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On the Mode of Phenomenal-Mental Being**

Abstract

The study ties in with former considerations concerning the problem of *phenomenal perception* of higher animals. Accordingly the phenomenal character results from the *adjustment* of perceptions to (species-specific) behavioral dispositions under the principle of self-preservation: an *emergence phenomenon* provided by the constitutive system unity of perception, valuation and behavior, here named as *perc-val-act-system*. Thereby the *subject* of the behavior can be emergentistly explained as an emergent instance of the – systems-theoretically highest rank – perc-val-act-level. In terms of the principle of self-preservation all sensations are submitted to a valuation. Perception thus gaining existential sense for the subject, a *phenomenal-mental sense-dimension* is spanned out which as such does not own physical but *ideal* character: Accordingly the *ontological basis* of this view is the *lawfulness* of nature, understood as the *ideal essence* underlying it. In virtue of this – basically Hegelian-type idealistic – conception the physical being of nature always includes the possibility of *phenomenal-mental being*, because of the implicit ideality of nature itself.

Key Words: Phenomenal-mental perception, feeling, valuation, self-preservation, ideal being, emergence, sense dimension, Hegel, objective idealism

1. Introduction

In a recently published paper (Wandschneider 2015) I discussed the *hard problem* of the mental (Chalmers). The present study deals with related further questions: on the concept of subject, on the mode of being of the phenomenal-mental and on the underlying ontology. Since the considerations developed here presuppose the above-mentioned investigation, I would like to present it in brief.

Its central theme is the phenomenal perception of higher animals: experiential contents in the form of perception 'phenomena' such as patterns, shapes, forms of movement, environmental scenarios, colour qualities, smells, sounds, pain, sensations of pleasure etc., as they are obviously given for 'higher' animals, including humans – intellectual achievements, forms of human consciousness and self-consciousness, however, are not the subject of these considerations. The 'hard problem' of phenomenal perception is now seen in the fact that phenomenal experience contents as such are of a different nature than the neural processes on which they are based. All attempts up to date to neurally explain the phenomenal-mental are regarded as failed, and in this sense one speaks of an *explanatory gap* (Levine).

My considerations here are based on the systems-theoretical concept of *emergence*: Systems generally have completely different properties and laws than their components. Insofar the term of 'emergence' suggests potential for clarification also for neural systems.¹ As a simple, maximum transparent example of emergence I discussed a logical AND-circuit of two neurons: Only when one neuron fires *and* the other neuron fires the downstream action will be initiated. For this neural realization of the logical AND-junctor, the micro processes involved are essential, but they do not appear at the macro level of the AND operation. They could therefore be realized in a completely different way – electronically, hydraulically or mechanically for example. At the macro level, only the junctor logic rules, here in the AND mode: an example of *how logic can work*.²

With regard to the systemic character of the brain, it can be assumed that an emergentist interpretation of the mental is inevitable. The relevant basic system – which I call the *perc-val-act-system* – is to be seen in the existential collaboration of *perception, valuation and behaviour*

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¹ The concept of emergence, long dismissed by the philosophy of mind (with a few exceptions) as not very 'promising', seems to be attracting increasing interest at present, see e.g. Craver 2015; Cruse & Schilling 2015; Gutknecht 2015; Martin 2015.

² In this context, an interpretative approach to Donald Davidson's anomalous monism is also presented.

(*action*). The decisive point is that perception must present reality to the subject in *such* a way that the subject is able to control its behaviour according to the principle of self-preservation. On the perc-val-act level this implies that perception is *adapted to the (species-specific) behavioural possibilities and thus must be 'phenomenal' perception*. The bird flying through the branches must perceive it in *such* a way that it can adjust its flight manoeuvres accordingly. The *explanation* of the phenomenal character of perception thus results – in the sense of the principle of self-preservation – from the *demand* on perception that it must present the (species-specific) reality in the optics of the behavioural possibilities, and that means 'phenomenally'. How this is *realized neurally* is therefore irrelevant for the understanding of the specific phenomenal character and brain research is therefore the wrong addressee in *this* question. In this respect the talk of an 'explanatory gap' is based on a misunderstanding. Perception that is bound to behaviour will – as when wearing new, unfamiliar glasses – simply demand and test other neural circuits until the perception of reality – mind you as an emergence phenomenon of the per-val-act-system! – matches the behavioural possibilities enabling successful behaviour.*

A special class of phenomenal perceptions are sensory experience qualities such as tactile sensations, taste stimuli, olfactory sensations, pain impressions, etc. I interpret these, the actual *feelings*, as *valuations that are returned to perception and thus become explicitly perceptible*. In this case, the valuation no longer triggers the action directly, i.e. in the form of a *reflex reaction* as in the case of lower animals. Rather, it is *perceived* in turn, i.e. integrated into the phenomenal perception and, as a *feeling*, controls the behaviour from the overall scenario of the perception thus expanded – which enables a more flexible, adapted, 'intelligent' behaviour in rapidly changing environments where the rigid reflex reactions of lower animals are ineffective. It is therefore plausible that with the advent of higher animals, a selection pressure became effective that drove the evolution onto a perception completed by feeling.

So far a short summary of my considerations about the perc-val-act system of higher animals and its importance for the *phenomenal* character of perception. Following on from this, I would like to pursue questions of the *specific mode of being* of the phenomenal-mental: its subject character, its immateriality and its ontological basis. In doing so, I will repeatedly refer to formulations and interpretations of *Hegel*. I see considerable potential for clarification in the *objective-idealistic* position of Hegelian coinage – especially because of its *explanatory-theoretical preference* over other positions.³ In my understanding, the reference to Hegel (despite the usual suspicions) is definitely not opposed to the view of a thoroughly lawful nature – quite the contrary, for Hegel "the laws of nature [...] are the nature-in-itself", i.e. their actual essence (17,252).⁴ This is also the basis of the following considerations of the body-mind problem.

2. The Question of Subjectivity

Interpreted as a valuation-perception, *the subject's own needs and sentience become perceptible, too*. It is thus an *inner perception* through which an *inner dimension* is stretched out, as it were. In this way feelings represent something like an *elementary consciousness* of higher animals. By feeling pleasure and pain, the subject perceives itself. The "feeling" is thus to be understood, with an apt formulation by Hegel, as a "finding-oneself-in-oneself" of the subject (9.342 add., also 9,432 add.) and thus as an elementary form of the *actually mental* (Wandschneider 1987; 1999).

But in what sense is there talk of a *Subject*?⁵ What we have is perception, which controls behaviour according to the valuation system, including the valuations stored in the memory. A separate subject instance does not appear in this context.

Here it should be remembered that perception, valuation (incl. memory) and behaviour in their interaction are subject to the *principle of self-preservation*, the fundamental principle for all

* Nevertheless somewhat too optimistic; an explanatory gap still exists unchanged (D.W. 2020).

³ Comprehensively and clarifying concerning questions of the justification of objective idealism see Hösle 1987.

⁴ References of this kind refer to Hegel, works in 20 volumes, here vol. 17, p. 252. 'Add.' refers to additions.

⁵ Pertinently to the concept of subjectivity see Wetzel 2001, e.g. 8 ff.

living beings. As the organism values all internal and external impressions under the aspect of self-preservation, it is essentially concerned with itself, i.e. with the constitutive conditions of its existence under which it is possible to survive, its *existential identity*. In this respect, it does not seem unreasonable to speak of a *self* of the organism. So this 'self', to which the principle of self-preservation refers, is to be understood as the totality of the constitutive conditions of existence of the organism permanently monitored by its valuation system. And in that the organism is compelled in each of its actions to ensure *itself* that these conditions are guaranteed, it is constantly referred back to *itself*. This *reflexivity* of self-control belongs to the organism from the very beginning, even in its most elementary forms – which also makes clear that this does not already mean conscious reflexion in the sense of *self-consciousness*, which only belongs to man.

We are dealing with the animal-individual. This is not just an acting body, but constantly reflexively related to its *self* by perception and valuation. The fact that the self, for its part, does not appear neuro-anatomically as a central instance has repeatedly led brain researchers to doubt or deny the existence of a 'self'.⁶ However, there is nothing to argue against a *functionally interpreted self* that has emerged in the course of evolution, as it were, 'distributed' over the organism. What is decisive is that it monitors the self-preservation of the organism as a whole, which is *one*, and in this respect, it can very well be spoken of a self in a *functionally* meaningful way. The organismic self does not need a 'head office' in the spatial-anatomical sense and is nevertheless '*central*' in the *physiological-functional sense of the principle of self-preservation*.

The essential function of the *valuation system* may seem puzzling in this context. How does it get into the organism, where is it located, where does it get its criteria from, and how does it use them? I think that *evolutionary theory-based* considerations will help here. Only individuals whose conditions of existence are assured are capable of survival. These are defined and physiologically controllable by elementary physiological parameters such as body temperature, nutritional status, immune status etc. With regard to the existing species, it must therefore be assumed – because otherwise they would not exist – that corresponding control mechanisms have been developed specifically for each species, how it has fallen by selection and evolution. A *central authority* need not be assumed for this. And for the fundamental understanding of valuation processes, it is not necessary to ponder how 'sweet', 'disgusting', 'painful' etc. can be *defined* more precisely. Only their positive or negative value is relevant here, and this results from their *function* in terms of the principle of preservation. What at first seems to be a riddle can basically be satisfactorily explained by a Darwinian argument.

The fact that evolution is essentially a *gene selection*, i.e. that it carries on survival-relevant gene lines by *heredity* – the principle of preservation is thus realized more effectively than by a single existence at the mercy of chance – further means that self-preservation is constitutively bound to the *species character* of the organism – for example the fly-like nature of the fly. The species community and the associated valuation system stand, so to speak, for the *species-related self* of the organism, while the individual memory and the action valuations stored in it – in the true sense only developed in higher animals – represent its *individual (biographical) self*.

With the 'self', a basic instance of the subject is denoted, but with the subject itself it can certainly not be identified, just as perception, behaviour, valuation and memory representing specific dimensions of being a subject, but *are* not the subject. Rather, the subject is that *which is concerned with its being, with self-preservation* in the execution of life. Externally viewed, this is the *overall system* of the individual. More properly understood it is subject in so far as it acts on the *perc-val-act level*, i.e. the highest system level, controlling its behaviour through perception, valuation and memory in the sense of the principle of self-preservation. The subject is thus not a separate further instance alongside perception, valuation (incl. memory) and behaviour. It is the individual himself who uses all of these to maintain himself in existence. The subject is the individual himself who is out for self-preservation – not an inner homunculus, which in turn would then have to have perception, valuation, behaviour and, as in a Russian doll, would also contain a homunculus with these abilities and so on. The subject *as subject* is not an instance *within* the individual, nor, of course, the tangible and visible moving material body, but – so it now turns out –

⁶ Explicitly excluded, however, Antonio Damasio (2011), who is a determined protagonist of the 'self'.

the individual in the status of the perc-val-act system, which as such is subject to the principle of self-preservation. Thus, the permanent reference to a *self* – however 'distributed' – is implied – a *reflexivity* that is essential for being a subject. The consequence is that the subject does not lose itself in the course of its life, but – as Hegelian dictum puts it – 'in the other remains with itself'. This is also how Hegelian doctrine is to be understood, that the subject has, as it were, the structure of the *concept*, for which it is characteristic that it remains identical in its manifold varieties.⁷ The term 'tree' remains unaffected by the differences in its sub-concepts 'oak', 'birch', 'beech' etc.; they are all equally 'tree'. Thus the subject, in its changing states and actions, also remains constantly referenced to its self and is thus only subject at all.

Hegel explains this using the example of *waking up*: "At the first moment the subject is still completely with itself, the external perception is not yet active, the difference between the subject and the outside world is therefore still undefined, unspecific. "Only when we begin to feel does this difference become a *definite*. Therefore, in order to arrive at complete wakefulness and the certainty of the same, we open our eyes, touch ourselves, investigate, in a word, whether something specific other, something that is distinct from us is for us" (10.97 add.). Only through this does the inner sphere of the soul unfold and fill up in such a way that this difference, as something perceived, always contains the general of subjectivity and the "soul" experiences through this "that its being for itself in the change in the other maintains, develops and proves itself" (10.96 add.). It "reflects itself from the other being into itself, separates itself from the other and thereby confirms its being-for-itself" (10.97 add.). It proves itself as a subject by remaining constantly related to itself in all change and maintaining itself identical in this as a general. The absence of an anatomically central self does not stand in the way of this and is thus not synonymous with the non-existence of a *subject unit*.

3. On the Mode of Phenomenal-Mental Being

The subject is the actor at the perc-val-act level, with perception and valuation providing the orientation for its behavioral decisions. But what *kind of being* is that which is there for the subject? Sure, it is 'information', but the further demand for what that is has repeatedly led to neural processes being named for it. To elucidate this in even greater detail is undoubtedly the subject of important and meritorious research, but the question of *what is for the animal subject*, that is, what actually confronts it *as a subject* on the perc-val-act level, is not answered by this.

What is inquired here is the *specific mode of being* of what perception presents on the perc-val-act level, i.e. an *ontological* question. What appears in the perception of the subject, as we had seen, is the (species-specific) reality in the optics of his behavioral possibilities and thus has phenomenal character. What can be said about this mode of being?

What appears in phenomenal perception is causally mediated via the sensory organ, nerve conduction, neural processing, valuation: throughout physico-chemical processes. What finally arrives 'inside' in the perception of the subject is a causally highly transformed state of the 'outside' reality, which acts on the sensory organ and initiates this causal process. The reality 'outside' has thus been transferred into another mode.

Perception is therefore not the 'naked' sensory impression, but always contains a 'subject part' and thus something in which *all* perceptions are *the like*. The already mentioned 'conceptual structure' of the subject becomes more concretely tangible here: The subjective moment is what is *common* to all perceptions, a continuous *generality* that *remains identical* in the multiplicity of different perceptual contents. Thereby, according to Hegel again, the sensory perception is "immersed in the generality of the soul, [...] thereby negated in its immediacy, thus *set ideal*" (10.96 add., Hvh. D.W.). This deserves explanation:

Through the subjective moment common to all, the contents of perception appear subsumed under the general of subjectivity, just as 'oak', 'birch', 'beech' etc. are subsumed under the general 'tree'. As such, these are not real objects, but have a *conceptual* and thus *ideal* character.

⁷ Thus, for example, the "soul" is constantly related to the "multiplicity [...] that the objective being is entitled" and remains at the same time "the simple oneness of the concrete concept with itself" (6.472).

Analogously, the sensual perceptions in their segregation and diversity are at the same time "the very general of subjectivity" (9.432 add.), in this respect "an absolutely non-sensual" (9.375 add.) and thus 'set ideal'. Perception "idealizes" the "material", i.e. transfers it into an *ideal mode of being*, for which, according to Hegel, it applies that the "external being, spatiality, temporality, materiality, being apart from each other is suspended" (16.87 f). In fact, the real being in perception is no longer the spatio-temporal-material being, which entirely stands for itself, but has taken on a quasi conceptual-ideal character. Oak, birch, beech as real, material trees are placed at different places in space. 'Oak', 'birch', 'beech' as special varieties of the general term 'tree', on the other hand, do not have a spatio-temporal-material, but a conceptual-ideal mode of being. And just as 'oak', 'birch', 'beech' cannot be awarded spacial distance, there is no spatial distance between my perceptions of oak, birch and beech as perceptions. Since they are likewise present for the same subject in their diversity, they have a conceptual character, so to speak, and thus an *ideal mode of being*.

From the perspective of brain research, this view may seem implausible or absurd, because there is no doubt that perceptions are connected with neural processes in the brain, which as such possess spatio-temporal-material reality. But this seemingly obvious objection is a trap. For perception *as perception*, as we had seen, does not simply take place 'in the brain', but on the percept-act level of the subject, through whose activity things are 'set ideal'. And 'level' is of course not to be understood spatially here, but as a 'rank level' in the system hierarchy of the organism.

Nevertheless, in general the phenomenal-mental being is at least attributed *temporality* (in contrast to the logical, which strictly corresponds to the stated criterion of ideality). But the question is whether the pretended temporality of the mental does not belong to the 3rd person perspective of the external observer after all, while it exists on the Percept-Act level *for the subject itself* in the spacetimeless Nunc Stans of the subjective here-now focus. I leave this as an open question, presumably to be addressed to phenomenology, and incidentally I adopt Hegel's use of language with regard to the mental as 'ideal': for the time being simply in the sense of 'concept-analog'.

That perception has an ideal mode of being is still a very general characterization. Can this be further concretized?

Now, what appears in perception – food, danger, lust, pain, etc. – has a fundamental *existential sense* for the subject according to the principle of self-preservation. The general of subjectivity thus constitutes a *sense dimension*. Sense, however, is not a spatio-temporal-material entity, but has indeed an *ideal* status. Certainly, what appears to the subject to make sense is without question also neural-materially realized. But specifically senseful, ideal entities will be sought in vain in the brain structures. Conversely, the neural perspective is not the perspective of the subject who has perceptions. These have a neural substrate, but the 'sense' they have *for the subject* is not physical. In this way, a *sense dimension* is spanned out for the subject, which as such has an *ideal* status.

What does that mean concretely? The *general sense* of what is for the subject is obviously the elementary certainty of the subject related to its perceptions that these are *its own* perceptions, even at the level of lower animals. For what the subject perceives and values is *its own* reality for it, in which to survive is given up to it. In this sense, Hegel has aptly described perception as "the immediate unity of being and of its ownership"; in German it is a play on words: the "die unmittelbare Einheit des Seins und des Seinen" (9.466 add.) with the point of the double nature of perception – that the subject, by directing its perception towards the real *being*, simultaneously transforms that into something *own* and so – once again – "remains in the other in itself" (9.465 add. 2). When I bump into a stone, I simultaneously feel myself therein. "The hard, warm, etc. is an independent thing that is outside; but it is also directly transformed, made ideal, a certainty of my feeling" (9.465 add. 2).

In the neural perspective of brain research, this specific mode of 'ownership' cannot become visible, because it is by definition bound to the perspective of the subject itself, i.e. to the '1st person perspective', while the neural perspective of the brain researcher is always the 3rd person perspective. Nevertheless, Hegel's pointed mode of 'ownership' is of fundamental importance for the subject, because everything that perception presents to it is identified as *existentially relevant to its being*. In this mode of ownership-being, thus indeed a *sense dimension* is opened up, the sense of

which can be more closely characterized as *relevance to survival*; an ideal dimension on the perc-val-act level, which as such is only accessible to the subject itself – non-spatial, immaterial, but therefore not nothing, but of existential relevance: *The soul, too, has its origin in the principle of self-preservation.*⁸

The ideal status of the perc-val-act level is undoubtedly not easy to understand, because what empirical research finds are without exception physical structures and processes. I have explained above to what extent the systems-theoretical concept of *emergence* is of central importance in this context. Through the perc-val-act system, i.e. the constitutive collaboration of valuated perception and behavior, the highest system level is defined for the animal individual on which it acts as a subject. And his perception, as explained, must be of phenomenal character if the perc-val-act coupling and thus behaviour is to function. These connections can only be grasped systems-theoretically, i.e. as emergence phenomena.

In this perspective, how does the problem of *phenomenal-mental causation*, which has always been considered puzzling, present itself? It is puzzling because the mental appears as a separate realm of being, which cannot be reduced to physical-causal processes, but as such, it is believed, does not have its own causality that is capable of causing something in reality. In this respect, an *epiphenomenalistic* view is obvious, which, however, is opposed by the simple experience of everyday life, for example that a feeling of hunger is the reason for eating something. If, however, the mental is not allowed *physical* causality, then processes of mental causation, it has been argued, would mean a violation of the physical laws of conservation, for example the law of energy, which seems hardly acceptable. If, on the other hand, the mental is identified with the physical, for example with the processes taking place in the brain, as the identity theory claims, then the ideality character of phenomenal perception can no longer be explained. One has, it seems, only a choice like between plague and cholera – whereby in the present context both positions, interestingly enough, boil down to the same thing, namely the sole effectiveness of the physical brain processes: in an identity theory view anyway, but also in an epiphenomenalist view, because the phenomenal-mental itself is denied any effectiveness.

From an emergentist perspective, both views appear to be mistaken. Thereafter, as explained, phenomenal perception is not *identical* with the neural processes taking place in the brain. On the other hand, the phenomenal-mental, understood in emergentist terms, must be granted to be effective, because it belongs to the perc-val-act level, on which, if understood properly, the entire behavioral control – that is mental causation! – takes place. Mental states are to be understood here as emergence phenomena of neural processes, which as such also have neural-causal effects. In an emergentist view, the mental is not simply identical with the 'merely physical', however it is bound to it.⁹ Therefore, the always drawn on 'zombie-argument' in its completely ignoring the concept of emergence is absurd.

The fact that "the relationship between two states of consciousness" "nowhere" implies "a transfer of energy", "i.e. is not a normal causal relationship" (Hösle 2006, 134), does not apply in any case to the neural processes on which they are based. These undoubtedly exert effects, but in their interaction they constitute higher system levels on which emergence effects occur, i.e. neural events which, as explained, have a sense character. For a more concrete description, the example of the AND circuit should be recalled: If only one of the two components is active, nothing happens on the AND level; if both are active, AND becomes active and activates the downstream action: likewise neurally with energy transfer, even if it is now a *logical* operation. As such, it is determined by the fact that it does not depend on the specific, e.g. neural 'hardware', but only on the activity status of its two components: Only when both are active is AND active. To illustrate this with an image: The AND circuit is like a safe with two locks. Only when both keys are activated it can be opened. This has nothing to do with the force with which you turn the keys; the only important thing is that you can unlock them. Once this has been done, the safe door has to be opened, it has to be moved, and this again requires a certain amount of energy. In short, all these are

⁸ Daniel Dennett's dictum that "the idea of the soul" is merely "a curious relic that comes from the desire to see ourselves as absolute" fails to recognize this powerful, existential sense (Dennett 2007, 119).

⁹ 'Mental being without physical substrate' is nevertheless still under discussion, for the time being under the heading 'matter of faith', but in view of the autonomy of logic as a very open question, see Hösle 2006, 135.

physical processes, and as such they have *energetic* conditions: turning the keys, moving the safe door, but the *logical* condition for opening the door is that both keys are operated. Through the double lock there has an AND structure *emerged* and thus a logical level in the otherwise thoroughly physical vault system.

I have characterized the intricate *emergentist status of the mental* in a previous work as follows: "The attractiveness of the emergentist-theoretical approach is obvious: If it is true that the mental can be understood as an emergence phenomenon of a physical system – the brain – then the mental is physically founded, but as a *holistic phenomenon* of the system as a whole it is also a *novel* type of characteristic compared to the characteristics of the subsystems, which as such have 'only physical' character, in other words: Although we have to speak of a physical overall system, the mental, as a phenomenon of wholeness, is, however, *different in type* from the physical characteristics of the subsystems, which, in contrast, are, as it were, 'only physical' (i.e. without mental properties). *In this respect*, there is a *dualism* of physical and mental phenomena here, but this in an overall physical system, which in this respect is *not dualistic* at the same time, in short: Relationships of emergence lead, beyond the elementary-physical, to characteristics novel – here phenomenal-mental – in type, without, however, going beyond the overall area of the physical" (Wandschneider 1999, 71 f). Höhle's objection to Searle, that he, "just like Davidson, attributes both mental and physical properties to a single event", which presupposes "a certain event ontology", but which has "never been elaborated" (Höhle 2007, 165), refers, in my view, to an *emergentist-theoretical* view that would be able to achieve precisely this, I think.¹⁰

4. Considerations on the Ontological Basis

The characterization of elementary mental forms such as perception and feeling as *ideal* is unlikely to meet with undivided approval. The here repeatedly evoked brain researcher, sees exclusively neural structures and processes which he undertakes to clarify. From that the scientific community expects the mental phenomena to be explained, too. Thereby 'neural' seems to be synonymous with 'physical'. But if physical being qua emergence can develop *ideal* forms of being, then the fundamental question must also be asked: How is it possible that the physical in its massive reality can also take on the etheric appearance of the ideal? The consequence that this is a possibility already been created in the physical is then immediately obvious – and with it also the recollection of *idealistic* interpretations of the physical that were believed to be long since outdated.¹¹

In this context, an indication that simply cannot be doubted is the *lawfulness* of the physical, i.e. a 'logic' underlying nature, so to speak. This logic itself is not physical in character, even if the physical is determined by it throughout. Boldly put: The law of falling is itself not something that could fall; Maxwell's equations of electrodynamics are themselves not electrical; more fundamental: The laws of nature themselves do not have a real, energetically constituted being, but are logical-mathematically determined and thus have *ideal* character. The often heard objection, that these are only man created forms, can easily be refuted by the indication that with their help natural processes can be understood and – see technology – put into service. Qua lawfulness, nature thus possesses an *ideal* dimension, and this is by no means incidental, but rather as the power that essentially controls it. Hegel sees "the laws of nature", as already mentioned, as "nature-in-itself", as its actual essence (17.252).

In this perspective an idealistic interpretation is indeed obvious. The being of nature is characterized by a curious ambivalence: According to its appearance it is material, energetic-causal reality, but according to its essence it is determined by the laws of nature, which have an ideal character. This real-ideal dual nature of the physical is obvious; to understand it is a enormous challenge. Materialistic, naturalistic or even animist and panpsychistic attempts at interpretation are hopelessly one-sided and doomed to failure, precisely because they cannot explain that constitutive

¹⁰ With regard to Davidson's 'anomalous monism' see Wandschneider 2015, 551f., 555f.

¹¹ This is by no means a mere inner-philosophical volte. Important natural scientists also consider such a step inevitable; cf. for example Weizsäcker 1971, 290; Heisenberg 1973, 280 f; Gierer 1985, 118; Davies 1986, 279.

ambivalence of being natural. In my opinion, the prospect of an explanation is offered by the objective-idealistic position of Hegelian imprinting; for further justification, reference is made here to works that deal with this topic in detail.¹²

For the present context it is sufficient to state that the laws of nature are to be understood as a *logic* underlying the reality of nature, a logic which as such has an ideal character and nevertheless determines the real processes throughout. So also the neural processes are subject to this logic. Only in this way can they generate binding information, i.e. perceptions that enable efficient behaviour control. And only in this way can perceptions have *existential sense* for the subject. But sense is, as I said, nothing real in space and time, but has an *ideal, mental* character. Thus, all in all: Without the lawful, i.e. ideal character of the real natural processes, sense, mentality would not be possible, or otherwise turned around: *Qua lawfulness the physical already contains the possibility of the mental.*

If the real things and events are perceived, they are thereby, with Hegel's formulation, 'set ideal': In the perception and valuation of the subject, the sensory impressions are integrated into a new lawful connection on the perc-val-act level, whereby they gain sense character for the subject and are thus transferred into an *ideal* mode of being. *Everything* in the world can be 'set ideal' in this way through the perceptual activity of the subject. The material is, so to speak, powerless against its being perceived and thus against the mentally 'setting it ideal', in which so already a semblance of the "general immateriality of nature" becomes recognizable (10.43) – an event that powerfully continues in the spirit, in the intellectual achievements of science, in that it opens, as it were, the *ideal interior* of matter and reveals its true essence, its lawfulness.

It is obvious that it is the *subject* that carries out this 'setting ideal'. A simple example may illustrate this more clearly: The scale markings of a thermometer are not just lines, but also *mean* something, namely temperature values. Of course, they are also real lines on the scale display, but within the thermometer system they also stand for different temperature values, depending on the thermometer design, and in this respect they are carriers of meaning. The real scale lines have a material existence; the meanings associated with them, on the other hand, have an ideal character.

This sounds strange at first. Isn't the thermometer system causally determined through and through, and as such always only that which is *realized* in it at any given time? Where are 'meanings'? And yet: For the observer it is clear that a scale line with the number 20 'means' a temperature of 20 degrees, regardless of whether this value is currently realized or not.

Here it becomes clear that the addition 'for the observer' makes the difference: For him the scale lines have meanings and thus an ideal character. The thermometer system has been expanded by the observer – thermometer+observer – so to speak, and only in this new system frame there are meanings, precisely for the observer of the scale.

Of course this is an anthropomorphic example. But considerations of this kind can be made analogously for higher animals: What perception presents is *for the subject*. For the subject, who is given the task of surviving in a causal world, this information has existential behavioural significance and thus *sense*. Sense, however, is, as already mentioned, not a material-causal being, but has an ideal character. In perception, the latent ideality of material, causal being thus becomes manifest as sense, which – similar to the meanings associated with the lines of the thermometer scale – is ultimately a consequence of the underlying causal laws of nature.

Of course, this is not to be understood as if the subject is to be 'observing' the perceptual data in the same way as the observer 'observes' the thermometer scale. Perception is not a stage and the subject is not a spectator of a stage event taking place in front of him: this idea of a *Cartesian theatre* has been rightly criticised by Daniel Dennett (Dennett 1991), because perception and subject do not exist independently of each other like the stage and the spectator, but rather belong together constitutively: Without perception the subject could not be subject. Perception is not something that would be perceived by the subject, but it is the organon of the subject itself.

The overall result is as follows: The lawfulness of nature is a form of logic underlying nature, its ideal essence, which admittedly does not appear *as such* in the spatio-temporal-material reality.

¹² On questions concerning the justification of objective idealism see especially Hösle 1987; on the objective-idealistic concept of nature Wandschneider, e.g. 1985; 2013.

Lawfulness leads to the formation of *systems* and thus to the emergence of structures in which ideal being is already latently present – as in the example of the thermometer system or in sensory processes. As these are *for a subject*, they gain, as explained, sense character, whose essentially *ideal* type thus appears in the form of the mental. The hidden ideality that permeates the whole being of nature is finally manifested in the mental which, so Hegel, emerges as the ideality of all material being, as all immateriality" (10.47 add.) and thus indeed becomes the *manifestation* of the "general immateriality of nature" (10.43).

The foundation of this – objective-idealistic – view is the *lawfulness* of nature as the ideal being underlying it.¹³ So, when here reference has been made of causal relationships, evolutionary processes, brain structures etc., then this should not be misinterpreted as naturalism or materialism. For these positions deny the essentially ideal character of being natural: For naturalism, the laws of nature are also only natural phenomena, like gravity or electricity; materialism subordinates them to matter and regards it as the actual foundation of nature. But this also means that the chance is missed to understand the mental as a possibility that lies in nature itself, without thereby 'naturalizing' or 'materializing' the mental. To grasp the mental in its specific way of being and to understand it nevertheless as a disposition within the lawfulness of nature: This becomes possible only in the emergentist interpretation of the mental, which explains it as an emergence phenomenon of the 'merely physical' and thus simultaneously as a completely different mode of being. And when matter finally rises to spirit, then this is, in Hegel's words, "the existing truth of matter, that matter itself has no truth" – or at least is not the actual truth (10.44).

If we look at the mind as result of evolution, it seems to come from nature. But understood *objective-idealistically*, nature itself – qua its lawfulness – is essentially determined as ideal. This begins to become manifest in the phenomenal-mental; and finally spirit – concretely as natural *science* – makes the ideal being of nature visible *as such*. Thus, as Hegel correctly sees, "the appearance as if the spirit was mediated by another" is abolished, so that "the transition of nature to the spirit is not a transition to something quite different, but only a coming-to-itself of the spirit that is in nature still beside itself" (10.25). So, if we explain the mental from nature, then this is possible, understood objectively-idealistically, because nature itself – qua lawfulness – is based on the ideal, and is therefore to be understood as the development of the ideal potencies of nature itself and not as an illegitimate 'naturalization' of the mental.

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¹³ On the *justification* of the objective-idealistic view of nature see Wandschneider 1985.

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