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Hegel's phenomenology of the 'animalic soul' and the dementia of sense of the robot

Abstract

Without doubt already 'higher' animals which as such have phenomenal perception possess an animalic soul. The contrasting comparison of *animal* and *robot* proves to be revealing: What does the animal have that the robot does not? A key role here plays *Hegel's* interpretation, which can be addressed as a *phenomenology of the 'animalic soul'*. His dictum 'Only what is living feels a lack' refers to the *principle of self-preservation* which governs everything organic. Concerning higher animals this too appears as the basis of the soul: Everything, which the animal perceives thus has *existential sense, self-preservation-sense*. At the same time it becomes clear that robot perception is not capable of a constitution of sense, but is characterized by *dementia of sense*. Concretely systemtheoretically regarded, the relatedness to sense of the animal subject is here interpreted as an *emergence phenomenon* of the system constituted by the cooperative of perception, valuation and behavior (perc-val-act-system). In this emergentist perspective, there is, as it were, the *dualism* of solely-physical being and of immaterial-mental being, which at the same time is a *monism* with regard to the physical basis altogether.

Keywords: Animalic soul, Hegel, phenomenal perception, 'principle self-preservation', robot, lack, sense, emergence, dualism, monism

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1. Hegel's phenomenology of the 'animalic soul'¹

'Soul', i.e. the mental dimension, especially in the forms of human consciousness and self-consciousness: these are topics that, in view of the impressive empirical research results of neuroscience, have once again achieved mainstream status in philosophy – and at the same time are still considered to be the most persistent problems that remain unsolved, even by brain research. At the same time, these are classic problems of philosophy, in which over two millennia of intellectual clarification work has been invested, and it would therefore be worth

¹ For the citation mode, see Hegel, 'Works in 20 volumes' in the references section. – 'Animalic soul' is found in this literal form in Hegel, works, 14.369, but analogously in many other places, e.g. 9.374 add., 9.430 add., 9.430 f, 9.431 add.

examining to what extent this can be made useful for the current discussion. With this in mind, I turn here to *Hegel's* philosophy. Hegel's interpretation of the '*animalic soul*' is illuminating; I would like to explain this in more detail below and further substantiate it through the contrasting comparison with the robot (in today's sense).

In the following, in Hegel I will refer primarily to the chapters entitled 'Anthropology' and 'Phenomenology of Spirit' in Hegel's Philosophy of the 'Subjective Spirit' ('Encyclopaedia', Volume III), as well as to the chapters entitled 'Vegetabilian Nature' and 'The Animal Organism' in Hegel's 'Philosophy of Nature' ('Encyclopaedia', Volume II). I will refer to studies of the now widely ramified current neuroscientific discussion on a case-by-case basis.

Soul by no means belongs to all organisms, but, as Hegel explains in the part of the 'Philosophy of Nature' entitled 'Organic Physics', only to the *animal* organism (9.§350 f): The animal can no longer, like the plant, feed on inorganic substances, but needs organic substance as food. It must look for this kind of food and move around in its environment. It must therefore be able to orient itself in this environment and thus have *perception*; and thus, following Hegel, the fundamental condition for the appearance of *soul* is given.

Of course, 'soul' in the true sense can only be attributed to *higher* animals – 'higher' here terminologically for animals that can be assumed to have *phenomenal perception*, as the term commonly used today. This form of perception is no longer that of immediate sensory stimuli, but a differentiated, qualitatively developed *scenario* that enables differentiated orientation and behavioral planning. Consider, for example, a dog that perceives a tree, heads towards it, recognizes the remarkable scent and feels the urge to make its own scent mark. What happens in this dog and moves it are undoubtedly already soul processes; admittedly, in Hegel's words, of a "soul that is not yet *soulful*", i.e. has not yet "grasped itself as a soul" (my italics), as is the case for the human soul (6.468). In the following, it is not this highly complex, human soul, but the more elementary, *animal* form of it that will be the subject of consideration.

More concrete attributions that Hegel ascribes to the animal soul characterize the animal as "the self that is for the self", as a "doubling of subjectivity", as it were, and at the same time "unity of this doubling" as "simple soul" (9.430 add.); and the "*sensation*" in particular is the self as "finding itself in itself", i.e. as a "self-self, as self-feeling", so to speak (9.432 add.). Hegel obviously has something like a *phenomenology of the animal soul* in mind here: intuitively not implausible, but in this condensed form in need of explanation. But I will leave this without comment and turn first to questions of phenomenal perception.

2. Phenomenal Perception

The constitutive property of the organism in general is its *self-preservation*. According to Hegel, this distinguishes it from the chemical process, which ends with the completed reaction. Only "if the products of the chemical process themselves were to begin activity again would they be life". Life is, as it were, "a chemical process made perennial" (9.333 Zus.), "the infinite self-rekindling and self-sustaining process" (9.334) and in this sense "self-preservation of the organic" (9.335 Zus.), "*organism*" (9.334).

Self-preservation implies that the organism in the process of its life – i.e. by also encountering what is external to it – maintains its identity as this organism, i.e. its specific organization, its generic generality (such as the fly-like nature of the fly). It thus remains *with itself in the other* and thus, following Hegel, corresponds to the *Concept*. Organismic self-preservation means that "the concept itself enters into existence" (9.469). "Here, then, nature has achieved the existence of the concept" (9.336 add.) and thus, as we know from the 'Logic', "subjectivity" (6.240). The organism is "the [existing] *concept*, the *subject*" (6. 249). So even

the unicellular organism and the meadow flower are subjects. The *principle self-preservation* is thus to be understood as *the generative principle of subject formation*.²

But subjectivity does not yet mean *mentality*. The basic condition for this is, as already mentioned, the task associated with self-movement of orienting oneself in the environment, and thus perception. This is fundamentally only given for the animal (9.431 f) and is only realized in the form of elementary mentality at the level of *phenomenal perception* of higher animals (see above). According to their 'higher' needs, this perception will have to be far more differentiated than that of an earthworm. 'Differentiated' means on the one hand rich in distinctions, i.e. high information content, but on the other hand also coherence, because only in this way there can be richness of distinction, not when perception falls apart into individual data. Phenomenal perception thus has a *holistic* character; it presents (as visual perception, for example) not a collection of isolated corners and edges, but *objects* and their relations to each other, and so an entire *scenario* of the environment, which thus enables orientation and behavior control.

As an example of the *holistic* nature of phenomenal perception, here is a recent experiment (Chang/Tsao 2017) on the perception of faces in macaque monkeys (whose visual perception is considered to be largely similar to that of humans): Neuronal signals induced during the viewing of human faces were derived from approximately 200 neurons of the cortex area of the highest processing level of visual stimuli (infero-temporal cortex), and initially analyzed. The primates were then shown new faces and these were reconstructed solely from the neuronal responses. The similarity between the original images and the faces reconstructed from neuronal spikes is striking. So a *complex whole*, such as the appearance of a face, is realized in the cooperation of neurons.

The authors' statement: "We could reconstruct the face that the monkey saw" is obvious, but should not be understood to mean that the image of the seen face appears in the monkey's brain and is then seen by the monkey. There is no such image in the brain, and yet the animal subject sees an image. This seemingly paradoxical fact is capable of depriving mind philosophers of sleep; I call it the *perception paradox*.

In addition to visual impressions, phenomenal perception also includes sensations of sound, smell, taste, touch, pleasure and pain as well as emotions. These have a qualitative character and are referred to as *qualia*. In my opinion, the sensations of taste and touch are of particular status – possibly also the sensations of smell –, because they have a direct effect on the *bodily integrity* of the animal subject. I therefore speak of *invasive stimuli* which, by acting on the body, not only trigger a perception of the object but also a body guarding. When I grasp a door handle, I do not only feel the handle, but also myself. It is – as Hegel playfully puts it (in German) – „die unmittelbare Einheit des Seins und des Seinen“ (9.466 add.), i.e. "remaining one and the same [of the subject] with itself in the determinateness" through the object (9.342 add.). Here we are dealing with *sensations* in the proper sense. These are characterized by the fact that in perceiving the object, according to Hegel, they are at the same time a "finding oneself in oneself" of the subject (9.342 add.) – with which Hegel's very compressed formulations on the animal soul quoted above gain further clarification.

Here is just a brief answer to the question, which also needs to be clarified in this systematic context, as to why there must be sensations at all (in detail e.g. in Wandschneider 2015, 562 ff). Why, for example, in the case of the sensation of sweetness, can behavioral control not simply be linked to the glucose measurement? Answer: Because behavior in higher animals is no longer triggered automatically and reflexively (as in lower animals), but is

² Wandschneider 2018, 259. In this respect, there is an essential correspondence to the principle of subjectivity comprehensively elaborated by Manfred Wetzel (Wetzel 1997-2014).

controlled via the phenomenally present perceptual scenario and is therefore essentially *perception-instructed behavior*. The measured glucose value must therefore first be *phenomenally perceived* before it can have a behavior-controlling effect – namely as the sensation 'sweet'.

3. The 'merely physical' and the systemic phenomenon of emergence

In the literature on the mind-body problem, we constantly encounter the term 'the physical'. This fatally sweeping characterization of the material world is ignorant with regard to the structures and dynamic profiles realized and realizable in the most diverse ways. The reason for this is the failure to recognize the *systemic character* of material structures and thus the phenomenon of *emergence*. Qua emergence, systems can have fundamentally different properties and laws than their subsystems, which are nevertheless a prerequisite. The 'radio' system behaves differently from the parts of which it consists, but which are indispensable for its functioning. An impressive example of emergence is the chemical compound NaCl: its components are sodium and chlorine, both aggressive elements, but in their combination harmless table salt, which is an important component of food and blood – system properties that its components lack. All of nature and technology is governed in this way by system laws.

Now the *brain* is essentially *system*. Emergence phenomena can therefore not only not be ruled out here, but are essentially to be expected. To ignore this in the discussion of the mind-body problem, of all things, is almost a malpractice. In this respect, undifferentiated talk of 'the physical' undoubtedly does not do justice to the problem. In this context, one can think of Leibniz's famous mill allegory.³ According to Leibniz, if you could walk around in the mentally active brain like in a mill, you would not discover a trace of mental: On the one hand, a magnificently staged parable, which on the other hand, of course, interprets the brain in a *sweeping way as 'merely physical'* and thus, turned currently, basically adopts the perspective of the un-philosophical brain researcher who, for methodological reasons, finds exclusively physical-chemical structures and processes – and yet, it is fair to add, nevertheless advances the elucidation of the most subtle systemic connections with considerable acumen.

An appropriate interpretation of brain functions will therefore have to take emergence phenomena into account. And since these are, as already mentioned, essentially system-related, it is essential to take the associated *system* into account. This raises the question, in which system framework perception can be *phenomenal perception*. It is clear that perception is intended to control behavior, but not arbitrarily, but in accordance with the 'valuation system' that monitors the entire organismic process in the sense of the principle self-preservation (more on this in a moment). The relevant system here is therefore to be seen in the *cooperative of perception, valuation and behavior*, which I have briefly described as the '*perc-val-act system*'.⁴ Emergence is then to be spoken of in the sense that perception, in accordance with its control function for behavior, does not simply capture neuronal spikes, but – at a high processing level of sensory information – complex wholes, i.e. 'objects', which have an *attractive* or *aversive* character for the animal subject due to the valuations assigned to them (genetically predisposed or learned).

An everyday example of how perception, valuation and behavior are actually intrinsically linked at the perc-val-act level is the change to new, unfamiliar glasses: if the objects seem to tumble, the stairs seem to be coming towards me and the associated perceptual valuations are

³ Leibniz, *Monadology*, § 17; beautifully interpreted in Bieri 1994.

⁴ For more details, see Wandschneider 2015 and 2016a.

lousy, then the perception-instructed behavior control must be re-adjusted. New connections have to be demanded, tested and realized until the environment appears stable again and the valuations are correct again. For the subject, these processes take place – popularly speaking – in the 'soul' or, in more differentiated terms, in the soul dimension spanned by the perc-val-act system, not at the level of electrochemical neuronal processes, even if these are physically presupposed.

What I am fundamentally concerned with here is the possibility of phenomena opened up by emergence that are no longer *'merely physical'*. What emerges qua perception are rather *contents of sense*, which as such have a general character, i.e. are *ideal entities*. Hegel's – apparently intuitively phenomenologically inspired – characterization of the 'natural soul' fits in with this, according to which the physical stimuli received are "immersed in the generality of the soul, ... thereby negated in their immediacy, thus ideally set" (10.96 add.). Similarly in the 'philosophy of nature': "The hard, the warm etc. is an independent being that is outside; but it is also directly transformed, made ideal, a determinateness of my feeling" (9.465 add. 2). Understood in emergentist terms, it is clear that this mental being nevertheless remains anchored in the physical and can therefore also develop physical effects. Emergentism thus enables, as it were, a *dualism*, namely that of the 'merely physical' and the ideal-mental, a dualism which, with regard to the overall physical basis, is *at the same time a monism* – in the notorious dualism-monism controversy, a kind of emergentist squaring of the circle!

Could this emergentist dualism possibly satisfy dualism friends? At least with the philosophically not unattractive option of seeing the possibility of the mental as already inherent in the physical (and that means, correctly understood, in its *ideal laws*).

4. Organismic 'end in itself' and robot purpose

The fact that phenomenal perception presents the animal subject with attractive and aversive contents, as I said, means that it has a *sense character* – sense with regard to the principle of self-preservation, self-preservation sense. I would like to explain this in more detail:

Something has a sense in relation to a purpose. I want to make a fire, then I have to make sure that I find fuel, i.e. everything that I encounter in this aspect has sense for me in a positive or negative way with regard to the purpose of making a fire. But do organizations have purposes? We understand purposes to mean that they presuppose the ability to plan and therefore also to think, and this is undoubtedly reserved for humans.

Here we should recall Kant's interpretation of organismic self-preservation as an *inner purposiveness* (Kant KU § 63 ff): According to this, all organs are means to the end of the preservation of the organism, and the latter is conversely a means to the end of the preservation of the organs, so that in the organism *"everything is end and reciprocally also means"* (Kant KU § 66). Rightly understood, the organism has no purpose, but is *purposeful*, however in the exceptional way of *inner purposefulness*. According to Hegel, the fact that everything here is "end and means at the same time" establishes the character of life as an "end in itself" (9.436 add.). "Already Kant", according to Hegel, had interpreted the living as an *end in itself*⁵ (9.339 add., also 9.473, 10.212 add.). However, since the concept of purpose is only appropriate for human goal-setting, the concept of "*determination*" seems more suitable for the organism. Inner purposefulness then means: being determined to self-preservation. And this is precisely what implies a "*sense character*" for perception: Everything that is perceived by the subject is

⁵ At least in essence, even if Kant obviously does not use the term 'end in itself'.

perceived and valued by it in terms of its self-preservation. Sense, the sense of self-preservation, is implied by the principle self-preservation.

Now the *robot* too has perception with the *determination* to orient itself in its environment in order to carry out the task assigned to it. Does this mean that its perception must also be attributed a *sense character*? Of course, it is not an organism, existential dangers or opportunities do not affect it, and its own existence is absolutely indifferent to it. It simply does the job assigned to it without being moved. Yet it has a *determination*, but why without implying a sense? Now the sense that guides the robot is not its *own* sense, but that of its designer. For him, all of the robot's actions are indeed sense-related, because he designed it for a specific task – for example, as a self-driving car. Its purpose is to maintain the integrity of the occupants, other road users and the car itself. And this is clearly the designer's purpose associated with the self-driving car, not that of the self-driving car itself.

However, this immediately raises the question: if the self-driving car is determined and capable of maintaining itself: Is it not therefore also subject to a principle of self-preservation, even if this goes back to programming by the designer, i.e. is not of *natural* origin? And isn't natural selection in the course of evolution also a kind of programming? And self-preservation is self-preservation, regardless of where the ability to do so comes from. So, what is the difference between an organism and a robot? Why does self-preservation imply a sense-related perception for the animal subject, but not for the robot?

The answer that the robot is merely executing a program is obviously not an answer to this, because this also applies in principle to the neuronal system of the animal subject, which values its perceptual objects according to the neuronally stored specifications and controls its behavior accordingly. This therefore marks no fundamental difference to the robot.

It seems difficult to conceptualize the *differentia specifica* of the animal subject in comparison with the robot, even if the difference between the two intuitively leaves no room for the slightest doubt.

5. Hegel's phenomenology of lack and the robot's dementia of sense

Where is the point that I have overlooked? I find it in § 359 of Hegel's 'Encyclopaedia', in the chapter 'The Animal Organism' – it is one of Hegel's best-known topoi: "Only a living being feels *lack*" (9.469). In fact, lack is something that is alien to robotic perception. The self-driving car, for example, needs a parking space. If there is none in sight, does it perceive this as a lack? No, it switches unmoved to the parking space search routine, nothing more. As a car, it lacks nothing.

Let us turn back to the *animal subject*. Hegel's interpretation, which can be characterized as a phenomenology of the animal soul, is more closely a phenomenology of lack: Why does the animal, in contrast to the robot, feel lack, what does it lack? Of course what it needs for self-preservation, food, a place to rest, protection from threats, etc. But the question is: what does this mean for it as a *subject*? The living, according to Hegel, "is in nature the *concept* (see above), which as such is the unity of *itself* and *its determinate opposite*" (9.469). This 'determinate opposite' thus *in essence* belongs to the living, for example as food, which is essential for its existence, and in this respect the subject sees in the food that it lacks "its *own lack*, its own one-sidedness", sees in the object precisely "something belonging to its own essence and yet it is lacking" (10.217 add.). Thus, "in the subject *at the same time* there is likewise the being beyond, a *contradiction* which is immanent set in it" (9.469). The subject "knows itself to be *in principle identical* with the external object". *Desire* is ignited by this. It knows "that the object is thus *in accordance* with desire" and that it thus "contains the

possibility of satisfying desire" (10.217 add.).

Hegel's answer is therefore: that which the subject suffers a lack of is *in principle* already part of *its being*, but in reality it can also *lack* it. Being and what is needed for it – food etc. – belong together and yet are in fact often separate from one another. The being acting under the principle of self-preservation recognizes what it lacks as belonging to it *in essence* and thus develops drive, desire and satisfaction. These are the *sense-constituting* determinants that give its perception a *sense of self-preservation*. "Drive, instinct, need, etc." are thus "negations", "set as contained in the affirmation of the subject itself" (9.469). In the positivity of subjective existence, lack as a negative is always inherent.

The robot lacks all of this. Even if its perception were to perfectly resemble that of the animal subject in purely technical terms, it only ever sees the factual state of affairs that is or is not factual, not, like the animal, what it lacks, as a *part of itself* that it desires in order to be able to exist. Animal perception has existential sense, a *sense of self-preservation*; robot perception is not capable of constituting sense, but is characterized by a *dementia of sense*.

The constitution of sense of the subject, this much has become clear, is essentially owed to the principle of self-preservation, and this makes a difference to the whole in comparison with the robot. The above-mentioned objection that control routines and behavioral programs can also be technically realized in the robot in the sense of preserving its integrity – keyword self-driving car – is therefore misguided. For, as has now been shown, it is not a *contingent, technically implemented* self-preservation – an alien sense given by its designer – that constitutes sense for a technical object *itself*, but rather the *principle* of self-preservation that makes the *living* being *constitutively* concerned about its existence and thus see everything and everything under aspects of self-preservation.

Certainly, control routines and valuations biologically come also into play. But these are not of technical but of *natural* origin; and that, surprisingly, is what makes the difference to the whole mentioned above. I argued that everything technical is to be understood as the purpose of the designer, not as an end in itself, like the organism, and that the technical construct is therefore not in the least interested in its own existence, whereas the organism knows absolutely no other interest than its own existence. For it embodies the genetic heritage of its ancestors, who proved themselves capable of survival in the struggle for survival. These beings that have emerged from the selectionist fire are virtually *defined* by the fact that they do nothing other than pursue self-preservation. This is precisely what makes them an *end in itself*, and this means that they are not simply endowed with certain contingent self-preservation properties – such as the self-driving car – but that *their entire existence is subject to the principle of self-preservation*. In this respect, the *natural origin* of the organism, i.e. a seemingly marginal fact, is actually of *principled* importance. It is this essential concern for their own existence that impregnates their perception, positive or negative, with the sense of self-preservation.

6. Comprehension of sense as transcending the 'merely physical'

But how does 'sense' present itself from the perspective of brain processes? First of all, we can say that at the highest, i.e. the perc-so-so-called val-act level of stimulus processing in higher animals, no neuronal spikes appear in an essential sense, but – for example in the case of visual perception – holistic and yet differentiated objects; consider the above-mentioned experiment on the perception of faces in macaque monkeys. Let's assume that a face shows wild snarling. Amygdala-instructed, this immediately triggers a negative valuation in us,

certainly also in macaques, which signals a threatening, evil attitude and puts the perceiving subject on the defensive, which at the same time leads to a change in the perceptual optics and behavioral perspective. In general, valuations release neurotransmitters and hormones that result in perception modification, a lowering of stimulus thresholds and a 'sense shift' and can, for example, cause what the magic potion does to Goethe's Faust, who thus 'sees Helen in every woman'. The *valuation system* represents the principle self-preservation and is thus the decisive instance that guarantees the organismic self-purpose character, has received its genetic incorporation in the evolutionary selection process in the form of the limbic system and was later successively expanded through the positive and negative experiences stored in memory.

All of this is *physically* realized, but it is no longer '*merely* physical'. It appears as an emergent phenomenon on the perc-val-act level, on which the animal *acts as a subject*, i.e. comprehends sense in its perception – the sense of self-preservation – and chooses its goals and controls its behavior accordingly. The primitive '*merely* physical' has thus become *animated* matter in a process of elevation guided by sense. Gaining an understanding of this means moving away from the robot paradigm and taking the organism's character as an end in itself seriously. Hegel's phenomenology of the animal soul has opened up an approach to this.

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