levels. Although Searle's analogies are useful in introducing new ways of grasping, their validity is only limited because they focus on ontologically reducible features, which consciousness is not. A detailed explanation of the principle of emergence in relation to consciousness leaves Searle to elaborate by empirical scientists. It has been shown that this insufficient Searle's elaboration is one of the significant weaknesses of biological naturalism.

One of the sets of problems of theories that use the principle of emergence to explain consciousness, including Searle's, is that they must deal with the problems associated with mental causation. Concerning mental causation in Searle's theory, three problems are usually mentioned. The first of these shows excessive amounts of causes to produce a given effect than is necessary, i.e., problem of overdetermination. The second is the question of how it is possible that the mental can affect physical. That is associated with the third issue, the causal closure of physical, according to which the physical effects can be caused only by natural causes – mental would have acted to physical as an external factor and, therefore, this principle interferes with causal closure of physical.

However, most of these objections are based on an overly literal interpretation of the analogy of the higher-mental and lower-neurobiological levels. According to Searle, mental is part of the physical and one system does not distort the principle of the causal closure of physical. Similarly, this model reduces the validity of the objection of overdetermination because it works as one system as a whole. Moreover, we have shown that the argument of overdetermination itself is not entirely well grasped. An open question remains about how mental causation is possible at all. Although mental and physical is causal as a unified system, its functionality, as we have shown, is open for further scientific research. Nevertheless, we have stated that objections to mental causation come from a lack of understanding of the schematic division of the higher and lower levels rather than being fatal to biological naturalism.

At the end of the second chapter, we have summarized the approach of biological naturalism by explaining the species in which we can expect consciousness – comparing another human being, a pet, an automated chat program, a hypothetical alien life form, and a stone. At the same time, we have shown that the possibility of panpsychism is open to biological naturalism even though it explicitly opposes it. Specifically, it has been shown that the principle of emergence can be in accordance with the so-called panpsychism of ultimates, stating that human consciousness arises from proto-consciousness, which should be present at the level of ultimates. With regard to the insufficient elaboration of the principle of emergence, which we have already pointed out, panpsychism of ultimates cannot be rejected in principle.

3 Intentionality or There and Back Again

In the first and second chapters, we obtain a comprehensive concept of biological naturalism and deal with some objections. In subsequent chapters, we targeted its structural moments – the first of them was intentionality. Intentionality, according to Searle, is “property of the mind by which it is directed at or about or of objects and states of affairs in the world independent of itself.”⁷

Intentionality is, thus, one of the important aspects of consciousness. Thanks to it, consciousness has its content and is about something, so it would be very limited without this property, if it were even possible to talk about consciousness in the full sense of the word. According to Searle, it is one of the properties of consciousness and, as such, it is a biological phenomenon created by evolution.

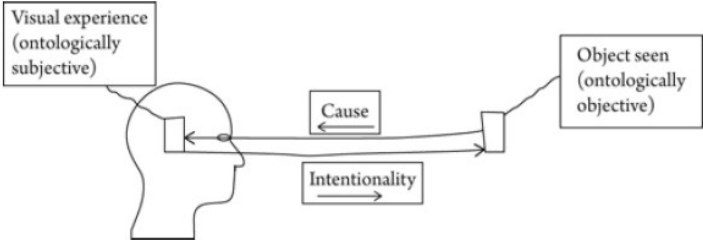
According to Searle, the organism – whether it is a human being or any other higher animal – is in relation to the world in two basic kinds of stances. One is volitional, i.e., it relates human beings to the world in such a way that they want to change something and they are an active part of the world. The second stance, on the other hand, is cognitive – a person is, in some sense, only passive because he or she only perceives or knows how the world is.⁸ Thanks to intentionality, animals can relate to

⁷ Searle, 2004a, p. 175.

⁸ To clarify, this characterization is simplified to better grasp the topic. Searle (2015, p. 70–75) does not agree that a person is only a “passive” receiver of external stimuli, because the same stimulus may be perceived differently by different people (or other organisms). A classic example of it is the

the outside world. For this relationship to be successful, intentional acts must serve their purpose, such as performing a bodily movement or obtaining true information about the environment. The thesis also focuses on a closer explanation of how intentionality according to Searle works with regard to the notions of direction of fit, direction of causation, causal self-reflexivity, conditions of satisfaction, network and background.

In the thesis, we then explained in more detail how, according to Searle, the intentional state of perception works. Searle is a direct realist – he argues that perceptual experience in ordinary cases corresponds to the state of affairs even though it does so through a certain aspectual shape or with a time lag. What is the relationship between the mind and the world in the case of seeing, i.e., between subjective and objective visual field? Searle illustrates this relationship with a diagram:⁹



A subjective visual field (the content of our visual experience) corresponds to an objective visual field (seen objects). According to Searle, a subjective visual field is transparent and because of it we know about the world or the objective visual field which causes it.

How is it possible according to Searle that our (visual) experience corresponds to the world around us? We experience content of our experience as presenting the state of affairs around us (e.g., in front of me is a red mug). We also experience it as caused by such things (e.g., the red mug causes the visual experience of red), i.e., as independent of my will. However, the mug is already a feature of a higher order, so let's consider only its basic feature (e.g., red). Searle argues that in order to perceive

image of a rabbit-duck, which can be seen either as a duck or as a rabbit, although it is only one stimulus.

⁹ Searle, 2015, p. 18.

a red mug as a red mug, it must be part of it or part of the basic features (at least in part) to have the ability to cause this experience. The fact that the right conditions are needed, such as the right light and the whole causal mechanism that processes the wavelength into a color experience, does not change the fact that the possibility of causing a red experience is an ability of a red or red object as such. It is, thus, able to cause the given visual experience. Therefore, the visual field of the red cup is formed from the causal effect of its basic features (red or red shape), which is (at least partially) capable of cause this experience. Let us add that we perceive a richer intentional content (e.g., *my* red mug) thanks to the network of other intentional states like beliefs and the background of non-intentional capacities like the ability to recognize the same object over time.

By this, Searle binds to or derives the content of our subjective visual experience from the objective visual field and also gives it a priority. Thus, the content of consciousness is derived from the world and not vice versa. Searle calls this a “backward road” – he does not try to define the world from the content of the consciousness but the content of consciousness from the world. If experience corresponds to reality, we gain appropriate knowledge about the world around us. However, there are other non-standard cases such as hallucinations or optical illusions, which can be used as counter-arguments. Nonetheless, according to Searle, these counter-arguments are based on what he calls the “bad argument” that occurs when there is an insufficient differentiation between the first-personal content of experience and the third-personal object of experience.

At the end of the third chapter, we focused on the question of whether we can deduce from Searle's theory of perception and biological naturalism as such the truth of Searle's direct realism; that is, to overcome the skeptical claim that we can never be sure of the truth of our knowledge. In the thesis, we compared three hypothetical states: (1) true perception; (2) hallucinations or dreams; and (3) the brain in the vat illustrated by *The Matrix* movie.

Regarding the last two, Searle asserts that perception has no object, i.e., the conditions of satisfaction are not fulfilled, in contrast with the true perception which corresponds to reality (objects around us). In the case of hallucinations or dreams, the object we experience is not part of the world around us, so it does not exist. The originator of this experience is not the world around us but ourselves. Regarding the brain in the vat – the *Matrix*, Searle says the same thing about hallucinations, that the object we think we're looking at doesn't really exist.

However, we can assume that there is one essential difference between hallucinations or dreams and the brain connected to the simulation of the world. For dreams, we have no doubt we are their originators as there is no external mechanism that could determine dreams. Rarely, we experience dreams as volitional when we become directors of our dreams and determine what will happen in them. This means that this type of state can be volitional, and it also shows that we are the guarantor and the originator of them.

This is not possible with the brain in the vat because, as with true perception which is guaranteed by the world, the experience is not dependent on us – in the case of The Matrix movie, their guarantors and creators are machines. Can we rightly say, as Searle believes, that the brains in the Matrix have no experience of objects? The object is in front of me as independent of me (which is also referred to in the etymology of the word – from the Latin *obiectum* that means 'what is thrown to (senses)'). My experience has conditions of satisfaction because for these conditions of satisfaction to be fulfilled, it has to be experienced the object that is generated. Even within the brain in the vat – the Matrix, we can imagine that I am wrong or that the content of my mind does not correspond to a right object, that machines generate a different object than the one I think I see, and thus, conditions of satisfaction are not fulfilled. Besides, even in the Matrix, we can have (hypothetically) hallucination that is not generated by the machines. The difference between true perception that is guaranteed by the real world and perception that is guaranteed by machines is much smaller than Searle suggests and certainly smaller than between hallucinations/dreams and the brain in the Matrix.

In order to answer the epistemic question of whether and how we really know the world, we should also ask ourselves the ontological question of whether and how this world really exists. Searle considers this question to be unnecessary and the world presupposes. He asserts that the existence of the world independent of us is a *default position*.¹⁰ According to him, the default positions, which also include direct realism or dualism of mind and body (but he argues against this one) and which are part of the background, are true until they are argumentatively refuted. He argues that external realism, as he calls believe in existence in the world around us, is not a theory that should be accepted by argument but we should consider it valid until it is rejected. Although we looked for other arguments for acceptance of this believe in biological naturalism, it turned out that Searle avoids a skeptical question about the reality of the world by postulating the world as a default position.

¹⁰ Searle, 1998, p. 10 et seq.

We showed a difference of two possible approaches, one (Searle's) being that from the world deduces mind (with its neurobiology, evolutionary development and interactions with some other things), and the second being that from the mind deduces the world. The objectification that the first approach introduces is undeniably beneficial and, as a result, is likely to answer more questions and push the boundaries of human knowledge further than the approach from the mind. However, we should be aware that this approach is still and always will be dependent on the mind.

4 Searle's Conception of the Problem of Free Will

The problem of free will is another of the key topics related to biological naturalism. The current debate on the nature of free will can be seen as a dispute between causal determinism that proclaims the determination of all phenomena without the possibility of human freedom and libertarianism that proclaims human freedom and free choices. This dispute, thus, arises from the clash of two incompatible conceptions of the world and ourselves as acting beings – but, we are not willing to give up either of these.

The contradiction of these conceptions seeks to settle compatibilism which tries to combine libertarianism with determinism. However, its thesis is based on redefining the concept of freedom – it is no longer authentic freedom as a choice between options based on causally insufficient conditions but merely agreeing with what is happening or how we are acting. We do not have to, along with Searle, consider the approach of compatibilism relevant to the problem of free will because it does not solve the issue in its essence, and it is only a disguised determinism.

According to Searle, the brain is, as we have seen, a single system that can be schematically divided into a lower neurobiological level and a higher level of consciousness. On a higher conscious level, Searle likens the experience of human freedom to the experience of a *gap*. We always experience it when we make decisions or act voluntarily, i.e., when we feel we have different possibilities of our actions, when we take into account the reasons that affect us or when we do not act in a way for which we have a reason. We then experience all the reasons as causally insufficient, that is we believe that they are not able to fully determine the given action. However, the fact that we consider them to be causally insufficient does not mean, according to Searle, that they are not causal. Their effectiveness depends only on us when we decide to act on them. Searle argues that without the premise of free will, we cannot act, even if it is only an illusion, because it is a precondition for our choices.

Otherwise, the election between options would not make sense. Tomis Kapitan opposes by stating that the determinist who decides how to act is not practically inconsistent. The decision-making process makes sense even though its result is determined by causally sufficient conditions because the decision maker does not yet know what his decision will be.

Searle considers the experience of the gap guaranteed from a psychological point of view. However, if it could have any real causal influence, it must be like everything that happens in consciousness, traceable at the neurobiological level. If the gap does not manifest itself at any level of the physical brain, it is a mere illusion of our consciousness. At this point, Searle tries to formulate the problem of free will as a topic suitable for scientific research. The formulation is: is the state of the brain at the time of the decision (t2) fully determined by the state of the brain before the decision (t1)? Searle formulates two hypotheses. The first states that the state of the brain in t1 is fully causally sufficient to induce the state of the brain in t2. The second hypothesis, on the contrary, states that it is not causally sufficient. Let's take a closer look at each hypothesis.

The first hypothesis is a combination of psychological libertarianism with neurobiological determinism, and, thus, a version of compatibilism. According to it, our entire consciousness is determined by the neurobiological level, which is affected only by causally sufficient conditions to cause the following state. In this case, according to Searle, we could not really influence our choices and our actions because the gap on the neurobiological level was not confirmed even though the experience of it is undeniable on the psychological level. From this point of view, the experience of the gap, like all consciousness, is only epiphenomenal. Searle admits that this hypothesis may prove to be true, but at the same time adds that it is very unsatisfactory even though it would be the most comfortable for brain research. Searle's main argument against it is from evolution. Why would something as complex as our consciousness and experience of free will would arise when it would not have any real impact? In our thesis, we have shown that this evolutionary argument is widely commented on by Searle's commentators. Adam Giffort or Itzhak Gilboa can be mentioned. They agree that consciousness and free will are an essential part of the evolution of our species. On the contrary, Diana Mertz Hsieh shows that consciousness could have evolved by mistake.

The second hypothesis interconnects psychological indeterminism (i.e., the experience of the gap) with neurobiological indeterminism, so it is a version of libertarianism. This hypothesis states that the state of the brain in t1 is not fully sufficient to determine the state of the brain in t2. There is a relationship, as we have already seen, between the brain and consciousness. They are interconnected

in such a way that what happens at one moment on one of these levels must be reflected on the other. In this way, the decision-making process, or every gap, plays a role and has a correlation at the neurobiological level.

Indeterminism has, so far, been scientifically founded only at the level of quantum physics. According to Searle, it seems to be the only key to the solution to the problem of free will. But, the mere introduction of the quantum level into the problem of free will does not solve anything as indeterminism at this level has the character of randomness – and randomness is not a free action. Searle argues that micro-level randomness doesn't necessarily mean system randomness. How this system could work is left by Searle. It is a question for scientists to answer, not philosophers. At the same time, we in the thesis dealt with some objections to Searle's concept, such as the objection of readiness potential or the possibility of non-random indeterminism.

However, we cannot consider the quantum theory to be complete and unambiguous. This also applies to the indeterministic principle – the fact that in the description of quantum mechanics, there are phenomena that we can (very successfully) describe only by the statistical probability of their occurrence, but we are not able to determine their cause, does not mean that this cause does not exist and determinism on the quantum level does not apply.

We have shown in the thesis how free will could work with regard to quantum mechanics according to Henry Stapp. However, he also asserts that quantum theories are dualistic. Searle's understanding of physics corresponds, according to Stapp, more to the classical physics. This classical physics however fails to explain how “brute particles” can cause consciousness. Today, however, it would be too soon to close the question of the quantum foundation of free will by saying that quantum theory is dualistic and that free will does not mean an unsolvable problem because we can constitute a separate ontological realm to which we attribute the property of freedom. With this in mind, it is not possible in principle to decide between a dualistic solution and Searle's monism.

5 Emergent Self: On Searle's Notion of Self

The last major topic of the thesis was the notion of self in biological naturalism. When we studying the issue, we are usually encountered with the fact that the coherence of this notion is already assumed in advance. In the various theories, philosophers and other researchers ask questions about the identity

of self in time, moral responsibility, self-generated actions, the relation of self, behavior, and the environment, what aspects play importance for our self-esteem and so on. But, we are asking a more fundamental question of whether the self exists at all, how it is possible and what this self is.

We have outlined two paradigmatic notions of self: (1) Descartes' substantive notion of the self as a separate entity; and (2) the skeptical notion of the self represented by David Hume and Daniel Dennett. Subsequently, we showed Searle's approach to this issue and his position, which is somewhere between these two approaches, although Searle implicitly endorses the second position.

For Searle, the question of the self arises in two different areas of his thinking. Specifically, the self is central, as we shall see, for his theory of action and, of course, plays a role in Searle's notion of the mind (but the two areas are strongly interconnected). Self is, according to Searle, important to explain actions that are based on causally insufficient reasons. Thus, the explanation giving the reasons for the action forces us to postulate the actor, the self who acts on the given reasons.

Searle defines the self as follows:

There is an x such that:

1. x is conscious.

2. x persists through time.

3. x operates with reasons, under the constraints of rationality.

4. x, operating with reasons, is capable of deciding, initiating, and carrying out actions, under the presupposition of freedom.

5. x is responsible for at least some of its behavior.¹¹

Searle argues that this x, self, is only a formal notion and compares it to a point of view. The self as well as the point of view gives us only some formal constraints, but it is more complex than the point of view because it involves the mentioned characteristics. Searle is, thus, close to the skeptical notion of self.

¹¹ Searle, 2001a, p. 95.

Leaving aside Searle's latent liberalism of free will, we can assume that Searle's notion of the self suffers from at least two difficulties. The first is the neglect of the self as the experienced subject of the experience, sense of self, and the second is the insufficient explanation of the causal effectiveness of the self.

The second problem mentioned, the causal effectiveness of the self, seems to be more problematic to biological naturalism than the previous objection as it shows the incoherence of Searle's theory. Searle argues that the self can make decisions and initiate actions based on the reasons for actions. However, consider a causal chain in which the role of the self should be taken into account. So, let's say we have two reasons to do something. To have these reasons is not a sufficient condition for action to take place. So, if an action is to be performed, the self must come into play and make the reasons effective, i.e., act on them. The self, therefore, enters the never-ending line of causes and effects by making some reasons effective. When we do consider that it does so on the basis of freedom, this role is even more complicated because the self comes to the causal chain from the outside as an indeterminate element. So, can something with such a power that decides whether something becomes causally effective be a mere formal notion? If the self has this place in the causal chain, or rather allows the action itself, it is not appropriate to reduce it to a mere formal notion – it is, thus, closer to the substantive than the formal notion.

However, I believe that this discrepancy in biological naturalism would not have arisen if Searle had consistently adhered to the principles of biological naturalism that is mainly the principle of the evolution and the emergence of the mental. It has been shown in the thesis that from the point of view of evolution, we can understand the origins of the sense of self because our sense of self arises from the needs of the organism and ensures or improves adaptation to the given conditions. This development can be observed from the reactions of the first living cells to their environment.

If we grasp the self as an emergent feature of the system, i.e., we place it in the definition presented in this summary of the second chapter instead of conscious states (page 5), we can consider it as an ontologically irreducible feature. It is not only Searle's formal notion but also holds the principles of biological naturalism. We should not perceive it as something that goes beyond allowable metaphysics, that is, it is not the Cartesian self, independent of anything material, but the self which, although substantial, i.e., an ontologically different and real, is caused by the physical brain on which it can act as part of the same system. This gives us an answer to one of the objections to Searle's notion of the self, which is the insufficient explanation of his causal action. If the self is something

that can be thought this way within biological naturalism, then we can assume this “emergent self” can interfere with the causal chain.

Our proposed notion of the self, emergent self, corresponds to our primary intuition that we are something, some real entities as assume Descartes. However, in contrast to Descartes, we can explain it naturalistically by the emergence and the evolutionary principles. Concerning Gallagher's notion of minimal self, which is also in the basis of our approach as we have shown in the thesis, we can say that part of the self is a set of perceptions, as Hume thought it, but it's not the only structural property. This self can be perceived as a unifying principle of the various functions of the brain, which create one interacting whole which is, among other things, able to act and make decisions.

If we try to further specify it, we could describe the emergent self as a psychophysical unity. This determination does not force us to more specify what the “psycho” means and what the “physical” part means because it includes all these attributes. These can then be, as we have shown, considerably variable due to the number of natural species. However, mental states can be understood as mutually interacting states of consciousness (and also unconsciousness), forming a unity of overall experience (even in terms of time). This is possible only in connection with the physical part in two senses: (1) emerges from the physical (together with Searle, we can say that it is causally – but not ontologically – reducible to physical); and (2) it is (at least partially) dependent on physical inputs (e.g., when it interacts with its surroundings).

One of the reasons to try to introduce this notion of the self, emergent self, is its role in Searle's biological naturalism. We have seen that Searle's notion of the self brings several problems. By introducing the emergent self, we reduce them to problems that biological naturalism already brings and which it must deal with as a whole. By this, we transfer the issue of self mainly to the issue of emergence as biological naturalism is based on this principle anyway. Accordingly, if biological naturalism can defend this approach in the long run and ideally be supported by neurobiological research, the notion of the self should then be easily deducible. At the same time, in the thesis, we dealt with several objections that could be raised against the emergent self.

The thesis tackles the mind-body problem in the biological naturalism of John Searle. In many ways, Searle's theory is a successful expression of what Searle calls “common sense,” that is how consciousness is understood by ordinary people even without a deeper knowledge of philosophy or

natural sciences. Searle's theory seeks to approach consciousness from a scientific point of view, that is it seeks to explain it without the involvement of religious or unscientific conceptions of the world, that are not based on rationality and scientific principles in general. At the same time, it attempts to grasp consciousness without reduction, that is including all its subjective and qualitative aspects that make human beings who they are.

The thesis introduced the basic principles of biological naturalism and then guided us through its key aspects: intentionality, the possibility of free will, and the notion of the self. It also focused on several common objections to Searle's theory. We proved that some were mistaken or irrelevant and others are yet open. The final assessment awaits the further development of the natural sciences. Other objections we have raised by ourselves. Let's show biological naturalism in a larger perspective and, at the same time, let's focus on selected arguments and objections which seem valid. We found at least six key issues:

- 1) Insufficient elaboration of the principles of biological naturalism, especially the principle of emergence (mainly chapter 2, chapter 3 and chapter 5).
- 2) Panpsychism as an open possibility (chapter 2).
- 3) An unreflected assumption that the world exists, which is considered primary to consciousness and from which consciousness is explained (chapter 3).
- 4) Vulnerability to epiphenomenalism (chapter 4).
- 5) Understanding of science and its principles (chapter 4).
- 6) Incoherent notion of self (chapter 5) .

Since Searle bases his theory on the scientific approach to the world, we can consider the problem of understanding science and its principles to be, in some ways, fundamental. In order to design a theory based on scientific knowledge, we should first know what science is and what it grasps. If we consider science to be a set of methods, approaches and acquired knowledge to help us understand the world, we must always keep in mind that science, although strictly defined, is not once and for all a given valid knowledge but a human creation. Even its rules are rules that may vary with time. Science should not be confused with reality itself but consider it only as our approach to grasping reality,

which can be affected by many factors. Along with Thomas Kuhn, we can say that science is paradigmatic, or more radically with Paul K. Feyerabend considering that “anything goes.”¹²

Searle does not reflect science in this way and often understands it in the context of the 19th century as a science of the objective state of the world in which the role of the scientist and observer or his methods plays no role. This is also problematic with regard to quantum mechanics. The problem arises of how to make an account of consciousness. Our world may be uncertain, whether in point of view of a radical skeptic or of quantum physics. Accordingly, the insufficient understanding of science is accompanied by an insufficient understanding of the world, which is considered objective.

These insufficient foundations can lead to another problem, the open possibility of panpsychism. We do not know what the foundation of the world is – it could be even conscious particles, especially if it helps us to solve the problem of the mind. This problem of biological naturalism is not critical and we must agree with Searle on this that our knowledge is not far enough. However, it is not reasonable to close the possibility of panpsychism, as Searle does, without sufficient justification.

Insufficient understanding of the world, but also science, leads to other problems, especially to the insufficient elaboration of the principles of biological naturalism. Searle does not suggest how emergence could create consciousness. He only offers a few analogies but that is not enough. This leads to another problem of vulnerability to epiphenomenalism, i.e., that consciousness may not have any real causal powers. If the principle of emergence was further elaborated and justified, epiphenomenalism would not have to be an issue for biological naturalism.

Searle's notion of the self is then a problem for biological naturalism of its kind because it seems to indicate the internal contradiction of this theory. To solve it, we have proposed to extend the notion of self to biological naturalism based on its principles to reduce the problems of the theory. The notion of self is, however, connected to the other issues. This is, first, because it is based on the principle of emergence to which may also be related to the possibility of panpsychism. Secondly it is because self reacts with the world and, therefore, is associated with a problem of free will, problem of

¹² For the sake of completeness, let us add that Searle commented on Kuhn's understanding of science several times – but considered it mainly as an attack from the humanities on the objectivity of science, which humanities can not achieve.

understanding of the world and its scientific interpretation. Self also acts so it is close to the issue of epiphenomenalism.

Despite all these issues, Searle's theory can be considered as a successful account of consciousness from the perspective of common sense. Biological naturalism is built on foundations that should be comprehensible to all those who have gone through the education system. Searle is taking steps to explain consciousness using scientific means. However, the main challenge for biological naturalism is for it to be seriously taken as a theory by empirical scientists and to be tested as a hypothesis.

We should not forget, however, that biological naturalism is not just a theory of consciousness but is part of a larger whole of Searle's philosophical project, which seeks to answer the question of how human beings can exist in the physical world. As such, biological naturalism is the solid foundation of which other parts of Searle's philosophy are based.

Literature

1. Archer, M. S., 2000. *Being Human: the Problem of Agency*. New York: Cambridge University Press, 2000, 323 p. ISBN 0-521-79175-8.
2. Bargh, J. A.; Chen, M.; Burrows, L., 1996. Automaticity of Social Behavior: Direct Effects of Trait Construct and Stereotype Activation on Action. *Journal of Personality and Social Psychology*. 71(2), 230–244. ISSN 0022-3514.
3. Bayne, T., 2008. The Phenomenology of Agency. *Philosophy Compass*, 3(1), 2008, p. 194. ISSN 1747-9991.
4. Boström, K. J.; Honnacker, A.; Ziesche, A., 2010, Acting On Gaps? John Searle's Conception Of Free Will. In: Franken, D.; Karakus, A.; Michel, J. G. (eds.) *John R. Searle Thinking About the Real World*. Berlin, Walter De Gruyter 2010, p. 103–116. ISBN 9783110326185.
5. Corcoran, K. J., 2001. The Trouble with Searle's Biological Naturalism. *Erkenntnis*, 55(3), p. 307–324. ISSN 0165-0106.
6. Corrigan, R., 2008. Freedom and Neurobiology, by John Searle. *Philosophy Now*, 66, p. 40–41. ISSN 0961-5970.

7. De Haan, S.; De Bruin, L. 2010. Reconstructing the minimal self, or how to make sense of agency and ownership. *Phenomenology and the Cognitive Sciences*, 9(3), 2010, p. 373–396. ISSN 1568-7759.
8. Dennett, D. C., 1992. The Self As A Center Of Narrative Gravity. In: Kessel, F.; Cole, P.; Johnson, D. (eds.): *Self and Consciousness: Multiple Perspectives*. Hillsdale: NJ, Erlbaum, 132 p. ISBN 080580532X.
9. Descartes, R. 1970. *Úvahy o první filosofii*. Translation Gabriel, Z. Praha: Svoboda, 150 p. ISBN 25-087-70.
10. Dolák, A., 2010. Svoboda vůle: Sic et Non. *Organon F*, 17(3), p. 322–338. ISSN 1335-0668.
11. Gifford, A., 2007. The Knowledge Problem, Determinism, and The Sensory Order. *The Review of Austrian Economics*, 20(4), p. 269–291. ISSN 0889-3047.
12. Gilboa, I., 2007. *Free Will: A Rational Illusion*. [online]. [2015-10-20] Available from: <http://www.dklevine.com/archive/refs4122247000000001959.pdf>
13. Gregg, A. P.; Sedikides, C.; Gebauer, J. E., 2011. Dynamics Of Identity: Between Self-Enhancement And Self-Assessment. In Schwartz, S. J.; Luyckx, K.; Vignoles, V. L. (eds.), *Handbook of Identity Theory and Research*, p. 305–327. ISBN 978-1-4419-7987-2.
14. Grünbaum, T., 2012. First-Person And Minimal Self-Consciousness. In: Miguens, S.; Preyer, G. (eds.), *Consciousness and Subjectivity*. Heusenstamm: Ontos Verlag, 2012, p. 292–320. ISBN 978-3-86838-136-8.
15. Havlík, V., 2012. Searle On Emergence, *Organon F*, 19, p. 40–48. ISSN 1335-0668.
16. Honderich, T., 2001. Mind the Guff. A Response to John Searle. *Journal of Consciousness Studies*, 8(3), p. 62–78. ISSN 1355-8250. Available from: <http://www.homepages.ucl.ac.uk/~uctytho/dfwVariousHonderichonSearle.htm>
17. Hsieh, D. M., 2003. *Minds in Action* [online]. [2015-10-20] Available from: <http://www.philosophyinaction.com/docs/mia.pdf>
18. Hume, D., 2015. *Pojednání o lidské přirozenosti*. Přeložil Hynek Janoušek. Praha: Togga, 2015, 455 p. ISBN 978-80-7476-094-5.
19. Hvorecký, J., 2012. Causality and Free Will. *Organon F*, 19, p. 64–69. ISSN 1335-0668.
20. Chalmers, D. J., 1992. *The Conscious Mind: In Search of a Fundamental Theory*. New York: Oxford University Press, 375 p. ISBN 0-19-510553-2.

21. Chalmers, D. J., 1995. Explaining Consciousness: The 'Hard Problem'. *Journal of Consciousness Studies*, 2(3), p. 200–219. ISSN 1355-8250.
22. Jackson, F., 1982. Epiphenomenal Qualia. *The Philosophical Quarterly*, Vol. 32, No. 127, Apr., p. 127–136.
23. Johansson, I., 2003. Searle's Monadological Construction of Social Reality. *The American Journal of Economics and Sociology*, 62(1), p. 233–255. ISSN 0002-9246.
24. Kapitan, T., 2007. The Phenomenology of Freedom. *The Journal of Mind and Behavior*, 28(3;4), p. 189–202. ISSN 0271-0137.
25. Kaufmann, L., 2005. Self-in-a-Vat: On John Searle's Ontology of Reasons for Acting. *Philosophy of the Social Sciences*, 35(4), p. 447–479. ISSN 0048-3931.
26. Kim, J., 1995. Mental Causation in Searle's Biological Naturalism. *Philosophy and Phenomenological Research*, 55(1), p. 189–194. ISSN 1933-1592.
27. Kripke, S., 1980. *Naming and Necessity*. Oxford: Basil Blackwell, 172 p. ISBN 0-631-10151-9.
28. Law, S., 2007. *Filosofická gymnastika*. Translation Pálenský, P. Praha: Aliter (Argo: Dokořán), 344 p. ISBN 978-80-86569-84-0.
29. Layzer, D., 2001. *Free Will as a Scientific Problem* [online]. [2015-10-20]. Available from: http://www.informationphilosopher.com/solutions/scientists/layzer/Free_Will_As_A_Scientific_Problem.pdf
30. Le Morvan, P., 2004. Arguments Against Direct Realism and How to Counter Them. *American Philosophical Quarterly*, 41(3), p. 221–234. ISSN 0003-0481.
31. Libet, B., 2001. Consciousness, Free Action and the Brain. Commentary on John Searle's Article. *Journal of Consciousness Studies*, 8(8), p. 59–65. ISSN 1355-8250.
32. McDermid, D. The Real World Regained? Searle's External Realism Examined in *Kriterion*, Nr. 18 (2004), p. 1–9. ISSN 1019-8288.
33. Marvan, T.; Hvorecký, J. (eds.), 2007. *Základní pojmy filosofie jazyka a mysli*. Nymburk: OPS, p. 236. ISBN 978-80-903773-3-2.
34. Meijers, A. W. M., 2010. Mental Causation and Searle's Impossible Conception of Unconscious Intentionality, *International Journal of Philosophical Studies*, 8 (2), p. 155–170. ISSN 0967-2559.
35. Nagel, T., 1974. What is it like to be a bat? *Philosophical Review*, 83, October, 1974, p. 435–450.

36. Nagel, T., 1995. *Other Minds, Critical Essays 1969–1994*. New York: Oxford University Press, 229 p. ISBN 0-19-509008-X.
37. Polák, M., 2011. Některé aspekty pojmu Já ve filosofii mysli a v kognitivní vědě: primitivní Já a konceptuální Já. *Organon F*, 18, p. 126–143. ISSN 1335-0668.
38. Polák, M., 2013. *Filosofie mysli*. Praha: Triton, 2013, 260 p. ISBN 978-80-7387-742-2.
39. Ragget, S., 2013. *Searle on Consciousness and Free Will* [online]. [cit. 2014-03-25] Available from: <http://quantum-mind.co.uk/searle-consciousness-freewill/>
40. Searle, J. R., 1979, What Is an Intentional State?, *Mind*, 88(1), p. 74–92. ISSN 0026-4423.
41. Searle, J. R., 1980a. Minds, Brains and Programs. *The Behavioral and Brain Sciences*, 3(3), p. 417–424. ISSN 0140-525X
42. Searle, J. R., 1980b. The Intentionality of Intention and Action, *Cognitive science*, 4, p. 47–70. ISSN 03640213.
43. Searle, J. R., 1983. *Intentionality: An Essay in the Philosophy of Mind*. Cambridge, Mass.: Cambridge University Press, 278 p. ISBN 0-521-22895-6.
44. Searle, J. R., 1984. *Minds, Brains and Science*. Cambridge, Mass.: Harvard University Press. Reith lectures, 107 p. ISBN 0-674-57633-0.
45. Searle, J. R., 1992. *The Rediscovery of the Mind*. Cambridge, Mass.: The MIT Press, 1992, 270 p. ISBN 0-262-69154-X.
46. Searle, J. R., 1994. *Mysl, mozek a věda*. Translation Nekula, M. Praha: Mladá fronta. Váhy (Mladá fronta), 135 p. ISBN 80-204-0509-7.
47. Searle, J. R., 1995a. *The Construction of Social Reality*. New York: The Free Press, 241 p. ISBN 978-0-029-28045-4.
48. Searle, J. R., 1995b. Consciousness, the Brain and the Connection Principle: A Reply. *Philosophy and Phenomenological Research*, 55(1), 1995, p. 217–232. ISSN 0031-8205.
49. Searle, J. R., and exchanges with Dennett, D. C.; Chalmers, D. J., 1997. *The Mystery of Consciousness*. London: Granta Books, 224 p. ISBN 1-86207-122-5.
50. Searle, J. R., 1998. *Mind, Language And Society: Philosophy In The Real World*. New York: Basic Books, 175 p. ISBN 0-465-04521-9.
51. Searle, J. R., 2000. Consciousness, Free Action and the Brain, *Journal of Consciousness Studies*, 7, No. 10, p. 3–22. ISSN 1355-8250.

52. Searle, J. R., 2001a. *Rationality in Action*. Cambridge, Mass.: MIT Press, 303 p. ISBN 0-262-19463-5.
53. Searle, J. R., 2001b. Reply to Libet: 'Consciousness, Free Action and the Brain. Commentary on John Searle's Article.'. *Journal of Consciousness Studies*, 8(8), p. 63–65. ISSN 1355-8250.
54. Searle, J. R., 2001c, Free Will as a Problem in Neurobiology. *Philosophy*, 76(4), p. 491–514.
55. Searle, J. R., 2004a. *Mind: A Brief Introduction*. New York: Oxford University Press, 326 p. ISBN 0-19-515733-8.
56. Searle, J. R., 2004b. Biological naturalism. In: Schneider, S., a Velmans, M., editori. *The Blackwell Companion to Consciousness*. Chicester: John Wiley and Sons Ltd, p. 325–334. ISBN 978-1-4051-2019-7.
57. Searle, J. R., 2007a. *Freedom and Neurobiology: Reflections on Free Will, Language, and Political Power*. New York: Columbia University Press, 113 p. ISBN 978-023-1137-522.
58. Searle, J. R., 2007b. Neuroscience, Intentionality and Free Will: Reply to Habermas. *Philosophical Explorations*, 10(1), p. 69–76. ISSN 1386-9795.
59. Searle, J. R., 2008. *Philosophy in a New Century: Selected Essays*. Cambridge: Cambridge University Press, 201 p. ISBN 978-0-521-51591-7.
60. Searle, J. R., 2010a. *Making the Social World: The Structure of Human Civilization*. New York: Oxford University Press, 208 p. ISBN 978-0-19-539617-1.
61. Searle, J. R., 2010b. Consciousness and the Problem of Free Will. In: Baumeister, R.; Mele, A.; Vohs, K. (eds.). *Free Will and Consciousness: How Might They Work?*. Oxford University Press, p. 121–134. ISBN 0-19-538976-X.
62. Searle, J. R., 2012. Reply to Commentators. *Organon F*, 19, Supplementary Issue 2, p. 199–225. ISSN 1335-0668.
63. Searle, J. R., 2015. *Seeing Things as They Are: A Theory of Perception*. New York: Oxford University Press, 256 p. ISBN 978–0–19–938517–1.
64. Schlosser, M., 2008. Review: John R. Searle: Freedom and Neurobiology: Reflections on Free Will, Language, and Political Power. *Mind*, 117(468), p. 1127–1130.
65. Schüür, F.; Haggard, P., 2011. What Are Self-Generated Actions? *Consciousness And Cognition*, 20(4), 2011, p. 1697–1704. ISSN 1053-8100

66. Sorabji, R., 2006. *Self: Ancient and Modern Insights about Individuality, Life and Death*. Chicago: University of Chicago Press, 2006, 416 p. ISBN 0226768260.
67. Sorem, E., 2010. Searle, Materialism, and the Mind-Body Problem. *Perspectives*, 3(1), p. 30–54.
68. Sperry, R. W., 1969. A Modified Concept of Consciousness. *Psychological review*, 76(6), p. 532–536. ISSN 0033-295X. Available from:
<http://people.uncw.edu/puente/sperry/sperrypapers/60s/147-1969.pdf>
69. Stapp, H. P., 2003, *Kvantový model myšlení* [online]. [cit. 2015-10-20]. Processed J. Svršek. Palmknihy FREE. Available from:
<http://www.palmknihy.cz/web/kniha/kvantovy-model-mysleni-7862.htm>
70. Stapp, H. P., 2006. Quantum Interactive Dualism: An Alternative to Materialism. *Zygon*, 41(3), 2006, p. 599–616. ISSN 0591-2385.
71. Stapp, H. P., 2008. *Philosophy of Mind and the Problem of Free Will in the Light of Quantum Mechanics* [online]. [cit. 2015-10-20] Dostupné z: <http://www-physics.lbl.gov/~stapp/Philosophy.pdf>
72. Tobia, K. P., 2015. Personal Identity and the Phineas Gage Effect. *Analysis*, 75(3), p. 396–405. ISSN 0003-2638.
73. Toráčová, P., 2008. Může ve fyzikálním světě existovat člověk? Rozhovor Pavly Toráčové s prof. Johnem Searlem. *Reflexe*, 19(34), p. 99–109. ISSN 0862-6901.
74. Toráčová, P., 2009. Searlova filosofická otázka. *Filosofie dnes*, 1(1), p. 47–53. ISSN 1804-0969.
75. Turing, A. M., 1950. Computing Machinery and Intelligence, *Mind*, Vol. 59, No. 236 (Oct.), p. 433–460. ISSN 0026-4423.
76. Tvrđý, F., 2014. *Turingův test: Filosofické aspekty umělé inteligence*, Praha: Togga. Scholia, 213 p. ISBN 978-80-7476-043-3.
77. Vácha, J., 2017, Metafyzika života Hanse Jonase jako stále živý podnět, *Filosofický časopis*, 4/2017, p. 583–605. ISSN 0015-1831.
78. Wachowski, Li.; Wachowski, La., 1999. *The Matrix* [movie]. USA.

Publications & papers of the author

04/2014 – Libertarian Conception of Free Will between John Searle and Henry Stapp (conference Σχολή; Charles University – Faculty of Arts)

04/2015 – Free Will as a Philosophical-Scientific Problem (workshop Filosofie v horách IV; University of Pardubice – Faculty of Arts and Philosophy)

10/2015 – Rationality in movie π (workshop Filosofie v horách V; University of Pardubice – Faculty of Arts and Philosophy)

01/2017 – Searle's Conception of the Problem of Free Will (The Philosophical Journal; The Institute of Philosophy of the Czech Academy of Sciences)

03/2017 – Is Self Only an Illusion? (conference The Character of Current Philosophy and Its Methods; Institute of Philosophy Slovak Academy of Sciences)

09/2017 – David Levy and the Ethical Category of Complicity (Newsletter of University of Pardubice)

soon – Conference Think!+ 2018 proceedings (editor; University of Pardubice – Faculty of Arts and Philosophy)