

INTERDISCIPLINARY DESCRIPTION OF COMPLEX SYSTEMS

Scientific Journal

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LIST OF REFEREES

The following scholars, listed in alphabetic order, refereed manuscripts for the journal INDECS in period from November 2014 to October 2015:

Dragana Bjekić	István Matijevids
Anita Čeh Časni	Deni Memić
Ksenija Dumičić	Sangeetha Menon
Frankica Kapor	Gyula Mester
Josip Kasac	Mirjana Pejić Bach
Marina Klačmer Čalopa	Zoltán Rajnai
Dean Korošak	Kallol Roy
Živko Kondić	Biserka Runje
Urban Kordeš	Marek Sikoń
Mladen Kučinić	Janos Simon
Darko Landek	Humphrey Tonkin
Olga Markič	Berislav Žmuk

Their contribution to the quality of the Journal's content is acknowledged.

Zagreb, 29th October 2015

Josip Stepanić

INDECS AWARD

Dear authors of articles published in Vol. 12 of the journal INDECS,

the contest for the INDECS award, INDECOSA 2015, choosing of the best article published in INDECS during 2015, i.e. in Vol. 13, is opened.

You, the authors of articles published in INDECS Vol. 12, i.e. in 2014, and the members of the INDECS' Editorial Board, are the voters. Each and every one of you contributes with one vote.

Propositions for the INDECOSA are available from the web site of INDECOSA, <http://indec.s.eu/index.php?s=indec.s>.

I would like to ask you to give your vote to the article which you consider to be the best among the articles published in the year 2015.

The votes will be collected till 10th January 2016 and the results will be presented in INDECS 14(1).

Cordially,

Zagreb, 29th October 2015

Josip Stepanić

FOREWORD: NATURALIZING THE MIND?

The present issue of INDECS is inspired by the work of Slovenian philosopher Andrej Ule. He is best known by his work on epistemology, philosophy of science and – above all – his in-depth analysis of Ludwig Wittgenstein. Andrej's recent endeavours are focused on rethinking the concepts of mind and spirit. Despite the fact that discussions along these lines are as old as western philosophy, new insights about cognition triggered by the onset of cognitive science, have put these topics back to the centre of philosopher's attention.

The attempt to scientifically study the mind provokes the plethora of questions about the possibility and soundness of its naturalization. The concept itself is an umbrella term, used for different levels of examination, stretching from questions about relationship between natural and supernatural to attempts of studying the mind inside the framework of natural sciences. The aim of this issue was to enable the space for all different aspects of the naturalization including sceptic voices.

The line-up of articles, presented in the issue, starts with two of Andrej's investigations. *Consciousness, mind, and spirit* attempts at elucidation of three core concepts referring to cognitive phenomena: consciousness, mind, and spirit. Andrej tries to demarcate them by presenting them as three levels of human cognition: individual-experiential, individual-mental, and trans-individual-mental.

The second article, *Some reflections on the possibility of naturalizing the mind*, examines the possibility of providing a coherent naturalist account of the emergence of the mind, seen as a collection of mental abilities that are present in living beings. Andrej adopts a hypothesis based on the possibility of acquiring a more or less distinctive experiential perspective in the form of like-to-be-X for all sufficiently developed natural entities. Taking on an experiential perspective also entails a greater sensitivity to not only actual, but also potential events.

A reply to Andrej's position is provided by Sebastjan Vörös. In *Mind in Nature, Nature in Mind*, he argues that "experiential perspectivity" as construed by Andrej is feasible, but only if it is complemented by an equally important shift in our conception of nature.

In *A better Metaphor for Understanding Consciousness?* Urban Kordeš builds on Andrej's overview of attempts of connecting quantum mechanics and consciousness. The similarity between the (Copenhagen interpretation of the) quantum world and phenomenological reality that the article points out is their bracketing of the ontological interpretations.

In the article *Naturalism and the Experiential Perspective* Olga Markič discusses the varieties of naturalism. She suggests a widely used analysis that naturalism can be separated into two components: the ontological and the methodological and comments on Andrej's idea of the experiential perspective according to this analytical framework.

The article by László Ropolyi *Representations and Inhomogeneous Beings* brings a new twist on the way we think about consciousness. The author suggests so called anti-Parmenidian ontology in which all entities are regarded as entities only in a certain context. By introducing three kinds of “representation strategies” (bound, free and mixed) author defines advancement of freedom as a drive of the emergence and functioning of mind and cognition.

Matjaž Potrč tackles the problem of naturalization in the article *Dispositional Beliefs* where he suggests an account of belief-formation and of belief entertaining in view of possible action.

We conclude with a very interesting addition: a conversation between two Wittgenstein scholars, colleagues and friends – Matthias Varga v. Kibéd and Andrej. The dialogue vividly shows the aliveness and curiosity of both thinkers, wrapping up the issue with new questions and ideas, many of them unusual, unconventional and even controversial.

Cordially,

Ljubljana, 29th October 2015

Urban Kordeš

Olga Markič

CONSCIOUSNESS, MIND, AND SPIRIT: THREE LEVELS OF HUMAN COGNITION

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Regular article

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ABSTRACT

The article elucidates three important concepts and realities that refer to cognitive phenomena and are often (mistakenly) used as synonyms: consciousness (slo. *zavest*), mind (slo. *um*), and spirit (slo. *duh*). They present three levels of human cognition: individual-experiential, individual-mental, and trans-individual-mental. Simply put: the concept of consciousness pertains to the waking mental life of a human being, while the concept of mind pertains to the ability and activity to consciously comprehend and understand contents and objects of human activity. I delineate three “types” of spirit: personal spirit, objective spirit, and the objectification of spirit in productions of human culture; I have doubts, however, about the existence of cosmic or super-cosmic dimensions of spirit, although some interpretations of quantum physics and modern cosmology suggest that such dimensions are possible.

KEY WORDS

consciousness, mind, spirit, conceptual thought, objective spirit, personal spirit

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INTRODUCTION

The article purports to provide a provisional account of three central concepts associated with cognition (construed broadly). These concepts are often used interchangeably, almost synonymously; however, I feel that this imprecise usage is a rather unfortunate affair, as it not only blurs important distinctions between different modes and aspects of cognition, but it also obscures the being and essence of important “realities”, which determine the cognitive and mental life of human beings. This, in turn, is likely to have detrimental consequences for the development of cognitive science. As already mentioned, my account makes no pretense of being comprehensive: instead of a full-blown definition its goal is to offer a preliminary (tentative) sketch. Consciousness, mind, and spirit stand for three fundamental, yet different levels of human cognition: individual-experiential, individual-mental, and trans-individual-mental, which cannot be reduced to either of the two previous levels.

CONSCIOUSNESS (SLO. ZAVEST)

Let us start with the notion of consciousness. In general terms, “consciousness” denotes the mental state of being awake. Unfortunately, there is but one word in Slovene language to designate such a state, namely *zavest* (“consciousness”), even though the concept itself stands for an array of different phenomena, states, and processes, which are closely interrelated and form a loose network of similarities and commonalities. Recently, there have been attempts to introduce the notion of *čuječnost* (“mindfulness”), particularly in relation to certain meditative states; a similar role is designated to terms such as *pozornost* (“awareness”), *predočenje* (“presentation”), and *občutenje* (“sensation”, “feeling”). Unfortunately, all these terms seem to occupy a relatively fixed semantic domain in “normal” Slovene, and usually relate to specific, mostly short-term (transient) forms of the waking mental life, and not to the more general and permanent mental states and processes. In English, these permanent aspects and modes of consciousness can be expressed by several different terms, e.g. “consciousness”, “awareness”, “sense”, etc., which makes it far more suitable for precise conceptual thought. German language has more affinities with Slovene, in that it has one all-encompassing term for consciousness (*das Bewußtsein*), while other modifications and/or states of consciousness require further “descriptors” or “qualifiers”.

The concept of consciousness refers primarily to the waking mental state of an individual; occasionally, however, it can be used, albeit mostly metaphorically, to denote non- or trans-individual activities of human beings (e.g., collective, social, national, etc. consciousness). In this paper, I intend to focus exclusively on its primary (individual) meaning, i.e., consciousness as a waking mental state of an individual. Closer inspection reveals that the concept encompasses at least three different processes: being aware of sense objects and corresponding feelings; being aware of one’s “affects” (emotions, passions, and volitions); and being aware of one’s thoughts. English language distinguishes between “consciousness” conceived as a quality of intentional mental state, which is often expressed with the verb “to be aware of...”, and “awareness” (in nominal use), which refers to the mental state of sensing and feeling something in the more general sense.

“Awareness” construed in this broader sense does not have to be intentional, i.e. it does not have to have an object, but can also denote spontaneous awareness of what is currently “going on” around and/or within us. The Slovene notion of consciousness (and the same holds true for its German equivalent) is much more closely related to intentionality, and denotes subject’s object-determined knowledge of something. It is true that this knowledge does not necessarily have to be propositional – it can consist of, say, bare noticing of sense impressions (as in, e.g. my spontaneously being aware of, or attentive to, my surroundings),

but it is still object-oriented (e.g. I am aware of a meadow, perhaps even of a lush green meadow, in front of me; I am aware of having a pain in a certain part of my body, of a given emotion, feeling, etc.).

If a Slovene speaker wants to describe her spontaneous awareness of what is currently happening around and/or within her, she is forced to resort to terms such as “sensing”, “experiencing”, “facing”, etc., which designate qualified ways of being aware that need to be distinguished from the more basic forms of attention. In my view, it is important to distinguish between the purely experiential aspect (moment) from the object- or content-related aspect (moment) of consciousness. The former corresponds to the English term “awareness”, while the latter corresponds to “consciousness”. However, definitional issues do not stop here: there remains at least one further aspect that needs to be resolved, namely the problem of self-awareness. Some authors feel that for every act of consciousness there is a corresponding rudimentary sense of self. The notion of self-awareness, of being aware of one’s self, is, again, extremely complex, and I will not go into an in-depth analysis here; I do believe, however, that it is important to distinguish between a rudimentary, “nonsensical” sense of one’s self, which is present in simply being awake, and more elaborate cognitive forms of self-awareness, which also include mental or verbal forms of self-awareness (i.e. self-reflection). It seems very unlikely that the latter can be found in all conscious beings and all forms of self-experiencing. Consciousness as self-knowledge or self-reflection also constitutes the core of the Latin term *conscientia*, in which all modern conceptions of human consciousness are rooted. As to the general concept of consciousness, I feel that it denotes a more rudimentary sense of one’s self, a sense which does not necessarily have to be present in every state of awareness; rather, it arises only when a conscious being becomes aware of what is happening to it. The possibility of directing one’s awareness towards one’s self is always an open (in-principle) possibility for the living being; but it depends on different “subjective” and “objective” circumstances whether this possibility is eventually realized (enacted) or not.

For this reason, I distinguish three aspects (moments) of consciousness: in addition to purely experiential and objective, there is also the self-aware aspect. The purely experiential aspect is the most fundamental of the three, and serves as the basis for the other two moments. It bears emphasizing that the objective and the self-aware aspect seem to be relatively independent from one another, because a living being, in being self-aware, does not necessarily take its self as an object of consciousness. This latter move occurs only when mental activity (i.e. thinking) “enters the picture”. Similarly, a living being that is aware of a given object is not necessarily a being that is also self-aware. The latter holds true only if the living being conceives of the object as “its” object, i.e., if it relates the object to itself (in a human being this would mean relating it to her “self”).

The concept of consciousness thus cannot be reduced to only one aspect, as it encompasses a rich and complex world of experience, reference, and self-reference. It is for this reason that some theoreticians of consciousness refrain from using exhaustive definitions, and are satisfied by merely providing a list of some of its fundamental characteristics. For example, in her “introductory” book on consciousness, Susan Blackmore seems to be perfectly content with specifying some of the key features of consciousness, i.e., the fact that it corresponds to the state of “what is it like to be an ...”, and of having ineffable experiential or phenomenal qualities (*qualia*) [1; p.7]. In her account of these key features, Blackmore draws on the famous article “What is it like to be a bat” by Thomas Nagel, in which the author argues that the experiential perspective of a given being (e.g. a bat) can be enacted only by that being itself [2].

Similarly, in his latest book, David Chalmers reduces the notion of consciousness to “phenomenal consciousness”, to “being as ...”, or more precisely: “[A]n organism is conscious if there is something it is like to be that organism, and a mental state is conscious if there is something it is like to be in that state” [3; p.5].

Imposing self-limitations on one's definitions is, indeed, a wise and laudable undertaking, but one quickly notices that all of the enumerated "qualities" of consciousness refer only to its non-intentional (purely experiential) aspects, while omitting the objective and self-aware dimensions.

It is for this reason that we must, at the very outset, decide what it is that we are talking about when we are talking about consciousness: Are we referring merely to a non- or pre-intentional "state" of awareness or do we mean other aspects of consciousness as well? For example, it is well known that, for Brentano and other phenomenologists, the objective aspect was of primary importance, while German idealists (from Kant to Hegel) emphasized the reflective (self-aware) aspect. The verdict on which of the three aspects is the most fundamental is still out, but in my view, this role should be assigned to the experiential aspect, although the other two aspects are also present in the conscious life of an adult human being, and seem to be more important for a meaningful and competent existence.

MIND (SLO. UM)

The concept of "mind", spanning innumerable historical and cultural definitions and distinctions, is beset by even more difficulties. For our purposes, the concept will denote the human ability and activity of consciously grasping and understanding specific contents and objects of human activity. In other words, it will (roughly) encompass the semantic field of two traditional notions, namely that of intellectus and ratio. The distinction between the factual process of thinking and understanding on the one hand, and the normative rules for the "appropriate" use of thinking on the other, have significantly widened the gap between intellectus and ratio, with the former encompassing the totality of factual thought and the latter referring to the "correct", "rational" or "essential" thought. I will use the concept of "mind" to denote all human intellectual cognitive abilities without any normative presuppositions, e.g. without the requirement that thinking and speaking be rational. By doing so, I will be slightly modifying the terminology that I have originally used in my book *Logos spoznanja* (Eng. *Logos of Knowledge*), where the general sense of "mind" was relegated to the concept of "reason". As it turns out, the "requirement of rationality" is merely an addendum: it is closely related to the concept of scientific knowledge and to critical examination of knowledge and practice, and must therefore be treated separately (I will not pursue this topic further in this article).

It is true, however, that we can, and must, distinguish between different forms and levels of thought, e.g. between ideational, conceptual, and intuitive thought; in this sense, it is then also possible to speak of three levels or modes of the mind: ideational, conceptual, and intuitive mind.

Ideational thought is founded on subjective assumptions, ideas, views, and evaluations of a thinking subject. Its "conclusions" have evolved in specific (limited) contexts, but are often uncritically generalized across all individuals and all circumstances. This type of thinking can be very successful in everyday life, with the tacit assumption that people around us think, feel, and evaluate the world and life situations in fairly similar and uniform ways. It can, however, quickly go astray, if this assumption proves false, and we end up facing people who are "different" from us and demand that we acknowledge the validity of their unique views. In the Ancient Greece, this state of affairs was taken up by the sophists, who soon ended up espousing unbridled relativism, which Socrates then tried to supersede with his conceptual dialectics.

By drawing on the idea of a concept as a mentally objective entity, conceptual thought tries to move beyond the limits of ideational thinking. For Socrates, concepts stood for the inwardly perceived essences of things, and were said to garner insights into their necessary and sufficient properties. Necessary properties are properties without which a thing of a certain

type would not be what it is; sufficient properties, on the other hand, imply that we are dealing with a thing of a specific sort. The verbal “recapitulation” of necessary and sufficient properties was believed to furnish an unequivocal definition of a given concept: to know a concept is to know its definition. The Socratic conception of a concept is thus related to essences, and the latter are, in turn, related to types of things, not to individual things; consequently, there can be no concepts and thus no objective understanding of individual things.

The Socratic conception of a concept is founded on the view that construes types and sorts of individual things as objective realities, which is why it soon gave birth to a variety of conceptual idealisms, as manifested in Plato’s and (to a lesser degree) Aristotle’s philosophies. For a long time, Aristotle’s definition of a thing (substance) was deemed “classical”: in order to be able to define a thing (substance) we need to specify its *genus proximum* and *differentia specifica*. “*Genus proximum*” stands for the sum of all necessary properties, while “*differentia specifica*” stands for the sum of all sufficient properties.

In light of subsequent developments in philosophy and science, it has gradually become obvious that the Socratic conception is untenable, as it fails to garner definitions of concepts and ideas that would successfully transcend the relativism of ideational thought. Traditional conceptual definitions are exceedingly rare and can be attained only if founded on a priori “reliable” sources. In the late Antiquity and Middle Ages, the latter included religious dogmas and some of Aristotle’s philosophical principles. For obvious reasons, this approach to epistemology turned out to be a great obstacle for the development of empirical sciences.

Modern philosophy and science have undermined the Socratic conception of conceptual thought, but they have not undermined the need for conceptual thought that would provide for epistemic (and normative) objectivity (as opposed to ideational thought). What was genuinely new, however, was a fierce revolt against absolutisms of every sort, especially against religious and political apriorisms that were supposed to have an exclusive say about what should count as truly objective, valuable, and real. Modern conceptions of conceptual thought draw on the idea of “rule-mastering” – of learning how to efficiently use concepts in meaningful sentences and different contexts. Rule-mastering is a socially developed skill, which means that it does not, and cannot, exist in isolation, but only against the backdrop of rule-following in a specific social context. For this reason, concepts are no longer conceived as mental entities and structures instantiated “in the head” of an individual, but as realities embedded in a broader social practice of rule-following. Concepts are said to be non-private and intersubjective; they belong to the objective domain of sense and reference, and not to names, sentences, or ideas. A vocal proponent of the objectivity of concepts and their principled distinction from ideas was Gottlob Frege; in his view, however, the objectivity of concepts and thoughts resided principally in the trans-subjective and non-empirical realm of pure sense, which harkens back to Platonism [4]. In contrast to Frege, I construe mental objectivity in terms of the intersubjective practice of following rules of meaningful speech and action [5], which has strong affinities with the philosophy of the late Ludwig Wittgenstein.

Providing definitions is merely an auxiliary and not the principal way of introducing concepts into language and thinking. Even in natural sciences, a vast number of concepts is introduced by means of typical examples (specimens) and collections of typical properties of objects: similarities between an object and a set of typical examples correspond (approximately) to what was previously construed as *differentia specifica*, while sets of typical properties stand for (approximately) *genus proximum*. Note, however, that, due to the “vagueness” of empirical concepts, what we are dealing with here are not, and cannot be, clearly defined relations and collections of properties (i.e. definitions in the classical Aristotelian sense).

Ludwig Wittgenstein called our attention to yet another category of concepts that are explicitly dependent on typical examples and typical properties. These concepts cover a

broad set of phenomena or objectivities that cannot, even in principle, be lumped together under a common definitional denominator. With concepts of this type, the most we can do is to provide sub-types, which can then be further characterized by typical examples and/or properties of members of the same family. We know that it is usually impossible to identify non-trivial common features that would characterize all members of a given family and distinguish them from members of other families. What we can do, however, is determine what it is that connects all sisters, all brothers, brothers and sisters, fathers and sons, mothers and daughters, the father and the mother, etc. These partial similarities correspond to typical properties connecting different family members; but there are no non-trivial properties that would determine all family members. Wittgenstein calls these types of similarities “family resemblances” [6; pp.65-72]; following his lead, I refer to concepts which are based on family resemblances “family concepts”.

The impossibility of providing clear-cut definitions for most concepts, their “vagueness” and embeddedness in larger frameworks of family resemblances, have thrown a rather grim light on the idea that concepts have a priori, purely rational content. However, this does not necessarily mean that concepts, as something that is principally different from ideas, are merely illusions of the mind and language, as claimed by some radical empiricists (e.g. Quine, Sellars, etc.). A given concept encompasses not only all actual examples, i.e., all actual objects corresponding to the content of the concept, but also all potential (non-actual) examples. The concept “human being”, for example, covers not only all real human beings that have lived, live, or will live in our cosmos, but also all possible human beings.

According to a strictly extensionalist view, a concept is determined by its extension, which comprises a set or a class of all actual examples of a concept. But this approach seems unsatisfactory, as it tends to overlook “counterfactual” aspects of concepts. Understanding a concept opens up the domain of real counterfactual propositions of the type “If it were the case that A, then it would be the case that B”, which cannot be reduced to indicative conditionals of the type “If A is (not) ..., then B is (not) ...” and additional conditions, unless the latter are themselves counterfactual in nature. But the very fact that counterfactuals refer to non-actual, yet possible situations and objects, indicates that they represent the move from the actual to the possible, the merely conceptual, even the a priori [7, 8]. Here, a question can be raised as to what do concepts and conceptual thinking actually stand for: Do we really need to rely on some a priori knowledge of ideal realities, such as Platonic ideas, Aristotelian essences or Kantian transcendental forms of pure thought? This is where we run into the third “ingredient” of my paper, the reality and the concept of the spirit.

Intuitive thought is an extension of conceptual thought. Contemplation, which is an essential element of intuitive thought, is said to be able to (at least partially) transcend sensual perception and provide us with momentary and supposedly non-rational insights into a given problem.

It can take place on a very rudimentary, “pre-rational” level (e.g. the early stages of the mental development in children, states of narrowed consciousness, etc.) or on a trans-rational level in the form of synthetic and holistic insights [9]. However, the popular impression that intuitive thought excludes conceptuality per se is misleading, because – barring the prerational “knowledge” in young children or the transrational consciousness found in trances, mystical experiences, etc. – it is still based on tacit (hidden) mental activity that is running in the background and ultimately gives intuitive insights.

Highly developed intuitive thinking is similar to perception in that it makes us intellectually aware of abstract ideas, just as sensual perception makes us aware of sensual objects [10].

It bears emphasizing, however, that intuitive insights do not disclose “immediate truths”; on the contrary, what they provide are merely hints or indications which can be used as

reasonable assumptions about the problem we are trying to solve. Intuitive thought surpasses the power of conceptual analysis in its ability to garner wholesome insights into the nature of the problem, but it lacks the clarity and comprehensiveness of the latter. For this reason, intuitive thinking can be deemed valuable and reliable only if preceded by rigorous conceptual analysis. The impression of immediacy and directness of intuitive thought is a mental delusion of some sort, which can function as a powerful motivating factor for accepting certain synthetic insights as a starting-point for further deliberation and action; but it can also be misleading in that it conjures up a sense of finality and absolute clarity. Intuitive thinking is often used for non-epistemic and practical purposes, e.g., aesthetic and moral deliberations, examining individual choices in decision-making, deepening our spiritual beliefs, etc. It is therefore difficult to pass judgment on its epistemic contributions, and needs to be interpreted against the backdrop of these practical purposes. But in the face of thorny disputes between proponents and opponents of different aesthetic, artistic, moral, political or religious ideas, the epistemological analysis of its main achievements runs the risk of becoming an unproductive squabble over principles or even over taste. Here, a wise course of action would be to simply stick to the principles of “common sense”, comprising experience, well-grounded conceptual thinking, and critical introspection, with the proviso that even these methods are limited and fallible. It is therefore safe to conclude that conceptual thought plays a central role in intellectual endeavors of human beings, because it alone provides clearly articulated contents of intellectual activity.

Let me end this section with a word of “Wittgensteinian” advice: all methods that build on something that was originally accessible only to the individual are in need of external criteria and assessment [6; p.580]. This is the only way we can hope to achieve intersubjective comparability and general validity of insights that were attained by pure reasoning or intuition [5].

SPIRIT (SLO. *DUH*)

In contemporary philosophy, especially in contemporary philosophy of mind and philosophy of cognitive science, terms like “consciousness”, “mentality”, “mind”, and “spirit” are often conflated. English language uses the “all-embracing” term “mind”, whose universality makes it impossible to translate it into Slovene and other European languages. The Latin “*cogitatum*” is of similar cloth, and denotes far more than only “thinking”, which is the most common translation of the term. Germans have a similar word “*Geist*”, whose meaning, however, is much more definite, and usually refers to those aspects of mental and cultural life that involve self-awareness and self-reflection. In this regard, the Slovene term “*duh*” (here: “spirit”) is much closer to the German “*Geist*”.

The tradition of modern subjectivism (hearkening back to at least the time of Descartes) played a crucial role in the fact that we now understand human mental life as the internal essence of an individual and that we so greatly cherish the identity of consciousness, mind, and spirit, but also of mental and cognitive states. In so doing, however, we tend to overlook the intersubjective and transpersonal aspects of epistemic, evaluative, and emotive processes. I call this view “spiritual individualism”, and it is clear that it hinders our understanding of epistemic, evaluative, and emotive modalities, which are important for many people who share a common social, cultural or institutional environment. Further, spiritual individualism reduces these complex phenomena to individual forms of knowledge, cognition, evaluation, and understanding, thereby neglecting inherently transpersonal and objective meanings, truths, and values. In my opinion, such understanding gives rise to false conceptions of both individual and social phenomena, and has contributed significantly to the crisis of the contemporary human world [11].

It is my contention that cognitive science and philosophy of mind need to reaffirm the concept of spirit, or more precisely, the concept of objective spirit. The concept of spirit includes both individual and trans-individual (inter- and trans-subjective) potentialities for competent behavior in one's life world, but also for the enactment of these potentialities in consciousnesses and minds of individuals as well as in "spiritual productions" of people in the course of human history. It therefore cannot be reduced to conscious or mental acts of individuals: spirit is necessarily trans-individual, although it can be partially grasped by individual minds and consciousnesses.

In what follows, I will steer clear of the attempts that try to reduce the spirit to individual cognitive functions and the attempts that try to metaphysically objectify the spirit. I strongly oppose (neo)positivist tendencies in contemporary philosophy and science which claim that the concept of spirit is obsolete and lies outside the purview of science. It is well-known that the most comprehensive theory of spirit was put forward by Hegel. In his view, spirit is some sort of synthesis and extension of logic and nature. Hegel studies spirit under three headings: subjective spirit, objective spirit, and absolute spirit. Subjective spirit is (in brief) the aspiration of a conscious subject towards freedom and the realization of freedom for an individual; objective spirit is the capacity of a human being of rational identification with, and differentiation from, other people in the medium of freedom; and lastly, absolute spirit is the identification of spirit with the absolute idea, as realized in the highest achievements of human culture: religion, art, and philosophical sciences. The most innovative part of Hegel's theory of spirit is his concept of objective spirit, encompassing, as it does, objective human achievements in both social and cultural domains (e.g. morality, law, state). Some prominent philosophers of the 19th and 20th century have modified Hegel's ideas in the vein of historicism or phenomenology (Dilthey, Simmel, Cassirer, Hartmann). In what follows, I will draw on some reformulations of the concept of objective spirit, as provided by the phenomenologist Nicolai Hartmann in his book *The Problem of the Spiritual Being* [12], and add some of my own insights.

Both Hegel and Hartman agree that spirit, although closely aligned with mind and consciousness, cannot be reduced to either of the two. "Spirituality" of human consciousness is reflected in the fact that we, as human beings, are open not only to the (physical) environment, but to the world. People need a common "spiritual sphere", in which they grow in proportion to their social responsibility and cultural awareness. This "sphere" is more than a mere sum of individuals who are socially and culturally active, and is also not to be mistaken with an abstraction from individual consciousnesses and minds; instead, it is a unique reality, which they inhabit just as they inhabit the material world. In Hartmann's words: "Mere consciousness separates people from one another; it is spirit that unites them [12; p.61]" However, according to Hartmann, spiritual reality is not independent of nature or ontologically primary, as it was the case with traditional metaphysics and Hegel, but can only evolve and maintain itself against the backdrop of material reality, in which human beings exist as living entities.

Hartmann distinguishes between personal (subjective) and objective spirit, discarding Hegel's notion of absolute spirit and "subsuming" its main characteristics under the heading of objective spirit. Only personal spirit can be said to "have" consciousness: it provides human beings with the ability of self-awareness (sense of self) and of ethically responsible behaviour; objective spirit, on the other hand, pertains to social communities, nations, and cultures. "Within" the category of objective spirit, Hartman distinguishes a further subcategory, namely that of "objectivized spirit". The latter is construed as the totality of objectifications of objective spirit in the form of productions of human culture, e.g., works of art and science with lasting and transpersonal value and meaning. For Hartmann, spirit exists only in its manifestations, i.e. in its ways of self-expression – consequently, it is always

creative and dynamic. Objective and personal spirit mutually support and complement each other: personal spirit finds its highest expression in the achievements of objective spirit, whereas objective spirit can live only in and through individual spiritual productions. Objective spirit is not to be understood as a “subconscious” or “transconscious” entity.

Hartman’s conception of spirit has its strengths and weaknesses. Its strengths are undoubtedly its “non-metaphysicality”, its strict rejection of subjectifying and objectifying tendencies in the current approaches to spirit; its weaknesses lie primarily in its inability to elucidate what the relative independence of (objective) spirit in relation to individuals or “personal spirits” actually pertains to. I feel that these flaws can be at least partially remedied by drawing on some of the ideas found in the late Wittgenstein’s philosophy.

In his *Philosophical Investigations* [6], Wittgenstein uses a concept that is quite similar to Hartmann’s notion of objective spirit, namely “form of life” (Lebensform). Wittgenstein suggests that, by following rules that regulate our speech, thinking, and acting, we become embedded in a network of behaviors which he collectively refers to as a form of life. A form of life is usually shared by a group of people with common culture, language, customs, etc., and provides for considerable coherence in actions, meanings, verbal expressions, and norms among members of the group. It is “what has to be accepted, the given” [6; pp.572]. Language, thoughts, and intentions are all part of human forms of life, with language playing the central role. If a human being is to survive as a social being, it is necessary to presuppose a certain level of coherence and interconnectedness between different types of linguistic and non-linguistic behavior. It is safe to assume that there is a considerable amount of congruity between people who follow a common set of rules, although, as Wittgenstein never tires of insisting, there is no external or internal force that would actually make them behave in such a uniform way.

To my mind, the transpersonal meaning, value, truth and meaning of ideas, concepts, propositions, actions, and human artefacts stem from a network of basic rules that are followed “blindly” or in a very similar, perhaps even identical, fashion by members of a community sharing a common form of life. By “blind” I mean that it does not require any deliberation on the part of an individual as to whether it is (in)correct to follow the rules that she, in fact, follows. All the other rules that are present within the same form of life can be deduced from these fundamental rules. However, to follow a rule blindly does not mean that all people in similar or identical situations follow it in the same way; but it does mean that similarities between different “styles” of rule-following are so pronounced that it is safe to assume that people deviate from the “common” rule-following very rarely. The rule-following uniformity is significantly reduced in the case of higher (more complex) rules: Think of a great variety of linguistic utterances and of occasionally very “creative” ways of grammatical rule-following in live speech. It could be maintained that the normative validity of human behavior “supervenes” on the fundamental correspondence between words and actions, i.e. on the blind following of fundamental rules pertaining to a given form of life. This supervenience is facilitated by a specific set of (relatively) fixed “objects” functioning as rule-following exemplars, norms or standards. These “objects” play a central role in education and upbringing and in mediating discussions and conflicts.

However, it bears emphasizing that blind rule-following needs to be conceived not as an individual, but rather as a communal practice. It has developed in a communal setting as the result of group-based training processes, which enable each individual to gain proficiency in relevant rule-following patterns, thereby “freeing her of all doubts” as to how a given rule is to be used in specific contexts.

In the remaining few paragraphs, I would like to defend the following thesis: the fundamental form of objective spirit of individuals who share a common form of life encompasses a

dynamic wholeness of rules (pertaining to language use, epistemic norms, etc.) in a given inter- and trans-personal situation of human life [11; p.97].

I use the term “wholeness”, and not “totality”, because totalities are mostly conceived as abstract objects, whereas in the case of objective spirit we are referring to an implicit “wholeness” which is not an object, but a generalized aspect of the mastering of the situation.

The proposed concept of spirit is defined situationally and contextually, and therefore cannot be reduced to one specific situation. The core of objective spirit is to be found in the wholeness of implicit and often subconscious presuppositions underlying both our abilities to understand and sensibly react to a given situation, as well as in the implicit consequences that follow from such an understanding and (re)acting. To simplify: the purported wholeness of rules stands for “the objective spirit of a given situation”. People act and react first and foremost to the given social situation that seems relevant for them. Their primary and most lively “contacts” with the sphere of objective spirit (of their community at a given historical time) are made in and through their specific social situations. Such situations are, for example, interpersonal interaction and communication, cooperation with other people, everyday situations at work, in the family and during leisure, even fleeting occasions of being together with others at the same place.

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The objective spirit of a concrete social situation is of course only the most fundamental, elementary form of objective spirit. Higher and more complex forms of objective spirit are instantiated in more complex and permanent forms of social situations, e.g., in social institutions, media, and means of mass communication (e.g. mass media), etc. I do not, however, presuppose the existence of the “highest” form of objective spirit – the objective spirit of humanity as a whole, which would encompass all “lower” forms of objective spirit as its elements, aspects, or modes. It is true that, in contemporary “internet society”, one might talk of “spirit of humanity in the present”, but this too seems to be more like an idealization or an idealized spiritual potential of humanity in the present than the actual “state of spirit” that would impose specific content or rules on all “lower” forms of objective spirit.

It is possible, however, to conceive of constituents (elements) of objective spirit as specific types of abstract objects – call them “productions of spirit” or “spiritual productions” (e.g. content of works of art and science). Although such understanding is but a linguistic fiction, it has real implications on the way people think, speak, and act. The explicit or implicit belief in the existence of abstract contents “situated” in the sphere of objective spirit is but an idealized consequence or an end result of a given set of conditionals which all competent rule followers of a given community (with a given form of life) at least tacitly accept in their everyday social practices.

Every “example” or “instantiation” of objective spirit differs in how it is experienced or conceived by individual human beings, because it is only latently or potentially present in experiences, conceptions, utterances, and actions, whereas the very act of experiencing or conceiving is something actual. For example, the content of a certain work of art serves only as a potential for its being experienced or conceived by a group of concrete individuals in their concrete life situations. Occasionally, and only partially, this content can be actualized

in concrete acts of consciousness and understanding of a group of sufficiently motivated and attentive individuals. In such cases, objective spirit can be said to realize itself in and through these individuals. Following the example of Hartmann, I use the term “objectified spirit” for cases where the actualization of spirit is associated with a certain public and objectified expression of spirit, e.g. in a work of art or science.

But what is the “medium” or “vehicle”, whereby the transpersonal potential of objective spirit can enter into the mind or consciousness of an individual and society at large without the mediation of concrete objectifications of spirit? Vincent Descombes refers to these fundamental vehicles of objective spirit as “institutions of meaning” [13, 14]. Social institutions have their own lives and enable us to think and deliberate on things that cannot be successfully resolved only “in our heads”. Similar ideas to those proposed by Descombes can be found in notions, such as “mental institutions” and “socially distributed minds” by Gallagher and Crisafi [15, 16], and “extended minds” by Clark and Chalmers [17]. The main difference, it would seem, lies in the fact that Descombes speaks of the realm of meaning, which is “embodied” in social institutions, while the other authors speak of the process of distribution, externalization, and extension of the mind, which occurs when one uses one’s mind and consciousness in social contexts. The process itself is supervenient on mental states and processes of personal, environmental and social origin, but cannot be reduced to them. It could therefore be claimed that Descombes focuses more on the structural, while the other authors attend primarily to the processual aspect of objective spirit. I see these approaches as an important development in the history of spirit, which is much more in tune with Hegel’s original dialectic, as is the case with many of the more speculative interpretations of his philosophy. If we construe objective spirit as something that is alive, then it must manifest itself as an ongoing process of externalization and distribution by means of different sources of meaning and knowledge that are usually embedded in processes that transcend the strictly mental and/or conscious domain. The central aspect of this all-encompassing activity is the already mentioned process of rule-following in its multifarious guises (the latter is to be conceived very broadly, so as to also include changes of rules and their general application).

Historically, the concept of spirit was often criticized because of the idea of cosmic or even trans-cosmic spirit. Speculative suggestions of this type cannot be verified scientifically, and are often explicitly metaphysical in nature. But they are not completely irrational, as they allow for rational speculation about the existence of such spiritual dimensions. For example, some interpretations of quantum mechanics allow for, or even demand, the existence of “cosmic observers” whose “role” is to constantly “break” the holistic cosmic quantum potential, which is formally represented by a common wave function of all physical processes in the cosmos, comprising trans-chronological and trans-spatial superpositions of mutually entangled cosmic quantum states. The purported cosmic observers “break” the quantum potential into a set of stochastic (mostly non-linear) assemblies of different real possibilities, manifesting themselves as physical events [18-20]. Similar ideas can also be found in Bohm’s theory of cosmic quantum potential and implicate order, which “enfolds” itself into consciousness and cosmos [21]. Another important source of hypotheses about the cosmic or trans-cosmic spirit are altered states of consciousness, e.g. mystical states, artistic trances, drug-induced experiences, etc., which “throw” the person out of herself and into a spiritual world of some sort.

It is hard to draw any firm conclusions as to the validity of such speculations, as they are in need of additional theoretical and empirical research both in the field of quantum cosmology and the field of altered states of consciousness [22]. In the chapter on spirit in physical reality in my book *Mind in Nature*, I outline some rudimentary ideas about consciousness construed as a field of potentiality that gets actualized through the experiential actor’s becoming aware of her experiential flow, which can be, at least formally, compared to certain aspects of

quantum-mechanical potentialities and their actualizations in physical observations [23]. But the consciousness of a person who experiences and directs these leaps from inattentiveness to attentiveness transcends the domain and scope of quantum mechanical aspects of experiential consciousness. As noted in my critical survey of quantum models of consciousness, this requires that we posit a special experiential perspective, “denoting awareness or cognizing of the experiential subject’s token- and type-specific experiential perspective, which – in human beings – translates into an awareness of the ever-changing aspects of one’s actual presence ... in relation to personally, socially and historically definable chronological and spatial closeness/remoteness of things and events experienced by the subject” [24; pp.95-96]. This, however, transcends the domain of experience and consciousness en masse, and demands that we pay heed to the subject-accessible knowledge of her specific relations to the world which she shares with other people. We are dealing here with a strictly spiritual domain, or more precisely, with the objective spirit of different situations experienced by an individual and shared by other people with which she interacts.

Thus, it would seem that quantum models of consciousness also transcend the realm of mind and consciousness, and presuppose the existence of spirit construed as a trans- and interpersonal potentiality that manifests itself in and through “breaks” of actual realizations of personal spirit in individuals. Cosmic dimensions of spirit are undoubtedly interesting, but (at least at this point) not elaborate enough to help us (co)construct the concept of spirit, which I identify with the concept of objective spirit, an indispensable feature of human life.

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SOME REFLECTIONS ON THE POSSIBILITY OF NATURALIZING THE MIND

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ABSTRACT

The article examines whether it is possible to provide a coherent naturalist account of the emergence of the mind (spirit), construed as a plethora of mental abilities that are present in living beings. I analyze Bateson's information-system theory of mind, Peirce's theory of semiotics, and some biosemiotic proposals. All of these conceptions fail to provide a plausible theoretical explanation of the emergence of the mind, particularly (i) the emergence of the interpreters of signs, and (ii) the emergence of the experiential perspective out of the non-living nature. I argue for a hypothesis based on the idea of the trans-objective perspectivity dimension, i.e. the real possibility of acquiring a more or less distinctive experiential perspective in the form of like-to-be-X for all sufficiently developed natural entities. Taking on an experiential perspective also entails a greater sensitivity to not only actual, but also potential events, e.g. a greater sensitivity to everything that can be "useful" or "harmful" to the system in question.

KEY WORDS

mind (spirit), information system, semiosis, biosemantics, experiential perspective

CLASSIFICATION

JEL: Z13

INTRODUCTION

Human mental abilities are inextricably connected with a potentially infinite capacity of relating individual thoughts, emotions, and feelings to other thoughts, emotions, and feelings. What seems to be at work here, is a latent or potential infinitude and inexhaustibility of mind/spirit¹. This infinitude/inexhaustibility is especially prominent in the domain of thought and language. Every thought or proposition can be expanded with, or linked to, other thoughts or sentences (be it of the same or some other language). This phenomenon is present already in logics.

Every affirmative proposition, every propositional thought with the contents p , is logically equivalent to the proposition, thought p and (q or non- q), as well as to the proposition, thought p or (q and non- q). All this seems evident enough. But the same proposition, thought is also logically equivalent to the proposition, thought if (if q , then q), then p , and to certain other propositions of similar nature. At first, this procedure might strike us as nothing but a rather extravagant exercise in “logification”, but it should be noted that, from a purely logical point of view, it is perfectly acceptable. It seems that every proposition implicitly presupposes all other propositions, as it is possible to substitute q with any other proposition. The same idea can be found in Wittgenstein’s *Tractatus*: “If elementary propositions are given, then at the same time all elementary propositions are given” [1; p.524]. In other words, every proposition entails the possibility of any other proposition; and similarly, every propositional thought entails the possibility of any other propositional thoughts.

Every sensible proposition (thought) thus “implies” the whole logical field of language or thought, i.e. all possible logical operations pertaining to both itself and to other possible propositions (thoughts). There are, of course, infinitely many propositions of this sort; but this infinitude is always in potentia, never in actu. What is crucial, however, is that it is concurrent with every individual proposition and every propositional thought, and is not an “extra ingredient” or something “programmed into” the brain. The implication above is not of a logical “if-then” type, but is rather an expression of a relationship between the actual and the potential, which (in a typical Wittgensteinian sense) might be said to disclose itself in the proposition (thought), if/when the latter is used (thought) by someone. As this, in my opinion, surpasses the abilities of modern computers, it is safe to assume that none of them is (as of yet) capable of speaking and thinking. It is just that people interpret their “behaviour” as speech or thought.

In what follows, I will thus speak of human mental (spiritual) abilities, because the association of actuality and potentiality seems to be characteristic of all, and only of, mental (spiritual) abilities. These abilities, in themselves, form a unity of actual mental phenomena of a special type (e.g. thoughts, propositions, imaginings, metaphors, aims, longings), and pertain to the endless possibilities of relating and associating phenomena with other similar phenomena. They require that there be present a unique type of acuity for not only actual, but also potential processes, especially for actual and potential personal actions as well as for actions related to other living beings. This, in turn, presupposes the existence of relatively complex cognitive situational models, elaborate “theories of mind”, and the ability to grasp the actuality and potentiality of oneself in and through these models. We normally attribute mental (spiritual) abilities to human beings only, but as recent research shows, glimmers of mental (spiritual) abilities seem to be already present in higher animals (e.g. primates, dolphins and whales, some birds) [2, 3].

This by no means precludes the possibility of computers and other information tools instantiating the required mental abilities, but in order to do so, the information they receive and process needs to become relevant to themselves, and not only to those who partake in their “services”. This, on the other hand, means that they need to acquire a specific type of experiential perspective, i.e. a discriminative capacity that would enable them to perceive and evaluate situations that are relevant

for them from the point of view of the information system as a whole. But despite all the recent developments in the field of computer science and artificial intelligence, we are still, as far as I know, nowhere near this goal. For more on this topic see my chapter in the book *Mind in Nature* [4].

In order to provide a “naturalist” account of mental (spiritual) abilities in living beings in general and human beings in particular, we need to somehow “naturalize the mind”. This, however, is easier said than done. So far, there have been but few serious attempts to provide a non-reductionist naturalist account of the mind (spirit), i.e. an account that would not reduce it to an anthropomorphic way of interpreting phenomena that has developed in the course of natural and cultural evolution.

One of the more serious attempts at a non-reductionist, but naturalist, account of the evolution and emergence of the mind (spirit) is the so-called system theory of the mind (spirit), an older, but still very interesting and important proposal by the American biologist and therapist Gregory Bateson. The most concise portrayal of his position can be found in his last book *Mind and Nature* [5], where he enumerates 10 criteria for ascribing a character of mindedness/spirit to a given being, process, or system, among others:

- 1) a mind is an aggregate of interacting parts or components,
- 2) the interaction between parts of mind is triggered by difference, difference is a nonsubstantial phenomenon not located in space or time; difference is related to negentropy and entropy rather than to energy,
- 3) mental process requires collateral energy,
- 4) mental process requires circular (or more complex) chains of determination,
- 5) in mental process, the effects of difference are to be regarded as transformations (i. e. coded versions) of events which preceded them. The rules of such transformation must be comparatively stable (i.e. more stable than the content) but are themselves subject to transformation,
- 6) the description and classification of these processes of transformation disclose a hierarchy of logical types immanent in the phenomena. [5; p.92].

A system in possession of all these characteristics is believed to be a mental system, e.g. a system of mind, possessing mindedness in the broad sense of the term. Bateson is convinced that these criteria are met by different processes: thinking, evolution of life, ecology, life, learning, etc. This, of course, makes for a very broad and somewhat surprising list of mental or spiritual processes. Note that the list does not include experiential consciousness: the latter, in Bateson’s view, is a mere epiphenomenon of deeper, unconscious mental activities. The mind is believed to be immanent in natural processes and systems of a certain kind, and is not transcendent to nature. According Bateson, it is the fifth criterion that is essential for the mind (spirit); the criterion is eloquently phrased in Bateson’s memorable definition: (a bit of information) is a difference which makes a difference. This definition borrows heavily from the classical Shannonian idea of “minimal information”, construed as a minimal difference capable of being registered by the information system, but it augments it with an additional requirement of information having to bring forth some subsequent (novel) difference. But where is this new difference supposed occur? In a system or a process that is “susceptible” to certain types of differences and reacts “accordingly”, i.e. follows a certain set of rules and thereby triggers a new difference within itself. This difference can then initiate a cascade of new differences in the system (for instance, acting on the appropriate perceptual organ, a visual signal can be said to be efficient only if it represents a spatial or temporal difference in relation to the previous state of that organ; this difference can then be transformed into a corresponding difference of nerve impulses travelling along the nervous system and undergoing further transformations, it might even create a simple conscious impression, which, in turn, engenders yet another simple difference).

Another feature of mental processes, according to Bateson, is that the transformation of differences occurs in terms of rule-governed coding and decoding, corresponding to specific

logical demands, e.g. a demand that every coding or decoding occurs in a specific “context of understanding”, where the determinants of the context must consist of, or take on, a certain value or bit of information within the context itself. This requirement draws on Russell’s theory of logical types, in which no class (set, context) can be a member of itself, as this would entail a series of logical or communication paradoxes. This is the central point of Bateson’s sixth criterion for the existence of the mind (spirit), namely the existence of a hierarchy of logical types of coding or transformation contexts, construed by Bateson as a hierarchy of messages, meta-messages, meta-meta-messages, etc. This hierarchy is immanent in the information system itself, and is not merely ascribed to it by human theories, descriptions, etc.

Bateson feels that a system possessing mental (spiritual) characteristics is capable of autonomously regulating its own behaviour in its environment. Moreover, such a system is capable of dying, i.e. its information circuits can get disrupted, resulting in the loss of autonomy; it is capable of forming memories, learning, and learning about learning; and finally, it is capable of associating with other systems of similar nature and constituting larger wholes, which may, in turn, become new, broader systems of mind [5; p.127].

Next, Bateson tries to answer the question as to whether systems of mind are necessarily conscious. On his view, this is by no means the case, as he conceives consciousness as merely an epiphenomenon of higher mental (spiritual) processes. They are, however, capable of operations that are not as complex, namely of recognizing similarities and differences between their own qualities and qualities of other systems. In one of his previous books, a collection of articles entitled *Steps to an Ecology of Mind*, Bateson enumerates several characteristic features of systems with mental properties. One of these features, for instance, is the fact that properties belong to the system as a unit, and not to its parts [5; p.322]. For this reason, questions of the type “Can a computer think?” or “Is the mind in the brain?” make no sense, because a single computer is but a segment in a larger network, which includes people who work with the computer, and either provide the computer with the necessary information or use the information provided by the computer. It is only in relation to this larger system that we might legitimately ask whether “a computer capable of thinking or not”, and the answer, according to Bateson, would be a definite “yes”. This does not, however, mean that the system is necessarily conscious, since consciousness is not an indispensable ingredient of the mind (spirit) and thought. Similarly, it makes little sense to say that the mind (spirit) is in the brain, because the brain is merely one of the subsystems in a human being, and a human being is itself a constituent of a larger system of life that sustains it [5; p.323].

According to Bateson, the “human mind” (spirit) can be said to exist only within this larger system (e.g. it is neither in the brain nor in the individual), but this does not mean that the system itself is necessarily conscious. Bateson was one of the forerunners of the so-called extended mind hypothesis, according to which the mind (spirit) is not confined to, but extends beyond, the brain or an individual thinking organism. By following this line of thought, Bateson wanted to transcend what he felt to be a set of senseless dualisms, e.g. a dualism between mind (spirit) and matter or between interiority and exteriority. Bateson’s theory is very intriguing, but obviously deficient, as it fails to account for one of the key features or aspects of mindedness: namely how is it that the system in question is capable of understanding bits of information, messages, and signs. This deficiency stems from the fact that “to understand” entails the ability “to experience” and “comprehend” the information that the mental (spiritual) system receives from, or transmits to, other mental (spiritual) systems. I feel that this deficiency in Bateson’s theory may be eliminated or at least alleviated with the help of Peirce’s semiotics.

Charles Sanders Peirce formulated an important hypothesis about nature, behaviour, and logics of signs. Peirce defines signs as meaningful entities, whose meaning is determined by a triadic relation between (i) the physical or mental presence of a sign functioning as a representant,

i.e. as a means of representing something (the so-called “Firstness”), (ii) the represented object (the so-called “Secondness”), and (iii) the interpretant who understands the sign as meaningful and situated in relation to the represented object (the so-called “Thirdness”) [6]. The fundamental relation between individual signs can thus be construed as follows: The interpretant A interprets (understands) the sign B as a representant of the object C.

According to Peirce, this triadic relation constitutes a basic unit that could not have come into being from individual elements taken separately or from three subordinate dyadic relations: presence of a sign – represented object; interpretant – represented object; and interpretant – presence of a sign. In his view, the mental (spiritual) component of this triadic relation, is to be found in the interpretant and is embodied in the human ability to understand linguistic and non-linguistic signs and thoughts. Peirce’s thesis about the essentially triadic semiotic relation is, of course, in stark contrast to the well-established structuralist (Saussurean) thesis which argues for a dyadic nature of semiosis (conceived as a relation between the sign and the signified), but this is a topic I do not intend to address in the present article. Personally, of course, I prefer Peirce’s thesis.

Peirce is also known for introducing the important distinction between different types of signs: icons, indexes, and symbols. An icon refers to an object because of its similarity to that object, so the only thing the interpretant has to do, is to recognize this similarity. An index refers to an object by means of a specific causal chain, and is construed as an indirect effect of the object appearing in a given situation; the interpretant must therefore recognize this causal connection, and use it to arrive to a “conclusion” about the emergence of the represented object. A symbol refers to the represented object on account of special rules or conventions that are accepted in the society of its users. The interpretant needs to learn these rules or conventions, and only then is he or she able to understand the symbol. A typical example of this would be linguistic signs. Peirce was convinced, however, that the ability for semiosis is not limited exclusively to human beings, but can also be found in higher animals.

Given the fact that, according to Peirce, all causal activity consists of dyadic cause-and-effect sequences, the semiotic relation can be said to transcend all types of causality as well as the domain of physical reality as such. For Peirce, the existence of a physically irreducible triadic relation, which is presupposed by all meaningful forms of sign use, figures as evidence of the non-physicality of the mind (spirit) and its existence in nature. Similar to Bateson, Peirce refrained from drawing any conclusions to the effect that the mind is transcendent to nature, but instead hypothesized that the ability to form semiotic relations emerged spontaneously in the course of biological and cultural evolution of living beings. Near the end of his life, Peirce seems to have opted for a version of Pantheism or, more precisely, Panpsychism, maintaining that all nature, be it animate or inanimate, is potentially mental. However, he believed the mind (spirit) to be present in nature only latently, crystallizing or manifesting itself, as it were, through the evolutionary process in human beings capable of semiosis, i.e. in their ability of meaningful sign production and utilization. This, of course, is reminiscent of Bateson’s idea of the evolution of systems of mind (the so-called *Creatura*) against the background of physical nature (the so-called *Pleroma*), as well as of Whitehead’s process metaphysics [7].

In his writings, Bateson never explicitly mentions the triadic semiotic relation; it seems that he is completely satisfied with the postulated processes of message coding and decoding, processes that can be of a more automatic (e.g. in lower life forms) or a more conscious or goal-directed nature (e.g. in human beings and higher animals). However, and as already mentioned, these processes might be said to contain the mind (spirit), only if they meet the criteria for the emergence and existence of the mind (spirit). A more thorough analysis of Bateson’s theory reveals that, although he never explicates it, he too is aware of the semiotic triad. For instance, he often speaks of the interconnectedness of three different phenomena: momentary affection (momentary “perception of qualia”, in modern parlance), simple perception, and simple learning (e.g. formation

of elementary habits). Bateson claims that these three units form a fundamental biological process that is present in all living beings capable of perceiving their environment. This, in turn, reminds us of Peirce's tripartite relation of firstness, secondness, and thirdness, laid out at the level of the elementary "habit formation".

On a somewhat higher level, Bateson postulates a similar triad: (i) the ability to receive structure/form – (ii) simple awareness of structure/form – (iii) forming of more complex patterns which connect simple perceptions into complex sensations. And on an even higher level, we find the following triad: (i) sensitivity to aesthetic awareness – (ii) receiving of information – (iii) "consciousness of the sacredness of nature" [8]. Just like with Peirce's semiosis, these postulated triads appear to be closely interconnected, and it therefore seems perfectly plausible to augment Bateson's criteria with an additional requirement: every system that is to be designed as a "system of mind" has to be capable of establishing and maintaining a triadic semiotic relation of sign, object, and interpretant.

A more recent version of the theory of the emergence of mind (spirit) in living nature can be found in biosemiotics, a scientific discipline dedicated to the study of the emergence and the existence of semiotic relations in living nature. The main thesis of biosemiotics is that the essence of all life forms (not only animal, but also plant, bacterial, and viral) is semiosis; or in other words, the essence of life is said to consist of signs, codes, and bits of information [9-12,]. This, of course, immediately raises an important question as to whether it is legitimate to project Peircean notion of semiosis, postulating the existence of interpretants of signs, onto all aspects of life, for it seems that, for instance, the genetic coding and decoding in DNA and RNA – two processes that unfold automatically, unconsciously, and causally – can be carried out without the presence of an interpretant. It might even turn out that it is human beings who instil these processes with a Peircean-semiotic character, e.g. that we as human beings have taken on the role of additional interpretants of what goes on in nature. But there are other possible interpretations: some authors have proposed that the cellular system responsible for producing proteins on the basis of messages encoded in the genetic structure of the DNA molecules might function as an elementary sign interpretant, i.e. that it might constitute a rudimentary form of Peircean semiosis (1). In this respect, one would be wise to adopt the view of Thomas Sebeok, who claims that there is no definitive dividing line between the semiotics of living systems (zoo-semiotics) and the anthropo-semiotics. Sebeok draws on the work of French biologist and philosopher Francois Jacob who maintained that mammals are capable of engaging with certain objects even if they do not perceive them. Sebeok traces this phenomenon back to the ability to form symbols, a sort of filter between the organism and its environment [11; p.302].

We can now provide an outline of the fundamental idea behind the attempts to naturalize the mind (spirit), as construed by Peirce, Bateson, and some authors in the field of semiotics, namely the idea that there exists an evolutionary continuum in the development of semiosis, a continuum ranging from the most simple living organisms up to human beings, which makes it plausible to speak of "mind in nature". But this account leaves some unresolved issues. If Peirce's idea about the triadic nature of every semiotic relation is, in fact, true, along with the postulated irreducibility of the dyadic cause-and-effect relations that are said to hold between events, then it seems uncertain how one might account for the emergence of semiosis from the inanimate, causally-determined nature. Similarly, it is far from clear how, on a Batesonian view, information systems, capable of "mapping" features of their environment, could emerge from physical and chemical processes. Peirce proffered to "solve" the question of the emergence of semiosis with his pan-spiritual hypothesis, claiming that semiosis pervades all nature, including the so-called inanimate matter, e.g. atoms. Bateson was much more modest in his claims, and refused to expand the mind (spirit) on nature as a whole: on his view, basic constituents of matter, e.g. atoms or atomic particles, do not possess the characteristics that are typical of information systems and therefore cannot be said to possess a mind. This is why Bateson was unable to explain how information systems might emerge from non-information systems.

Advocates of the Batesonian view have proposed different ways of improving on Bateson's theory and bridging this theoretical gap. Tyrone Cashman, for instance, claims that the "mapping" is to be conceived as founded on the ability of an organism to actively react on objects of its perception and simultaneously perceive the effects of its actions. This gives rise to a simple two-way loop between the indirect perception of the environment and the direct action within the environment, a loop that is believed to constitute the basis for semiosis and intentionality of experience [13]. Terrence Deacon and Jeremy Sherman, on the other hand, suggest that the missing evolutionary link between inanimate and animate world could be found in the so-called auto-cells. Auto-cells are said to consist of reciprocal links between auto-catalytic circuits and processes accompanying their spontaneous enclosure from the life-threatening environmental effects. The molecular basis of such an enclosure is believed to derive from the end results of the auto-catalysis. Even today, similar systems can be found in simple viruses lacking the DNA and RNA molecules. According to Deacon and Sherman, such auto-cells provide glimpses into the rudimentary forms of individuality, which have played a crucial role in the development of goal-orientation, perception, and evaluation [14]. Both hypotheses are interesting, and might turn out to be a necessary natural condition for the emergence of simple semiosis in living organisms, but a lot of ground needs to be covered before we will be able to explain the first real natural coding processes and systems that can be found in the RNA and DNA molecules.

Biosemioticians tend to evade the question as to how semiosis is supposed to have emerged from the non-semiotic physical and chemical reality. Such an evasive attitude does not solve the problem, of course, but merely postpones it to a later date, when an acceptable naturalist account is expected to be found. One might, of course, take recourse to a transcendent explanation, i.e. an explanation evoking supernatural entities (e.g. creationism), but the advocates of the naturalisation of the mind (spirit) do not normally accept explanations involving supernatural forces. I would like now to take a note of what seems to me an even greater problem, a problem that has already been briefly alluded to, but has not yet been dealt with appropriately: namely, is it really possible to develop a naturalist account of the emergence of organisms with personal (inner) experiential perspective? To have an experiential perspective is, in my opinion, a necessary condition for the emergence of higher forms of semiosis, forms that include complex perceptions of different life situations and anticipations of possible future occurrences, e.g. an ability to anticipate how other organisms would react to one's behaviour in a given situation. It should be emphasized that having a personal experiential perspective does not necessarily entail being conscious of oneself, having an idea of the self, etc. These are instances of higher forms of experiential perspective that cannot be (as far as the available information goes) extended beyond the human world. Roughly speaking, the minimal requirement for a (rudimentary) experiential perspective would be an ability of an organism to organize sense impressions in accordance with the self-representation, i.e. to form a center of sense impressions that might serve as a starting point or a central referential point in the evaluation of not only potential, but also actual events in the environment of that organism [4; pp.176-177].

It is safe to assume that all organisms with brains (e.g. vertebrates or higher) have the capacity of mapping their outside world in the form of inner representations, but it is only higher vertebrates that are capable of mapping themselves within a given environment. There is, indeed, only a small step between this capacity and the personal experiential perspective. But here, a question arises: "Where" does this perspective come from, given that it is impossible, as indicated by logical analysis, to translate or reduce it to third-person descriptions. This is the main topic of the famous paper "What is it like to be a bat?" by Thomas Nagel [15]. Moreover, the experiential perspective necessitates the existence of the so-called qualia, i.e. the irreducible qualities of those feelings that, according to the representational view, are located "inside" of an organism (or on its bodily surface). These feelings cannot be fully reduced to representations of the objective

state of affairs that lacks any kind of experiential perspective. This is why I have repeatedly suggested that, in addition to time-space dimensions, the material reality itself (i.e. the material cosmos) must also possess the perspectivity dimension, i.e. the real capacity of acquiring more or less pronounced experiential perspectives of the type “like to be X” for all sufficiently developed natural beings [16; pp.315-321, 17; pp.67-175, 4; pp.83-188].

At this point, I consider the idea of “perspectivity dimension” to be a useful metaphor for the trans-objective capacity of acquiring the experiential perspective for all sufficiently developed natural beings, and not as a full-blown theoretical concept. But already as a metaphor, it provides plenty of material to elaborate on the concept of the perspectivity potential. I do not expect there to be any measurable determinants that would tell us how a given being positions itself in relation to this dimension, although I do distinguish between different levels or intensities of such a positioning. I also maintain that it is possible to move up and down the “perspectivity positioning axis”: from the most rudimentary forms of positioning without cognitive consciousness, through emotional positioning, up to the mental consciousness of the personal self, which is typical of human beings. It is possible that there exist even higher forms of consciousness.

I think that, on the principal level, we need to ascribe the capacity of taking on the experiential perspective to all beings that have a sufficiently developed acuity for how their own lives relate to the lives of other living beings in their surroundings. If we accept the existence of the trans-objective capacity of taking on a personal experiential perspective that is inherent in nature and can manifest itself under specific circumstances, then it might be possible, at least in principle, to account for any transformation from a state of no experiential perspective (a state describable solely in 3rd-person terms) to a state, in which a given being acquires a generic and individual experiential perspective (a state describable in 1st-person terms). Note that this does not exclude certain inanimate beings, e.g. artificial intelligence systems or robots. I have no intention of developing my basic assumption into a panpsychist system of any sort (in the vein of Peirce and Whitehead, but also of Nagel), that is to say, I do not subscribe to the idea that there exists a cosmic or trans-cosmic consciousness, cosmic or trans-cosmic mind, etc. However, my hypothesis does not preclude this type of consciousness or spirit. It can also allow for the fact that many natural beings have some sort of pre-conscious acuity for the real potential that is available to all natural beings through the dimension of perspectivity. But it cannot, at least at this point, critically evaluate just how far “back” into animate or inanimate matter this acuity actually goes.

Taking on the experiential perspective includes a more pronounced acuity for not only potential but also actual events, e.g. an increased acuity for everything that might “benefit” or “threaten” the existence of a system that is in possession of some form of semiosis (or “mind”, according to Bateson). This increases the ability of the system to survive under precarious, potentially detrimental circumstances. I believe that human beings possess a generic evolutionary-acquired and socially-/culturally-conditioned experiential perspective, which is not homogenous, but differs in form and degree: in addition to emotional and sentient self-awareness, there is thus also rational self-awareness (awareness of one’s self).

With this, I may return to the beginning of my paper, namely to the question of how it is possible to grasp propositions and thoughts in the space of logical operations performed upon them. It was pointed out that every proposition, every thought implicitly refers to a potentially unlimited set of other propositions or thoughts with which it can combine to form new propositions or new thoughts. It was also mentioned that this implicit reference should not be construed in terms of physical causality, but in terms of special ways of interpreting signs, or in this particular case, of linguistic or mental signs pertaining to a state of affairs described by a given proposition or thought. What we are dealing with here, is thus an example of the inability to reduce the triadic framework of semiosis to a conjunction of dyadic relations. But according to my hypothesis,

the emergence of the capacity for thought and speech in evolution could, at least in principle, be accounted for by a special, evolutionarily and then socio-culturally substantiated form of semiosis based on a highly developed form of experiential positioning of speaking and thinking agents. It seems to me self-evident that a mentally and linguistically articulated experiential perspective entails (among other things) an implicit utilization of an unlimited potential for logical operations on propositions (thoughts), although this ability has not been developed to the same degree in all people. Of course, all that has been said so far does not even touch upon the emergence and development of social and cultural forms of the mind (spirit), forms which I (following the Hegelian tradition) refer to as “the objective spirit” (for example, the explanation of the development of language), but I hope to have at least laid a foundation for a future naturalist account.

REMARK

¹In the Anglo-Saxon literature, both terms are used, sometimes denoting the same set of phenomena. Given the fact that the term “spirit” is frequently laden with metaphysical and religious undertones, I prefer to use the term “mind”, although the latter also carries with it a certain baggage of semantic difficulties.

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MIND IN NATURE, NATURE IN MIND: A REPLY TO ULE

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ABSTRACT

This article is a response to Ule’s ideas on the (im)possibility of naturalizing the mind. After providing a brief overview of some of the main inconsistencies in Ule’s account, I argue that a naturalistic explanation of the key feature of the mind as construed by Ule (“experiential perspectivity”) is, in fact, feasible, but only if it is complemented by an equally important shift in our conception of nature. The central part of the article consists of two steps. First, following the line of thought developed (predominantly) by Jonas and Varela, the article attempts to outline a route to the naturalization of “perspectivity” along the lines of the so-called autopoietic theory and the corresponding double dialectic of identity and sense making. Secondly, I emphasize that this is merely the first half of the story, and that the second element in Ule’s construal of the mind, “experientiality”, cannot be explained within the metaphysical framework of modern naturalism, but calls for a radical restructuring of our field of inquiry in terms of the fundamental circularity between lived experience and scientific endeavour. Thus, the process of the naturalization of life and mind needs to be reciprocated by the process of the phenomenologization of nature and reconceptualization of naturalism.

KEY WORDS

mind, life, naturalization, phenomenologization, reduction, autopoiesis, Jonas, Varela

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THE SPECTRE OF NATURALIZATION

For the past century, the question of the naturalization of the mind has been in the forefront of scientific and philosophical debate. The question is an extremely difficult one, plagued with a range of thorny metaphysical and epistemological issues, not least because “naturalization” and “naturalism” are frequently conflated with “reduction” and “reductive physicalism”. The main aim of the article is not to unravel these philosophical knots *in toto* – a daunting, if not impossible task – but to try and shed light on one of the multitude threads that constitute this complex theoretical fabric. Specifically, it intends to first underline and then undermine some of the conclusions about the (im)possibility of naturalizing the mind as propounded by A. Ule in his article “Some Reflections on the Possibility of Naturalizing the Mind” [1]. In so doing, it hopes to show that certain vistas that have been overlooked by Ule might provide answers to at least some of the objections raised in his critique and house interesting possibilities for the naturalization of life and mind. These possibilities have far-reaching implications, and I will try to delineate some of the more pertinent ones, but without providing an exhaustive treatment of the subject. In this regard, the article is intended more as food for (additional) thought, and not as a comprehensive solution to the problem.

With this introductory proviso in place, let us now turn to the matter at hand. In his article, Ule argues against the possibility of naturalizing the mind (or spirit)¹. After a brief examination of three different attempts at naturalization – Bateson’s system theory of mind, Pierce’s theory of semiotics, and theories based on the concept of biosemiosis – he goes on to claim that they all fall short on at least two counts: first, they are unable to explain how minds, construed primarily as “semiotic” or “information systems”, might have emerged from the “inanimate” and “causally-determined nature” [1; p.506] (“*genealogical*” aspect); secondly, and more importantly, they are unable to account for the “experiential perspective” in living beings (“*metaphysical*” aspect):

“To have an experiential perspective is, in my opinion, a necessary condition for the emergence of higher forms of semiosis, forms that include complex perceptions of different life situations and anticipations of possible future occurrences, e.g. an ability to anticipate how other organisms would react to one’s behaviour in a given situation. It should be emphasized that having a personal experiential perspective doesn’t necessarily entail being conscious of oneself, having an idea of the self, etc.” [1; p.507].

Unfortunately, Ule’s construal of the notion of “experiential perspectivity” is rather opaque. On the one hand, it seems to designate “a discriminative capacity” that enables living beings “to perceive and evaluate situations that are relevant for them from the point of view of the informational system as a whole” [1; pp.502-503], i.e. “an ability of an organism [...] to form a center of sense impressions that might serve as a starting point or a central referential point in the evaluation of not only potential, but also actual events in the environment of that organism” [1; p.507]. On the other hand, experiential perspective is said to “necessitate the existence of the so-called *qualia*, i.e. the irreducible qualities of those feelings that, according to the representational view, are located ‘inside’ of an organism (or on its bodily surface)” [1; p.507]. Thus, the overall picture seems to oscillate between a “functionalist” (third-person) and a “qualitative” (first-person) account, leaving the reader wondering why, and how, the two are related. In fact, the author himself seems to be raising precisely this issue when, referring to the qualitative aspect, he points out that “[t]hese feelings [i.e. qualia] cannot be fully reduced to representations of the objective state of affairs that lacks any kind of experiential perspective” [1; p.508]. Although important, I will not pursue these inconsistencies here, but will simply assume that the concept of “experiential perspectivity” encompasses

both aspects: (a) the ability to (i) establish and maintain a “center” or “central referential point” capable of (ii) realizing meaningful relations with its environment (*perspectivity*); and (b) the qualitative or phenomenal character associated with (a) (*experientiality*).

Unsatisfied with the three approaches, Ule goes on to sketch an alternative account of the mind’s place in nature, suggesting that “in addition to time-space dimensions, the material reality itself (i.e. the material cosmos) must also possess the perspectivity dimension, i.e. the real capacity of acquiring more or less pronounced experiential perspectives of the type ‘like to be X’ for all sufficiently developed natural beings” [1; p.508]. In his view, “experiential perspectivity” is part of the furniture of the world (of “what there is”), and thus irreducible to spatio-temporal configurations of physical entities. Being an “ontological primitive”, an essential ingredient of our fundamental ontology, it is simply wrong to assume that its properties might be deducible from physical properties. Now, although it might be claimed that the proffered solution does, in a way, solve the reality of the experiential domain, the solution comes at a high price. First of all, it is *not* really an *explanation* (at least by materialist’s standards), but merely a *postulate*: it does not try to *account for* the phenomenon in question, but merely *posits* its existence. This, in itself, is not problematic (one is free to opt for whatever metaphysics one finds philosophically the most palatable), but it is problematic in light of Ule’s claim that “experiential perspectivity” must be understood as an addition to, or extension of, “the materiality itself”. So, not only is it an addition to the standard set of physical properties (materiality *plus* experientiality), but is actually said to constitute one of the defining features of materiality itself. However, if this were so, it is very peculiar that *most* of the physical world *does not* exhibit any trances of perspectivity and experientiality, whereas *all* creatures that are said to possess interiority *are* (also?) physical.

This brings us to what I see as the second shortcoming in Ule’s account, for even if we did accept that the fundamental furniture of the world needs to be extended with an additional set of properties, it would still remain unclear as to why this additional set should be limited exclusively to “all sufficiently developed natural beings”. If the added set is, indeed, an *elementary* ontological ingredient of “material cosmos”, one would expect it to be present in *all*, and not only in *some*, of its entities. There are, of course, good *empirical* reasons to attribute interiority to “sufficiently developed” beings, especially “organisms with brains” [1; p.507], but since Ule explicitly refuses “a panpsychist system of any sort” [1; p.508], he is forced, on pain of being deemed inconsistent, to provide *some criteria* as to why interiority is (supposed to be) found only in this particular class of beings and not in any others. However, given that “experiential perspectivity” is taken to be an ontological primitive and thus *independent* of physical properties, i.e. its emergence and features cannot be explained by arrangements of physical objects, it is far from clear how Ule intends to solve this problem. Although he does admit that he is currently unable to assess “just how far ‘back’ into animate or inanimate matter this [experiential perspectivity] actually goes”, an even more important question is whether such an explanation is possible *in principle*. In this regard, panpsychist solutions [2, 3] actually turn out to be *more* plausible, as they consistently ascribe the new ontological *positum* to the *whole of reality* (thus avoiding problems with seemingly random circumscription of experiential properties to a certain group of living beings only).

But I feel that there is yet another, and much more important, sense in which Ule’s account is mistaken. Namely, I intend to show that certain developments in the field of philosophy of biology and philosophy of mind provide a theoretical and pragmatic framework that might enable us to tackle the problem of the naturalization of the mind from a different angle. In what follows, I will therefore argue that a naturalistic account of the mind *broadly* (!) construed in terms of systems theory is feasible, *provided* it is followed by a complementary, and equally important, shift in our conceptualization of, and approach to, nature. I will

proceed in two steps. First, I will try to show how “perspectivity” might be accounted for in the framework of the so-called autopoietic theory and the corresponding double dialectic of identity and sense making, as proposed by Varela. Secondly, I will argue that this is merely the first part of the story, and that the second aspect of Ule’s *positum*, “experientiality”, cannot be explained within the metaphysical framework of modern naturalism, but necessitates a radical reformulation of our field of inquiry by embracing the fundamental circularity between first-person (lived experience) and third-person perspectives (science). Thus, the process of the *naturalization of life* and mind needs to be reciprocated by the process of the *phenomenologization of nature*, which entails not only slight modifications in, but a radical reconceptualization of, nature and naturalism [4].

BETWEEN NATURALIZATION ... (PERSPECTIVITY)

The first thing that needs to be pointed out is that there exists an important similarity between the “genealogical” and “metaphysical” aspect, namely they are both answers to the question how. But whereas the former inquires into the temporal beginnings of a given phenomenon (how did A’s historically evolve from B’s), the latter studies the criteria that need to be fulfilled in order to be able to account adequately for a given phenomenon (what parameters need to be satisfied in order for A’s to adequately explain B’s). The first question, the question of the “mystery of origins”, seems unanswerable – “it is”, as Jonas puts it, “closed to us” [5; p.3]. In this regard, Ule’s account does not fare any better than the three theories he criticizes (as well as their expansions, e.g. Deacon and Sherman’s auto-cells), for even if it did turn out that mentality is an ontological primitive and hence irreducible to physical properties, we would still have to provide an explanation as to how this state of affairs came to be: Was mentality present already at the very conception of the Cosmos? If so, “where” was it before sufficiently complex organisms entered the evolutionary picture? If not, when – and why – did it come into being?, etc. The point is that the question remains (for now and possibly forever) shrouded in mystery, so that all we are left with are mere speculations. It is for this reason that the rest of the article will focus exclusively on the “metaphysical” aspect.

It was mentioned earlier on that one of the characteristic features of (sufficiently complex) living beings is perspectivity, and that the latter consists in the ability to establish and maintain a central (reference) point (i.e. interiority) which, in turn, enables meaningful relations with the environment (i.e. exteriority). But what aspect of material nature, what set of inanimate processes, might account for, or at least shed light on, this fundamental interplay between “inside” and “outside”, between the organism and its surroundings? Hans Jonas, in his classical piece *The Phenomenon of Life* [5], provides an interesting answer to this question, suggesting that the crucial role should be attributed to – metabolism:

In this remarkable mode of being [i.e. metabolism], the material parts of which the organism consists at a given instant are to the penetrating observer only temporary, passing contents whose joint material identity does not coincide with the identity of the whole which they enter and leave, and which sustains its own identity by the very act of foreign matter passing through the system, the living *form*. It is never the same materially and yet persists as its same self, *by not remaining the same matter* [5; pp.75-76].

In other words, metabolic processes enable the organism to constitute itself as an individual identity (stable “organic form”) against the constant flux of its material constituents (everchanging “matter”). However, animate organic wholes are not to be conflated with inanimate dynamic wholes, since their individuality does not reside only in the eye of the beholder, but is their own “concern” and their own “achievement”, i.e. they are [s]ystems of matter that are unities of a manifold, not in virtue of a synthesizing perception whose object

they happen to be, nor by the mere concurrence of the forces that bind their parts together, but in virtue of themselves, for the sake of themselves, and continually sustained by themselves. Here wholeness is self-integrating in active performance, and form for once is the cause rather than the result of the material collections in which it successively subsists [5; p.79]. In this dynamic process the organism not only constitutes itself as an individual unity, but also delimits that which it is not: its “self-isolation” sets it “against the rest of things”, against the world [5; p.83]. Thus, a basic polarity of interiority and exteriority, of “self” and “world”, is brought into existence:

In this process of self-sustained being, the relation of the organism to its material substance is of a double nature: the materials are essential to it specifically, accidental individually: it coincides with their actual collection at the instant, but is not bound to any collection of instants [...]. Dependent on their availability as materials, it is independent of their sameness as these; its own, functional identity, passingly incorporating theirs, is of a different order [5; p.80].

Hence, the fundamental relation between the organism and its environment consists of what Jonas refers to as “needful freedom” [5]. By constituting itself as an individual unity, the organism gains a certain amount of independence from the environment; but in order to preserve this relative autonomy it must constantly maintain specific relations with its surroundings. In other words, “organic form” constitutes itself against, but is not completely independent of, “matter”: “The *privilege of freedom* carries the *burden of need* and means *precarious being* [5; p.4].” The relation between organic form and matter is thus profoundly *dialectical* in nature:

On the basic level, that defined by metabolism, this double aspect shows in the terms of metabolism itself: denoting, on the side of freedom, a capacity of organic form, namely to change its matter, metabolism denotes equally the irremissible necessity for it to do so. Its ‘can’ is a ‘must’ since its execution is identical with being [5; p.83].

Perspectivity, then, is the end result of this metabolism-based “hazardous independence” of organisms, whose “precarious being” perpetually oscillates between freedom and necessity, form and matter, being and not-being [5; p.3]. Hence, it is not something limited exclusively to higher forms of life, but manifests itself already at its very roots, at “the basic level of all organic existence” [5]. It is, in other words, a fundamental and universal feature of the mode of being that is characterized by *concern* for itself, by *relationality* and *transcendence*: “[L]ife is essentially relationship; and relation as such implies ‘transcendence’, a going-beyond-itself on the part of that which entertains relation” [5; pp.3-4]. Living being is a *pulsating polarity*, constantly torn between its self-subsisting identity and that beyond, which forms its horizon of ruthless necessity and indefinite possibility.

However, Jonas’ account, though intriguing, is incomplete. What it lacks, is a comprehensive model that would explain how metabolism instigates this back-and-forth (circular) dynamic between organic form and matter. The missing explanatory link, as I will try to show, is provided by Maturana and Varela’s theory of autopoiesis, an important and much needed complement to Jonas’ stimulating, but essentially conjectural proposal. Maturana and Varela are in full agreement with Jonas when they state that life is not so much a matter of chemical composition, reproduction, and so on, as it is a *matter of organization*, a *matter of form*. But *what kind* of organization? What is it about the animate organic form that distinguishes it from inanimate assemblies of matter? According to Maturana and Varela, that which characterizes living beings is their ability to *continually self-produce* [6; p.43]. An *autopoietic (self-producing) system* is a *self-organizing system* defined by a double dialectic²: *dialectic of identity* (parts – whole) and *dialectic of sense-making* (interiority – exteriority) [7].

Let us look at each in turn.

First and foremost, an autopoietic system is “organized as a self-producing network of processes that also constitute the system as a topological unity” [8; p.115]. Take, for instance, the basic unit of life: a living cell. On the one hand, *cell metabolism* produces molecular components that constitute a network of dynamic interactions, some of which are responsible for the production of a semi-permeable *cell membrane*. On the other hand, the cell membrane houses these molecular components, thereby reciprocally enabling the proper functioning of cell metabolism and preventing structured chemical interactions from disintegrating into a “molecular mess” [6; p.46]. What is crucial here, is that the dynamic network of molecular interactions and the boundary housing them are actually *parts of the same process*: metabolic processes creates the membrane, which in turn (reciprocally) enables and co-constitutes metabolism (see Figure 1).

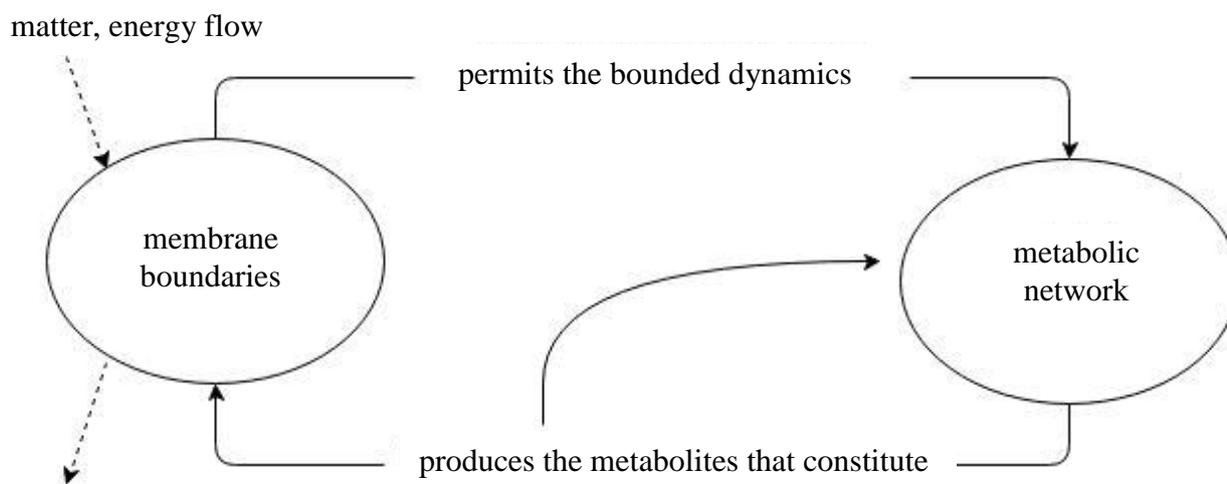


Figure 1. Schematic representation of the autopoietic closure of the living cell [9; p.75].

The first dimension of autopoiesis – whose main vehicle is, as correctly surmised by Jonas, metabolism – can thus be construed as a biological dialectic between *parts* and *the whole*, between *local* interaction rules pertaining to the individual components and *global* properties of the emergent whole (or what Ule might refer to as “central referential point”): on the one hand, the network of molecular interactions constitutes a distinct, discrete unit (cell); on the other hand, the emergent unit combines structural constituents (molecular components) into a dynamic network of interactions [10; pp.31-32]:

Metabolic processes within the cell determine these boundaries [e.g. the cell membrane], but the metabolic processes themselves are made possible by those very boundaries. In this way cell emerges as a figure out of a chemical background [11; p.99]³.

The Autopoietic self-organization constitutes living beings as *autonomous units*, i.e. it enables them “to specify [their] own laws, what is proper to [them]” [6; p.46]. This “circular, closed, self-referential characteristic” of autopoietic systems is known as *organizational* or *operational closure* [10; p.33], and refers to the fact that all changes occurring in an autopoietic unit are determined by their internal dynamics and not by external factors: “[E]very constituent process is conditioned by some other process in the system” [12; p.24]. Note, however, that “closure” is not the same as “closedness” or “isolation”: autopoietic systems as autonomous organizations are *operationally closed*, but *thermodynamically open*. In other words, an autopoietic system is involved in an on-going exchange of matter and energy with its environment, while at the same time maintaining its identity by regulating the network of its self-constituting processes.

The *dialectic of identity* can thus be understood as an *on-going circular process*, in which “a cell produces its own components, which in turn produce it” [11; p.98]. It defines autopoietic systems as: (i) *autonomous* (all changes that happen in the system serve to preserve its self-organization); (ii) *individualized* (by preserving its self-organization, the system actively preserves its identity); (iii) *units* (the self-constituting processes of the system define the system’s boundary); and (iv) *operationally closed* (external perturbations can trigger, but cannot determine, internal structural changes) [13; p.226].

Let us now move on to the dialectic of sense-making. The first dialectic, as we have seen, deals with the relationship between an organism and its components; the second dialectic, on the other hand, deals with the relationship between autopoietic systems and their environment. As Varela points out, what immediately strikes the eye is that autopoietic units are characterized by an intriguing *paradoxicality*:

[T]he living system must distinguish itself from its environment [operational closure], while *at the same time* maintaining its coupling [thermodynamic openness]; [however], this linkage cannot be detached, since it is against this very environment from which the organism arises, comes forth [14; p.7].

One cannot but note striking similarities with Jonas’ characterization of “needful freedom”: By constituting itself as a unit, the autopoietic system engenders its *interiority* and, at the same stroke, delineates its *exteriority*, i.e. that which counts as *the other* and thus remains *outside* of it. But this newly constituted alterity – and here comes an important addition to Jonas’ original account – is not neutral: the maintenance and regulation of autopoietic organization requires structural coupling between the inside and the outside, which means that, for an organism, some interactions – those pertinent for preserving its structural coherence – are more important than others. Preservation of identity thus brings forth a *certain perspective*, an environment – *for – the – organism* (“environment for the system” in Varelian terminology) as distinct from the environment – *for – the – observer* (“environment of the system” in Varelian terminology). By distinguishing itself from, and constituting itself against, its “surroundings”, the autopoietic system simultaneously gives rise to its world, milieu or niche [15].

Unlike the physicochemical environment (environment – for – the – observer) the world (environment – for – the – organism)⁴ is “a place of salience, meaning and value”, a place “of attraction and repulsion, of approach and escape”⁵ [12; p.25, 16; p.386]. To illustrate this, consider the example of motile bacteria swimming uphill in a food gradient:

The cells tumble about until they hit upon an orientation that increases their exposure to sugar, at which point they swim forward, up-gradient, toward the zone of greatest sugar concentration. Sugar is significant to these organisms and more of it is better than less because of the way their metabolism chemically realizes their autonomous organization. *The significance and valence of sugar are not intrinsic to sugar molecules; they are relational features, tied to the bacteria as autonomous unities.* Sugar has significance as food, but only in the milieu that the organism itself enacts through its autonomous dynamics [12; pp.24-25].

Bacterial chemotaxis is a minimal, but highly illustrative example of how a living being as an autonomous system gives rise to its own niche, its “environment of biological significance” [11; p.153]. *Sugar, in itself*, is devoid of meaning; its “surplus of significance” [17] – its valence is inextricably linked to a *unique perspective* of an individual organism. In other words, sugar can be perceived as a *nutrient* merely from the perspective of a bacterium as an autopoietic unit:

Physical and chemical phenomena, in and of themselves, have no particular significance or meaning; they are not “for” anyone. Living beings shape the [environment] into meaningful domains of interaction and thereby bring forth their own [worlds] of significance and valence [11; pp.153-154].

According to the theory of autopoiesis, it is precisely this *sense-making*, this bringing forth of a world, that forms the essence of *perspectivity*. On this view, and in line with Jonas’ account, perspectivity is not a specifically human, but a *universal biological quality*: it is common to all living beings, from the simplest bacteria to the complex vertebra, and consists of a two-sided process in which a living being as an autonomous system brings forth itself and its world. In other words, perspectivity (*pace* Ule) is not limited exclusively to creatures with a central nervous system, but is incorporated into the very fabric of life; furthermore, it is not limited to the system’s internal states, but is a relational process taking place between the system and its world (in Jonasian terms, it is characterized by relationality and transcendence).

In short, the *dialectic of sense-making* could be characterized as the “dynamic co-emergence of interiority and exteriority” [11; p.79]: by establishing itself as an autonomous unity, an autopoietic system simultaneously gives rise to its world, i.e. its domain of meaning, significance, and value. Note that sense-making is not to be construed as *homeo-stasis*, but rather as *homeo-dynamis*: in order to preserve its autopoietic structure, an organism must endlessly enact structural alterations, i.e., it must engage in an on-going dynamis, for any cessation of activity, any stasis, leads to disintegration and death. In Jonas’ words: “Once it [the living form] becomes the same with the sameness of its material contents – if any two ‘time slices’ of it become, as to their individual contents, identical with each other and with the slices between then – it ceases to live; it dies [...]” [5; p.76]. The autopoietic system is forced to constantly re-assert its individuality through meaningful couplings with its environment: *preserving* the structural coherence between the inside and the outside is thus, strictly speaking, always a matter of *re-establishing* it, of *re-creating* it, instead of simply maintaining it.

To recapitulate: A living being as an autopoietic system can be construed as an embodiment of a double dialectic:

- a) *dialectic of identity* (parts-whole): dialectic between *local conditions* (network of metabolic interactions) and the global autonomous entity (cell as a membrane-bound unit);
- b) *dialectic of sense-making* (interiority-exteriority): dialectic between the *emergent* (minimal) *self* and *its world* (the domain of valence and meaning) [7].

Note that these are not two separate processes, but *two aspects of the same process*. A global autonomous entity, constituted against the background of a network of metabolic interactions (operational closure), brings forth a world (surplus of significance); this world, in turn, delineates meaningful domains of interaction that are crucial for the undisturbed functioning of the metabolic network, and thus provides conditions facilitating the perpetual (dynamic) reassertion of the organism’s autonomy (thermodynamic openness). The process itself is profoundly paradoxical: bringing forth a world is an attempt at re-establishing appropriate coupling with the environment so as to preserve the organism’s organization (“burden of need”); but in re-asserting itself as an autonomous unit the organism separates itself from the environment, thus giving rise to its distinct world (“privilege of freedom”) [7; p.87]. Moreover, and as already hinted above, this fundamental double dialectic does not apply solely to the basic organic level, but can be also found in higher life forms. That is to say, all other dynamisms of life (neuro-logic, enacto-logic, etc.) are structurally similar to, and genealogically originate from, the fundamental bio-logic [7, 9, 14].

The double dialectic of identity and sense-making thus provides a general framework for the naturalized conception of perspectivity, in that it accounts for both criteria mentioned by Ule:

it shows (i) how the organism constitutes and maintains itself as an autonomous whole, and (ii) then how, in turn, this autonomous “referential point” engenders meaningful relations with its environment and hence gives rise to its world. This claim, however, merits further qualification. Later research on the topic [18-21] suggests that the notion of autopoiesis, at least in its original conception, is indeed a *necessary*, but not a *sufficient* condition for life, primarily on account of its inability to explain purposiveness and normativity [8]. One might feel that this throws a dire light on our project, as it seems to undermine the prospect of constructing a viable naturalistic account of perspectivity.

Here, two things bear pointing out: first, most critics do not dispute the validity of the fundamental bio-logic as construed above, but simply argue that the original conception fails to meet its theoretical requirements and therefore needs to be refined and improved upon. For example, Di Paolo [19, 20] points out that minimally autopoietic systems exhibit a rigid, conservative, all – or – nothing type of self-preservation (life vs. death) that leaves no room for more flexible, dynamic gradations in viability (e.g. becoming, development, health; fatigue, sickness, stress) that are needed for sense-making. For this reason, he suggests that “autopoiesis” has to be coupled with “adaptivity”, a complex capacity that enables the organism to regulate its states and activities in relation to conditions of viability in the environment and attend to them through self-generated norms of activity, which allows the organism “to avoid risky situations and seek preferable ones” [19; p.438]. Note, however, that Di Paolo’s contribution is not intended as a *substitute for*, but rather as a *complement to*, the original autopoietic theory. Similarly, Thompson speaks of autopoiesis “in a broad sense that includes adaptivity” [8; p.116], suggesting that these modifications are actually enrichments of the original idea.

Moreover, Froese and Stewart [21] argue that, from the time of its inception in the 1970’s, the concept of autopoiesis has undergone significant shifts in emphasis and meaning, so that, when using the term, it is advisable to at least distinguish between “Ashbyan” approaches, i.e. more *static* approaches that are rooted in the classical cybernetic framework, and “Kantian” approaches, i.e. more *dynamic* approaches that are based on the complexity theory. This goes on to show that “autopoiesis” itself is not (yet?) a fixed model [20], but rather an open-ended concept that is being continually refined with recent findings (e.g. the development of the above mentioned complexity theory) and appropriately modified to accommodate for some of the shortcomings and/or discrepancies of the classical model (e.g. the realization that intrinsic self-production can be instantiated only in far – from – equilibrium systems such as dissipative structures). The specifics change, but the fundamental idea (the skeletal bio-logic) remains roughly the same – and it is the latter that we are interested in.

The second point is related to, and builds on, the first one. Although most critics agree with the validity of the theory of autopoiesis construed as a formalized description of the living, it still seems that the overall account is leaving something out. Namely, despite its ability to explain perspectivity in terms of systems and complexity theory, the autopoietic approach ultimately remains an abstract, third-person theory that is unable to account for “the lived presence of the living being itself” [21; p.10]. Varela, in his later works, has become painfully aware of this, and has repeatedly called for the de-enchantment of the abstract and the *re-enchantment of the concrete* [22, 23]. The skeletal bio-logic – as well as its structural derivative, skeletal neuro-logic [9, 17] – help us approach just one aspect of the organism’s *embodiment*, namely its *perspectivity*, but does not touch upon an equally, if not even more important aspect, namely its *experientiality*. Hence, it might be argued, that even if autopoiesis does, in fact, provide a naturalistic account of the perspectivity dimension, the naturalization process as such is ultimately bound to fail, as it leaves out one of the central aspects of (at least some forms of) life – its (their) experiential/phenomenological dimension.

... AND PHENOMENOLOGIZATION (EXPERIENTIALITY)

This brings us to the second aspect of Ule's criticism, namely the claim that no naturalist account is capable of successfully explaining experientiality and that the latter should therefore be invested with the status of an irreducible ontological primitive. I would like to approach this issue by asking what it actually takes for us to know life, i.e. what are the *conditions of possibility* of learning what life is? In Thompson's words [16; p.393]:

Consider the question, how is it that we are able to recognize or comprehend the form or dynamic pattern of autopoiesis in the first place? Would this pattern be recognizable from some ideal objective standpoint? Or is it rather that we're able to recognize this pattern only because it resembles the form of our own bodily selfhood which we know first-hand?

Jonas phrased this problem in terms of whether life could be perceived by "the mathematical God". He concluded that, from a strictly analytical standpoint (i.e. Nagel's "view from nowhere"), a living being, that "apparent sameness and individuality of the organic whole", would disintegrate into "a series, or a web of many series, of consecutive [physico-chemical] events concerning these single, persisting units of general [material] substance", and hence, "all the features of a self-related autonomous entity would, in the end, appear as purely phenomenal, that is, fictitious" [5; pp.77-78]. The disembodied, analytical view of "the Great Mathematician" is destined to miss the crucial point, the point of life itself: its being self-centered individuality, being for itself and in contraposition to all the rest of the world, with an essential boundary dividing 'inside' and 'outside'. [...] This is the advantage we poor mortals have over [...] mathematical God: happening to be living material things ourselves, we have our self-experience, as it were, peepholes into the inwardness of substance [5; p.79, 5; p.91].

This is what has led Jonas to proclaim tersely: "[L]ife can be only known by life" [5; p.91]. It is only because we ourselves are embodied beings with own (lived) interiority and selfhood that we are capable of grasping the fundamental dynamic of autopoiesis, the bio-logical dialectic of identity and sense-making. In other words, what Jonas is referring to, is the essential duality that, as Barbaras never tires of reminding us, imbues the French term *vivre*, the duality between "being alive (Ger. *Leben*)" – existence in the world – and "the feeling or experience of something (Ger. *Erleben*)" – *experience of the world* [24-26]. Again, it is only because of we have the capacity of the latter ("lived experience") that we are able to recognizing the former ("living beings"): "I cannot understand the function of the living body except by enacting it myself, and except in so far as I am a body which rises toward the world" [27; p.75]. The self-constituted (rudimentary) subjectivity of the autopoietic system would elude us if we did not have the first-hand experience of our own subjectivity:

We have seen how autopoiesis gives rise, in one stroke, to inwardness and outwardness, to the self-production of an inside that also specifies an outside to which it is normatively related. [...] [T]his inwardness or interiority is disclosable to us because we ourselves are living beings who experience our own bodily selfhood firsthand. [...] Thus, in the present context, the theory of autopoiesis provides a naturalistic interpretation of the teleological conception of life originating in experience, but our experience of our own bodily being is a condition of possibility for our comprehension of autopoietic selfhood [11; pp.163-164].

Ule is therefore right in claiming that experientiality is something fundamental, something irreducible, but he is wrong in postulating that it is an ontological primitive that needs to be made part and parcel of the material world. Experientiality is *not* an *additional ingredient* to the furniture of the world, but rather *the condition of possibility* for any kind of meaningful talk of the furniture of the world:

Experience is irreducible not because it possesses metaphysically peculiar “properties” that can’t be squeezed into some reified, physicalist model of the universe, after the fashion of contemporary property dualism. It’s irreducible because of its ineliminable transcendental character: lived experience is always already presupposed by any statement, model, or theory, and the lived body is an *a priori* invariant of lived experience. Experience is *die Unhintergebarkeit* – the “Ungobehindable” [16; p.394].

Note that, as already hinted in the quotation above, “the transcendental” should not be understood in idealist terms (say, in the vein of Husserl’s Ideas), but is much more in line with the non-dualism implied in Merleau-Ponty’s distinction between “lived body” (Leib) – a pre-reflective awareness of the body that shapes our experiential landscape (body as a living being) – and “physical body” (Körper) – reflective awareness of the body (body as a material thing). This distinction cuts through the typical mind – body duality as it anchors experience in materiality and materiality in experience: the human being not only “has a body” (Körperhaben), it also “is a body” (Leibsein), its fundamental mode of being is shaped by modes of its corporeality.

Hence, taking experientiality seriously would not imply incorporating it into the fabric of the material world, but would be much closer to Varela’s call for an ongoing back – and – forth exchange between lived experience and natural sciences [17]. This proposal has already borne much fruit in the field of cognitive science with the so-called 4 EA approach to cognition [28; p.10]. Unlike the classical models that conceive of mind in terms of a computer, i.e. a symbol-manipulating machine whose role is to internally portray external reality, the 4 EA models conceive of mind as *extended*, i.e., “cognitive states and processes can extend beyond the boundaries of the cognizing organism,” *embedded*, i.e., dependent on “facts about our relationship to the surrounding environment,” *embodied*, i.e., dependent on “facts about our embodiment,” *enactive*, i.e., “dependent on aspects of the activity of the cognizing organism,” and *affective*, i.e., “dependent on the value of the object of cognition to the cognizer” [29; p.89]. This latter conception is much more in keeping with phenomenological accounts of the late Husserl, Heidegger, and Merleau-Ponty and explicitly eschews reductionisms of every stripe. What is now needed is a *radicalization* of this fundamental tendency, a systematic interweaving of the two strands at all levels of living nature. This would mean that the process of the *naturalisation of life and mind* needs to be reciprocated by a process of the *phenomenologization of nature*, a process that would “recast the very idea of nature and modify accordingly our modern conceptions of objectivity, subjectivity, and knowledge” [30; p.54]. In other words, what is needed is not a *broader* naturalism⁶, i.e. naturalism that merely extends the reach of the material world by adding to it the property of experientiality, but rather naturalism *transformed*, i.e., naturalism founded on a *radical reconceptualization* of the concept of nature, “one that has room for such issues as meaning, context, perspective, affordances and cultural sediments” [31; p.15].

Interestingly enough, this brings us full-circle back to our previous topic, namely to Jonas’ and Varela’s conceptions of the living being as a self-constituting, self-organizing entity “thrown” into its world. Although still in their infancy, their suggestions can be said to have laid the foundation for a novel reappraisal of questions such as teleology, downward causation, etc., and might thus be understood as a first step in the process of reconceptualising nature and naturalism. This is not to say that they are, in themselves, sufficient but merely that they are, by taking the domain of lived experience seriously, paving the way from an epistemologically naïve (realist) conception of nature to a *phenomenologically-informed* view that might serve as a starting point for a Valerianesque back – and – forth exchange between science and lived experience alluded to above. Of course, it is an open question, whether any conceptual approach can, in principle, provide a

complete answer to questions of life and consciousness – I have argued elsewhere [4] that it cannot and that it needs to be reciprocated with an equally, if not even more radical, transformation at the level of our being –, but by acknowledging the blind spots in current naturalist approaches (perspectivity, experientiality) and offering constructive ways for overcoming them without ceding to eliminativist and reductionist tendencies, it might at least be argued that they are headed in the right direction.

REMARKS

¹In order to omit the unwanted dualist and/or spiritualist interpretations, and in line with the predominant terminology in the field, I will refrain from using the term “spirit” in the article and will make use exclusively of the term “mind”.

²The term “dialectic” is to be understood here in the sense given it by Levins and Lewontin in their book *The Dialectical Biologist*: “These are the properties of things we call dialectical: that one thing cannot exist without the other, that one acquires its properties from relation to the other, that the properties of both evolve as a consequence of their interpenetration” [32; p.3].

³A more precise definition is provided by Varela: “An autopoietic system is organized (defined as a unity) as a network of processes of production (synthesis and deconstruction) of components such that these components: (i) continuously regenerate and realize the network that produces them, and (ii) constitute the system as a distinguishable unity in the domain in which they exist” [7; p.81].

⁴Here, an important difference in terminology between Varela on the one hand and Thompson on the other should be mentioned: the former uses the terms “environment” and “world” to denote the “environment-for-the-observer” and the “environment-for-the-organism”, respectively, while the latter use the two terms in the exact opposite sense, i.e. as referring to “environment-for-the-organism” and the “environment-for-the-observer”, respectively. One of the main reasons for this “semantic inversion” was Thompson’s intention to better align the English with the German terminology of (particularly) phenomenological tradition (the more accurate translation of *Umwelt*, an environment-for-the-organism, would be “environment” or “niche”, and not “world”, as proposed by Varela). The article, as the reader has undoubtedly noticed, follows the Varelian version, thus trying to stay closer to the original literature on autopoiesis.

⁵It could be argued, of course, that similar ideas underlie Jonas’ exposition of needful freedom. It is obvious that the relationship between a self-constituting entity and its environment cannot be neutral: a living being whose main characteristic is “concern for itself” will find certain features of the environment more important than others and will thus necessarily delineate its domain of significance (its “world” or “milieu” emerging against the background of the [neutral] environment). However, Jonas never, at least to my knowledge, explicated these claims, i.e. he failed to provide a satisfactory account as to how, and why, metabolism-based identity might bring forth the “surplus of meaning”, nor did he consistently distinguish between the environment-for-the-observer and the-environment-for-the-organism.

⁶As correctly pointed out by Zahavi: “It is not as if matters would improve if naturalism opted for some version of emergentism or property dualism. The real problem has to do with naturalism’s commitment to scientism and metaphysical realism” [31; p.7].

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A BETTER METAPHOR FOR UNDERSTANDING CONSCIOUSNESS?

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ABSTRACT

The article is an attempt at – yet once again – finding a source of more fitting metaphor for the study of consciousness inside the framework of quantum mechanics. It starts by doubting into the possibility of the naturalization of research of experience. Proceeding from that it searches for a more adequate way to implement Varela's idea about a balanced bridging the explanatory gap. By comparing certain positions of the Copenhagen interpretation of quantum mechanical phenomena with the properties of introspection, it tries to point out that there might exist better epistemic positions for understanding consciousness than the ones most frequently used today.

KEY WORDS

introspection, phenomenology, quantum mechanics, probing, measurement

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INTRODUCTION

In his seminal article *Neurophenomenology: a methodological remedy for the hard problem*, Varela [1] points out the problem of absence of the first-person perspective in contemporary cognitive science. The author suggests a strategy of bridging the explanatory gap: a balanced, mutually inspiring research both from the first- and third-person perspective. Despite his explicit arguing for the equality of both approaches, only three years later Varela encouraged the publishing of the compendium *Naturalizing Phenomenology: Issues In Contemporary Phenomenology and Cognitive Science* [2] in which the editors (among them also Varela) argue for the integration of phenomenology into an explanatory framework in the way that the only properties acceptable would be the ones that are compatible with the properties admitted by natural science. Phenomenology is thus welcome, but only after accepting the standards of measuring demanded by natural science.

Dan Zahavi [3] presents a comprehensive analysis of the possibilities for including first-person positions into cognitive science. He concludes that from the point of view of transcendental phenomenology (i.e. phenomenology which is not synonymous with a type of empirical research of experience, as understood by most first-person research methods in contemporary cognitive science) such inclusion is impossible. In many aspects, the project of naturalization of phenomenology is in direct opposition to the objectives of phenomenology as a research project which does not settle for non-critical acceptance of our everyday intuitions about the nature (and existence) of the world. “For Husserl, natural science is (philosophically) naive. Its subject matter, nature, is simply taken for granted. Reality is assumed to be out there, waiting to be discovered and investigated” [3; p. 337]. From this point of view phenomenology is “unnatural”, as it “calls for a reflective stance quite unlike the one needed in the positive sciences. This, of course, is one reason why the phenomenological attitude has frequently been described as an unnatural direction of thought. But to describe phenomenology as unnatural is of course also to deny any straightforward continuity between philosophy and natural science” [3; p.337] (also [4; p.14]).

While Zahavi sympathises with the idea of including the first-person approach into cognitive science, he also points out that the above-mentioned authors of the project of naturalization also called for a reexamination of the concepts of naturalization. “They also speak in favor of recasting the very idea of nature, and of the need for modifying our modern conception of objectivity, subjectivity, and knowledge. In other words, why let the reductionists monopolize the concept of naturalism? Most revealing of all, however, is perhaps a reply given by Varela to a question that I posed to him at a meeting in Paris in 2000: The volume *Naturalizing Phenomenology* was only intended as the first part of a larger project. The second complementary volume was planned to carry the title *Phenomenologizing Natural Science*” [3; p.342]. Thus it would appear that Varela was quite serious when talking about the balanced bridging. Unfortunately, the second part of Varela’s project – the phenomenologization of natural science – was hindered by his untimely death in 2001. It is well known that since then the use of first-person data in cognitive science has gained some recognition, alas in the vast majority of cases merely as supplement to third-person research. It is not yet clear how a more balanced structure could be conceived. In *Neurophenomenology* Varela offers us mere glimpses into how the first- and third-person side might inform each other. Instead of correlational research, Varela envisions a more reconciliatory concept of ‘mutual constraints’. It is not yet entirely clear how such mutual informing should take place. It has certainly not been clearly demonstrated by empirical studies so far.

At this time, cognitive science has not yet succeeded in appropriately including first-person data. Thus the conclusion reached by Roy et al. [5; p.7] that cognitive science is “a theory of

the mind without being a theory of consciousness. It is a theory of what goes on in our minds when they are cognizing without being a theory of what it is like to be a cognizing mind” is still valid. Later on I suggest an alternative starting point which might help unify first- and third-person research. Following the example of the strategy which enabled the very emergence of cognitive science as an interdisciplinary area, I discuss the possibility of a new metaphor which could be relevant for both sides of the explanatory gap.

THE MANIFOLD FACES OF QUANTUM MECHANICS

A metaphor that might allow for a more holistic research of the mind will be looked for in quantum mechanics. The idea for seeking inspiration for theories of consciousness in the strange laws governing the quantum world is by no means a new one. Andrej Ule [6] gives an excellent overview of the attempts to explain quantum reality on the one hand and theories of consciousness frequently related to them on the other one. He mentions that as early as 1923 the biologist Alfred Lotka has suggested some connections between the laws of quantum mechanics and certain properties of consciousness. Quantum mechanics has acted as a kind of source of hope and inspiration for numerous researchers of consciousness ever since. Ule concludes that their positions can vary widely: anything from enthusiastic acceptance of the quantum basis of human consciousness to outright rejection of such a possibility and even ironic disregard for any connection between the two as absolute nonsense.

According to Ule [6], the debate about the connection between quantum physics and consciousness can be divided into three main lines of thought:

- a) searching for the origin of consciousness in the quantum (or even subquantum) world;
- b) attempts to understand the influence of consciousness on quantum mechanical measurements (the question if quantum physics demands the presence of a conscious observer);
- c) notions about the parallels between quantum mechanical (physical) reality and consciousness as two separate aspects which nevertheless share a common origin, or as one aspect viewed from opposite perspectives.

Ule adds that beside these, many other questions arise as well, like for example: does the human brain include some special quantum mechanic processes which are responsible for the emergence of consciousness; or is there some special type of psycho-physical interaction between consciousness and the reality of microphysics; or does such an interaction reach beyond the horizon of naturalistic explanations; or could we explain free will by referring to quantum indeterminism etc. [6].

Ule mentions following reasons for the popularity of quantum mechanics for considerations about consciousness:

- i) quantum physics as the fundamental physical theory also represents the fundamental theory of consciousness – on condition that we accept the assumption of the natural origin of consciousness;
- ii) in case we do not accept this assumption, quantum physics might nevertheless appear even more appealing for thinking about consciousness. Ule quotes the (dualistically inclined) opinions of some prominent quantum physicists about quantum mechanics in itself demanding the existence of conscious observers, i.e. it is impossible to formulate it adequately in the absence of such consciousness;
- iii) unlike all other theories of natural science, quantum mechanics does not adhere to determinism and causal explanation of phenomena (or at least it appears so), thus allowing for certain components which allow for the existence of free will (Ule even claims that they appear slightly ‘spiritual’). Among such components the most appealing and weird are: quantum indeterminacy, the uncertainty principle, the strong holistic nature of

quantum mechanic states, inseparability of the observer and the observed (measured) quantum phenomenon, momentary or at least incredibly fast ‘leaps’ from very coherent, mutually consistent changes in quantum objects to chaotic processes, quantum entanglement and nonlocality (regardless of the spatial distance among objects, the changes in their physical states stemming from some common quantum system always occur simultaneously, sometimes even reaching into the future);

iv) as one of the possible reasons for the appeal of quantum physics Ule also mentions the fact that “quantum physics, despite its incredibly sophisticated mathematical apparatus, continuously gives the impression of incompleteness, as if begging for some additional ‘interpretation’. In this, a certain level of anthropomorphism, i.e. interpretation by using analogies with the human mental world, is virtually inevitable. To many it would appear that due to its mysteriousness, quantum mechanics can only be related to the similarly mysterious phenomenon of consciousness. Neither quantum mechanics nor consciousness can be reduced to or included into the world of ‘macrophysics’ governed by classical physics. This gives rise to the assumption that one mystery might be explained by another, at least by finding parallels between the two if not otherwise” [6; p.68].

Here I might venture to add one more reason: conclusions (or even ‘forced thoughts’) implied by certain properties of quantum mechanics, despite being remote from our assumptions about the functioning of the ‘outer’ world, are quite similar to the anatomy of our experience. I hope that in the following section I will be able to demonstrate that this ‘reason’ might not be as speculative as it may seem at first sight.

Most attempts at relating consciousness and physics originate in non-physical circles. Most physicists do not concern themselves with the deeper meaning of the equations they use. This has become especially obvious in the last decades, ever since the interpretation that the observer effect (i.e. the role of consciousness in measurement) can be explained away with the so-called quantum decoherence has become dominant – a principle explaining the meeting of the micro and the macro world without referring to consciousness. Nevertheless, some physicists are still convinced that the only way to resolve some of the fundamental problems of physics today is to rethink its ontological fundament. Their discussions mostly revolve around the question how to preserve a minimal version of realism in the face of all the weird laws of the quantum world. I believe a discussion of fundamental assumptions is very much necessary and I hope we will soon witness an attempt at a physical theory which would make a step into the direction hinted at by some of the quantum considerations – and thus radically give up realistic presuppositions. Perhaps Varela’s idea of the phenomenologization of natural science might represent an appropriate basis for that?

This text however has no such ambitions. It will not delve into ontological speculations. Instead, it compares certain quantum physical patterns to phenomenological patterns. Ule warns us about the danger of interpreting quantum laws, especially when trying to apply the insights and doubts of quantum physics in the area of research of consciousness. As he says: “Thus anyone trying to write about these topics will find themselves on a slippery slope of scientifically acceptable assumptions from which one might quickly slip into a sea of incontrollable speculations where any thesis about the above-mentioned questions and issues proposed by anyone, while having very eloquent and vibrant metaphors and some fervent advocates and equally determined opponents, has very few convincing arguments” [6; p.67].

I utterly agree with Ule’s warning. I believe that ‘eloquent and vibrant metaphors’ might quickly turn out to be misleading by offering us a false feeling of comprehension or even explanation. Nevertheless, this is exactly what I will attempt to achieve. From the history of cognitive science it is well known that a good metaphor can be very useful in this interdisciplinary field (even if it does not necessarily give an explanation).

LEAVING BEHIND THE SPLIT BETWEEN OBSERVER AND THE OBSERVED¹

Most physicist swear upon the so-called Copenhagen decree: “Shut up and calculate” – the realization that there is no point in thinking about the ontology behind quantum phenomena, which are clearly very weird and unfathomable. What really matters to physics is that the measurements fit equations and models. The Copenhagen interpretation can be seen as a ban for physicists to consider philosophical (or, more precisely, ontological) questions. That was the position, for example, of Albert Einstein and David Bohm, who spent a large part of their careers fighting against such interpretations. Most physicists obey the “Shut up and calculate” directive by quietly presupposing a realistic notion of the world: they believe they are measuring and exploring *something* from the point of view of a measurement-independent observer. It should be pointed out that such physicists do not follow in the footsteps of Bohr’s understanding of the Copenhagen interpretation. Bohr was anything but a philosophically naive physicist who would wish only to calculate while disregarding any wider perspective. Quite the opposite, Bohr indulged in intensive study of philosophy, especially the ideas of the Danish philosopher Harald Høffding, in which he found inspiration for some of his suggestions about the interpretation of the formalisms of quantum physics. To him, the ban on the discussion of ontology was the result of the realization that the observed reality is the only thing we can say something about with certainty (it is thus much better to talk about observables rather than measurements in quantum physics). This insight seems very close to Husserl’s realisation about the primary nature of experience and the importance of accepting experience as it is given.

Following the above mentioned parallel, I will attempt to construct my proposition: to research physics through the observable and consciousness through phenomenal data – experience as it is given. We are thus talking about quantum physical observations, which might as well be phenomenological observations. We have given up ontological discussion in order to focus on the overview of epistemological patterns.

ILLUSION OF THE STREAM OF CONSCIOUSNESS OR THE STREAM OF EVENTS?

Dan Dennet and later Susan Blackmore famously deny William James’ intuition of the existence of the stream of consciousness. In the multiple drafts theory by D. Dennett, “there are no fixed facts about the stream of consciousness independent of particular probes” [7; p.138]. Like Dennett, Susan Blackmore [8] also points out that in the absence of probing there is no need for categorizing mental processes into conscious and unconscious ones. The answer to “what it is like to be” exists only when we inquire about it. It is the probing itself which creates the feeling of a stream of consciousness. Introspection is here regarded as the probing of potentiality, or – to start using physical metaphors – a probability cloud of experience which forms the result: the subject’s belief about experience. This is quite similar to a quantum probability function which only crystallizes into concreteness when probed (measured).

MEASUREMENT, INTROSPECTION, PROBING

Two of the most common objections against the use of introspection as a form of scientific research technique are the so-called subject-object split and the excavation fallacy. The first objection points out that in introspection the demarcation line between subject and object becomes unclear. Who (or what) is researching what (or whom)? The latter one is about how the experience becomes distorted by the very act of introspection itself. Phenomenologically speaking, observed or attended experience is definitely not the same as unattended and this change is normally considered as a “disturbance”.

Bitbol and Petitmengin [9] attempt to bypass such objections by rethinking the epistemology behind the act of introspection. They roughly follow the phenomenological line of thinking by rejecting the understanding of introspection as an act of dividing the field of experience within which one segment of consciousness (the subject) observes another distinct segment (the object). Instead, introspection is perceived as a full-fledged new experience – as opposed to it being merely a passive reproduction of parts of experience which exist *an sich*, independently of the act itself.

Thinking about experience it is often tempting to adopt an objective viewpoint which presupposes that experiential phenomena exist independently of the process of observation. Such a view promotes the tendency to study experience *an sich* and prevent the contamination of the results of observation. Such conceptions present a vantage point for the above-mentioned objections. If introspection is viewed as an entirely new experience, such objections become irrelevant, since the definition no longer contains an independent past experience *an sich* that could be compared to the belief about past experience.

This is not to say that introspection does not have a very special epistemic status (distinguishing it from other approaches to the study of mind and the world). This status however cannot be grounded in its accuracy or correctness – instead it stems from its unique intention to see beyond everyday theories and beliefs about experience and contemplate lived experience in its pure form. Edmund Husserl [4] used the expression *natural attitude* to designate the totality of presuppositions and theories commonly applied in our apprehension of the world. According to him, pure contact with experience is possible only by discarding this natural attitude. Husserl denominated the process of such contemplation of experience as *phenomenological reduction*. It is this act of intending to bracket the natural attitude gives introspection its special epistemic status and not its alleged ability to achieve the split between the object and the subject (of the “measurement”). The very nature of introspection is a transformative one (and not passive, as one would expect from any good measurement): it is the endeavour to disregard the prism of assumptions implied by the natural attitude, thus attempting to transform the naïve view of experience into a reflective one [1]. Thus, the act of introspection is not a second-order addition to experience or its disturbance, as perceived by many researchers.

The demonstrated interdependence of data and the process of acquiring it is analogous to the situation encountered in quantum mechanics, where prior to the measurement a particle only exists as a distribution of probabilities of the states in which it might be encountered. It is the very act of measurement that causes the so-called collapse of the wave function by which a particular state (among all the possible ones) is determined. In a way, the exact reality of the particle only comes into being once it has been measured. Due to this inseparability of the measured phenomenon and the act of measurement itself, Niels Bohr (in [9]) proposed to replace the idea that measurement in quantum mechanics disrupts the measured phenomenon by the interpretation in which the phenomenon is co-defined by the conditions of its measurement. According to such understanding, the measurement does not disturb, but rather determine the phenomenon. Similarly, in our conception of introspection we refuse to perceive experiential data as existing *an sich*, independently of the process of introspection and thus prone to being contaminated by it. Instead, the data itself is grounded in the introspective process. Any objections about the contaminating nature of introspection thus lose their value. Instead, the act of introspection is seen as co-defining experience. Horizons of introspection are perceived as a characteristic of both the measurement instrument and the act of measuring itself, indistinguishable from the measured phenomenon which they thus do not contaminate but rather co-determine.

UNCERTAINTY PRINCIPLE AND THE CONSTRUCTIVE PROCESS OF THE EMERGENCE OF AN OBSERVABLE

This analogy of quantum entities as a composite of measurement might be expanded even further. In quantum mechanics, measuring causes the so-called collapse of the wave function. From a state in which all that is known is the probability distribution of individual states in which the researched phenomenon could be encountered, the collapse selects one of these states and changes it from probable into actual, just like the questioning tackles the gist or the feeling of being able to answer into an actual answer. Probing selects a part of the cloud of the feeling that the answer is in reach and carves out the answer. Thanks to Schroedinger's uncertainty principle, we know that in quantum mechanics we can never see all of the aspects of the observed entity. For example, one must decide whether to measure the properties of a particle or a wave. Choosing one (e.g. its position), this can be measured with great precision, but only at the expense of the other one of the complementary variables (e.g. momentum), about which in this case we can find out nothing at all. Or we could measure both at the same time, but with much less precision. The analogy with the gesture of becoming aware is evident: the question determines the answer. The probing determines or rather co-creates the resulting belief about experience. One can focus only to a limited number of "parameters". The act of introspection is always marked by the introspector's presuppositions of what is to be observed, the so-called *horizon*, and it is hard to imagine how such a horizon could entail the totality of all possibilities (aspects) of human experience. It always picks just one aspect and dismisses the others. One could even envision pairs of complementary aspects of experience, but that would exceed the aim of this article.

The well-known physicist John Archibald Wheeler once attempted to describe quantum reality, the process of the collapse of the wave function, by using the metaphor of the game of twenty questions. We believe this metaphor is also very appropriate for describing the iterative, self-referential process of creating belief about (past) experience. Twenty questions begins when one of the players (let us call him the inquirer) leaves the room. The others then select an object, a person, an animal etc. The aim of the inquirer is of course to discover what it was that the other players have selected. She disposes with twenty questions by which she tries to pinpoint the object in question. Wheeler was convinced that this might be a good description of the collapse of the wave function – provided that a minor twist be added to the game: in Wheeler's version, when the inquirer leaves the room, the other players do not select an object. All other rules apply. The inquirer, believing that somewhere in the heads of the other players there exists a desired object, starts asking questions, thus narrowing down the space of the potential conclusions of the game. The participants are bound to take account of all previous answers – every new answer has to be consistent with all previous ones. The final answer is thus enacted through an interchange of questions and answers. Every question co-determines the answer, every answer narrows down the set of possible questions. This process might in the end bring us to a point in which only one entity is possible, but it just as well might not, in which case the answer is left hanging.

To speak about an answer in itself existing before the probing has started thus becomes pointless. In Garfield's words (as cited by Bitbol and Petitmengin): "Indeed, observational, temporal, and interpretative distortions can only be called 'distortions' with respect to experience as it is in itself, previous to any attempt at observing, catching, and interpreting. In other terms, the previous objections rely on some version of the myth of the 'given'" [10; p.270]. Despite giving up the notion of a given experience, similarly to quantum mechanics we remain stuck in the dialectics emerging "between (a) the actual inseparability and (b) the alleged necessity of separation between subject and object" [9; p.177].

The list of parallels does not end here. It could be a topic for an entirely different discussion to consider the oscillations between the epistemic position of natural attitude characteristic of our everyday life, and the more reflected, philosophical positions (like constructivism etc.) It would be very easy to compare such “oscillations” with Bohr’s observations about the “dialectic” between “(i) the situation of an introspector who wishes to observe herself by splitting into a subject part and an object part, and (ii) the situation of an experimenter in quantum mechanics who is (instrumentally and interpretationally) intermingled with microscopic phenomena, yet wants to observe them. In both cases, said Bohr, one witnesses a kind of dialectic between (a) the actual inseparability and (b) the alleged necessity of separation between subject and object“ [9; p.177].

CONCLUSION

The objective of this article is to examine the possibility of a new metaphor for the research of consciousness. I have compared (some of) the Copenhagen interpretations of the weird consequences of accepting quantum formalism with the (equally unintuitive) characteristics of the act of introspection. The article takes quantum discourse as a starting point, but one could as well start from the other side – from phenomenological considerations. In this spirit, let me conclude with a quote from Zahavi [12; p.336] in which he summarises Husserl’s position: “Frequently, the assumption has been that a better understanding of the physical world will allow us to understand consciousness better and rarely, that a better understanding of consciousness might allow for a better understanding of what it means for something to be real. However, one of the reasons why the theory of intentionality has often assumed a central position in phenomenological thinking is exactly because a study of the world-directedness of consciousness has been claimed to provide us with insights into not only the structure of subjectivity, but also into the nature of objectivity. That something like a conscious appropriation of the world is possible does not merely tell us something about consciousness, but also about the world.“

Could it be that by studying consciousness we might actually learn about the world?

REMARK

¹The inspiration for and a part of this part of the text is taken from the yet unpublished article by Urban Kordeš and Ema Demšar entitled *What Is It Like To Answer the Question ‘What Was It Like...’?*.

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NATURALISM AND THE EXPERIENTIAL PERSPECTIVE

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ABSTRACT

The article discusses varieties of naturalism and the fundamental disagreement about reductionism versus perspectivism. The central part of the article focuses on Andrej Ule's idea about experiential perspective and the possibility of naturalizing the mind. I must confess I am not able to pin down all his suggestions about how to accommodate experiential perspectivity in nature, but I certainly find his ideas thought-provoking and inspiring.

KEY WORDS

naturalism, consciousness, experience, reductionism, philosophy of cognitive science

CLASSIFICATION

APA: 2340, 2380, 2630

JEL: Z13

INTRODUCTION

Andrej Ule poses a question about the possibility of naturalizing the mind, more precisely, he “examines whether it is possible to provide a coherent naturalist account of the emergence of the mind (spirit), construed as a plethora of mental abilities that are present in living beings” [2; p.501]. I would first like to shed light on two understandings of naturalism, ontological and methodological, and then point out the *fundamental disagreement about reductionism versus perspectivism*. The central part of the paper will focus on Ule’s idea about experiential perspective.

The question about the possibility of naturalizing the mind immediately opens two further questions: what do we mean by “naturalizing” and what do we mean by “mind”. In this article, I will leave the question about the mind aside and take a common sense understanding of the mind as a faculty of a person by which one feels, perceives, thinks, reasons, wills, remembers, desires, imagines etc. I think such understanding of the mind is compatible with the one provided in Ule’s article “Some Reflections on the Possibility of Naturalizing the Mind” [2], although he is giving a more precise analysis of the three related notions of consciousness, mind and spirit in his paper “Consciousness, mind, and spirit: three levels of human cognition” [3]. So, in order to prepare the ground let us first look at the notion of naturalism.

NATURALISM

Naturalism is a philosophical position based on considerations of American philosophers from the first half of the 20th century who aimed to “ally philosophy more closely to science” [4]. For example, John Dewey in *Experience and Nature* [5] argues against dualism and for the continuity of mind and nature. He provides his problem-solving account of intelligence with a naturalistic foundation that combines biology and psychology. At the same time, Dewey argues for the importance of experience and active engagement with the nature, stressing that knowing and thinking about the world do not exhaust human contact with the world – a point which bears special relevance for our discussion.

Although different philosophers interpret the term naturalism in different ways, there is now a common agreement that naturalism can be separated into two components: the ontological and the methodological. According to David Papineau, “the ontological component is concerned with the contents of reality, asserting that reality has no place for ‘supernatural’ or other ‘spooky’ kinds of entity. By contrast, the methodological component is concerned with ways of investigating reality, and claims some kind of general authority for the scientific method” [4]. An interesting and more detailed classification of different possible positions is provided by John Shook [6]. He views naturalism as “a philosophical worldview that relies upon experience, reason, and especially science for developing an understanding of reality ... [and maintains] that these three modes of understanding together shall control our notion of reality” [6; p.1]. This “triadic unity” thus filters out supernaturalism [6; p.1]. Because essential factors of experience, reason, and science can be coherently related in numerous ways, varieties of naturalism may be distinguished along three dimensions: the degree of ontological confidence given to science; the breadth of explanatory discretion given to science; and the number of scientific fields permitted to describe reality [6; p.1]. This results in 27 logically possible combinations of which some are incoherent, so 7 viable varieties of *naturalism are left*: Eliminative Physicalism, Reductive Physicalism, Exclusivist Liberal Physicalism, Non-Reductive Physicalism, Exclusivist Liberal Pluralism, Perspectival Pluralism and Synoptic Pluralism. According to Shook, all these viable alternatives gravitate to three great naturalisms: Reductive Physicalism, Non-Reductive Physicalism and Perspectival

Pluralism [6; p.15]. He suggests that the main issue is fundamental disagreement about reductionism versus perspectivism: “Does any science’s knowledge, and the reality it knows, have priority (epistemic and ontological) over all other knowledge and experience?” [6; p.16]. The Basic Idea of naturalism – “that we are natural creatures in a natural world” – is often taken as saying that “we must fit humans in austere scientific image of the world” [7; p.29] and thus of favoring Eliminative Physicalism and Reductive Physicalism. Advocates of the former (e.g. Paul Churchland, [8]) suggest that many concepts referring to mental states and processes are just illusions without real reference, while a reductionist, for example the famous neuroscientist Francis Crick, would claim that “the scientific belief is that our minds – the behavior of our brains – can be explained by the interaction of nerve cells (and other cells) and the molecules associated with them” [9; p.7].

It is clear that such approaches have difficulties with accommodating subjective, first-person perspective. So let us look more in detail into Ule’s analysis of the experiential perspective and his proposal to accommodate it in nature.

TAKING AN EXPERIENTIAL PERSPECTIVE

In his *article* “Mind in physical reality, its potentiality and actuality” Ule argues for the irreducibility of the experiential perspective. He condensed his view about the experiential perspective in the following thesis [1; pp.176-179]:

T9: For a living being, taking a distinctive experiential perspective means ordering all its feelings in accord with itself felt as in the “middle” of its feeling.

T10: This implies a distinct sensitivity to spatiotemporal patterns of occurrences. It can be realized by any being which is sensitive to different potentialities of events and processes in themselves and around them, and direct its motion in line with its perception of spatiotemporal patterns of occurrences, even without any explicit concept or explicit idea of space and time.

T11: My own experiential perspective cannot be translated or reduced to the impersonal or the third-person perspective.

T12: I suppose that the human ability to take a certain kind of the experiential perspective is based on our inborn dispositions for emotional and affective supported ways of drawing distinctions between ourselves and other people, and for imaginative anticipation of the reaction of other “objects” to our behavior. The primary and then secondary socialization of children then transforms and enlarges the basic ways humans relate to themselves.

T13: Reality (nature) includes a kind of “perspectivity dimension” or, to be more precise, the possibility of natural beings obtaining the experiential form of their “like to be X”.

T14: Taking a qualia level of the experiential perspective is the necessary condition for an organism to be sensitive to the higher-order processual potentialities within it and in its surroundings and to feel its place in the referential system of possible processes.

Ule’s notion of experiential perspective necessitates the existence of *qualia*, so it seems that the experiential perspective also provides an answer to the question of phenomenal consciousness posed by David Chalmers [10] and Thomas Nagel [11]. In “Facing Up the Problem of Consciousness” Chalmers starts with the following observation: “Consciousness poses the most baffling problems in the science of the mind. There is nothing that we know more intimately than conscious experience, but there is nothing that is harder to explain. All

sorts of mental phenomena have yielded to scientific investigation in recent years, but consciousness has stubbornly resisted" [10; p.200]. Or, as Nagel's puts it, "the fact that an organism has conscious experience at all means, basically, that there is something it is like to be that organism" [11; p.166]. Ule hopes that his proposal may be a good candidate for a heuristic hypothesis in finding a solution to the "hard" problem.

At a first glance, it seems that Ule has found a solution to both troubles, the subjective perspective *and* the qualitative aspect. Unfortunately, questions appear when we pursue the matter in greater detail. It is hard to understand what role is "perspectivity dimension" supposed to play in Ule's overall account. Ule seems to construe it as a "useful and suggestive metaphor of the trans-objective possibility of taking an experiential perspective for all entities in the spatiotemporal reality (which I call "nature"). [...] it is reasonable to assume that at least some living beings in the world share the same possibility of "moving" (developing) in the "direction" of the perspectivity dimension. They may actualize, according to this hypothesis, the possibility of taking the experiential perspective without necessarily doing so." [1; p.184].

It is also not clear how experiential perspective emerges in the world (cf. Vörös [13] on the problem of the origins). As Ule himself acknowledges "it is impossible to describe, explain or comprehend any point of view from a no-point-of-view. But how can we then explain the *coming into existence* of living creatures having their points of view i.e., living creatures that for them it is somehow *significant* that *they are* and in *what way they are*?" [1; p.183] It is suggested that, in the case of nonliving matter there exist "*protoqualias levels of experiential perspectivity*" [1; p.185], but at the same time Ule says that his hypothesis is not a variant of panpsychism [1; p.185]. It is hard to imagine how these two claims can be coherent.

I will conclude this short discussion with Ule's interesting hypothesis that "a mentally and linguistically articulated experiential perspective entails (among other things) an implicit utilization of an unlimited potential for logical operations on propositions (thoughts)" [2; p.509] that suggests an answer to the question of grasping propositions and thoughts in the space of logical operations. If this hypothesis is eventually vindicated, Ule promises to provide an explanation that many naturalist are looking for.

There seems to be a considerable inconsistency at work in Ule's paper: on the one hand, he argues that the experiential perspective is irreducible, but on the other hand, he is also suggesting that his hypothesis is better in naturalizing the mind than other closely related attempts (i.e. Bateson, Peirce and biosemioticians) that he critically examined. I must confess I am not able to pin down all his suggestions about how to accommodate experiential perspectivity in nature, but I certainly find his ideas thought-provoking and inspiring.

CONCLUSION

In his recent work [1-3], Ule is pointing to the experiential perspective as a crucial feature for understanding conscious (and also unconscious) organisms in nature. It seems obvious that the scientific approach to nature has no means to accommodate it properly. This results in a number of problems. Teed Rockwell in *Neither Brain nor Ghost* [12] provides a similar diagnosis as to why it so often seems that the object of contemplation is an unconscious thing: "When I contemplate an item, whether organism or machine, from the objective third-person point of view, it will, by the very nature of that perspective, seem like an object, an unconscious thing. But that doesn't mean that what I am contemplating is not conscious from its own point of view. Objectivity makes everything appear to be an object, including entities with subjective points of view. This is what accounts for both the illusion of solipsism and the hard problem" [12; p.132]. So, do we have to give up the idea of naturalizing the mind

and go back to the mind-body dualism or embrace some version of a scientifically problematic panpsychism? One way out this unpleasant dilemma could be a different conception of the Basic Idea of Naturalism – “that we are natural creatures in a natural world”. Instead of the above mentioned understanding – “we must fit humans in austere scientific image of the world” [7; p.29], McArthur proposed we understand it as saying “the world is everything that is the case” [7; p.45]. According to him, such an approach qualifies as a form of naturalism because it holds that “our understanding of the world and ourselves ought to be consistent with the findings of the natural sciences” [7; p.45]. Moreover, such understanding is able to accommodate normative facts into the natural world. It can also be viewed as a form of Perspectival Pluralism where experience and scientific knowledge present multiple perspectives upon the same reality and where sciences are not able to explain the mind fully. “The first-person situated and subjective perspective of consciousness is neither inexplicable nor incongruent with the third-person objective knowledge of the sciences, since all experience and knowledge is embedded in situated contexts. Our mental lives are correlated to some degree with nervous processes, scientific knowledge grows from our careful observations of the world, and our experiences of the world can be usefully coordinated with scientific knowledge.” [7, p.12] This is a position close to Dewey and American pragmatists. It is not without its own difficulties, of which the main one is probably the question of possible contradictions between some aspect of experience and some part of scientific knowledge. It is also not the only attempt to broaden the view about nature and try rethink the mind–nature relation. For a somehow similar attempts to naturalize phenomenology and phenomenologize nature see Vörös [13] and Kordeš [14] in this issue.

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REPRESENTATIONS AND INHOMOGENEOUS BEINGS

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ABSTRACT

Beside the regularly applied concepts (e.g. neuron, brain, sign, representation, code, sense, experience, perception, etc.) an additional collection of concepts (entities, interaction, border, inhomogeneity, dialectics, necessity and contingency, freedom, historicity, acquaintance and knowledge, culture.) is proposed for the better understanding mind and cognition. An anti-Parmenidian ontology is suggested in which all entities can be regarded as entities only in a certain context, i.e. all entities are inhomogeneous beings. In this ontology there are some essential common characteristics of the inorganic, the organic and the human beings. Representation is a key concept in the ontology of inhomogeneity. Taking into account the natural history a history of representation can be reconstructed: passive inorganic, active organic, and reflective human representations generate expression, acquaintance and knowledge. In the evolution of representation three essentially different strategies can be identified: the bound, the free and the mixed strategies. Bound representations generate acquaintance, free strategies generate knowledge. Human beings can follow both strategies at the same time – i.e. humans have a mixed representation strategy. In this way the advancement of freedom can be identified as a drive of the emergence and functioning of mind and cognition.

KEY WORDS

representation, inhomogeneity, ontology, acquaintance, knowledge

CLASSIFICATION

JEL: Z10

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INTRODUCTION

A few years ago I had to review a dissertation written about philosophy of mind. As a philosopher, of course, I had some views on the topic, but I thought perhaps it would be necessary to strengthen my ideas with some arguments from the recent literature. Searching for papers I realized that David Chalmers & David Bourget compiled “a bibliography of work in the philosophy of mind, the philosophy of cognitive science, and the science of consciousness. It consists of 28 490 entries” [1]. I was shocked.

As a contemporary Hungarian philosopher, Ákos Szilágyi mentioned in a paper “we are not living in time, but on deadline” (well, this is a nice and untranslatable equivocal with the word “idő” (time) in Hungarian, but hopefully understandable in part), so, then I had to give up my ambition to get a more or less coherent and literarily informed position on philosophy of mind.

Telling the truth, a posterior study of a reasonable segment of the above mentioned literature disclosed an interesting characteristic of these works: in spite of the huge number of books and papers the spectrum of the philosophical ideas and methodologies included into their argumentations was surprisingly narrow. This observation inspired me to imagine “alternative” approaches to philosophy of mind with additional, in this context unusual or occasionally applied philosophical methodologies and ideas. In other words: instead of the simplified, universal context of the majority of this works, I would prefer much more individual, plural, and rich contexts to reach a deeper understanding of the mind. Unfortunately, I had practically no chance to go further: just a few conference lectures, several paragraphs included in papers or books focusing on something else – this is what I was able to realize from this “program” until now. Additionally, meanwhile the Chalmers – Bourget bibliography has essentially extended and in these days includes 63 046 items [2].

In this way I was really glad to receive Andrej Ule’s thoughtful papers on his philosophy of mind [3, 4] and get the possibility to contribute to their discussion. I can agree with his fundamental non-reductionist, but naturalist position on the evolution and emergence of the mind, so an important condition of the fruitful discussion is given. I accept also his aim to contribute to the naturalization of the mind elaborating some ideas based on the works of Bateson, Peirce, and some scholars in biosemiotics. In this short paper I try to propose several additional philosophical ideas, alternative approaches to several problems in order to take Andrej Ule’s views into a broader context. The ideas developed in this paper I dedicate to Andrej.

First of all I propose to involve into the description of the evolution, emergence and functioning of the mind a collection of concepts as follows: entities, interaction, border, homogeneity and inhomogeneity, dialectics, necessity and contingency, freedom, historicity, acquaintance and knowledge, and culture. I suppose that beside the regularly applied concepts (e.g. neuron, brain, sign, representation, code, sense, experience, perception, etc.) using these concepts has a crucial role in the better understanding the mind and cognition. There is no enough room here to explain the details I just try to sketch some – hopefully convincing – relations.

ONTOLOGY OF INHOMOGENEITY

All entities can be regarded as entities in a certain context. We cannot say anything about something which exists “just simply”, devoid of all circumstances, effects or interactions, at least not except for what we have already mentioned, namely that we do not know anything about it. If something does not have a context, it does not exist. Here we use the expression “context” in a wide sense which implies both ontological and epistemological components. Following Heidegger’s encouragement, we could probably use the concept of “world” for ontological purposes instead of “context”, and we could talk about being – in – the – world

or, following different traditions, we could also use the concept of “environment” as well, but perhaps the expression “context”, with both ontological and epistemological meanings, will be more suitable.

The context of entities necessarily separates and can be separated well from the entities and in this separation they mutually secure each other’s identity. Their relationship is symmetrical in a certain sense, though it is possible to break the symmetry through a decision: from now on I will regard something as an “entity” and something else as “context” and asymmetry prevails. In this procedure, the main question is the creation of identities. By preserving the symmetry between an entity and its context, I can also say that the entity receives its identity from its relation to the context and vice versa, or through a decision for their asymmetrical relationship, I derive the identity of an entity from the identity of the context. Even this quite abstract scheme reveals the possible basic structures of organisms: the “entity – context system” is a single complex system the identity of which is “determined from the inside”; in contrast, the entity put into a context presents itself as simple and homogenous and receives its identity from outside of itself. We would like to draw attention to the fact that the choice between the mentioned organism concepts is free; there is no logical constraint, both views are intelligible – of course, if we use them consistently and repeatedly, we get to different worldviews and different problem areas. We can make the value system of our culture effective and we can satisfy our ideological needs through a free choice between the mentioned alternatives.

In other words: Parmenides was wrong, entities with identity are inhomogeneous beings. A necessary coexistence and distinguishability of the two (or more) sides/parts/aspects/components of the beings is the condition of their identity. The parts of the beings are inseparable to each other, but a border separates them and the interaction between the parts can be considered as a form of the existence of the beings. Border and interaction: these are the very essential beings. All beings are structured beings, i.e. organism.

Besides their identity, another basic characteristic of organisms is their integrity. The concept of integrity is for describing the “wholeness” and “unity” of the organism and the degree and stability of its identity. The organisms suffer the effects of the external factors which influence their integrity, and they either give in to it or resist it. The effect of internal factors – if we can interpret them at all – will become the trigger of mutual and constant transformations. It is obvious that we can describe the integrity of organisms without a structure with the dichotomy of formation and destruction, but the “life history” of a structured organism can be more complex; it can go through a historical development, that is, a series of transformations between its formation and destruction during which it relatively preserves its integrity.

The key form of the existence of organisms is reproduction. Reproduction can be either active or passive: the organism can reproduce itself and it can suffer reproduction. The organism preserves its integrity when there is equilibrium between the two. The necessary errors of reproduction and construction/production play an important role both in case of self-reproducing organisms and organisms construed and (re)produced by external constraints.

This way of thinking can be useful in the philosophy of mind as well, especially in the naturalizing approaches to the mind. (It is easy to see that most of Bateson’s criteria [3] express these relations, but in a different language.) Considering the brain-in-its-natural-context entity the brain-environment coexistence and inseparability, their interaction, the brain/context border (the experiences), etc. can manifest themselves in a new way. For instance in this view the Putnamian “we are brains in a vat” statement seems to be nonsense.

Much more important consequences can be found if we apply this inhomogeneous ontology together with historicity. Natural history can be considered as one of the most elementary and broadly accepted appearance of historicity. Taking the historical sequence

of inorganic-organic-human spheres in the natural history seriously a history of mind / consciousness can be reconstructed. In this perspective important similarities can be found between the existence of inorganic, organic, and mental entities. In other words: the existence of a stone on the field, a non-human living organism in its natural environment, and the human beings in its artificial environment can be considered as three steps in a historical process. This process can be identified as the evolution of representation.

STRATEGIES OF REPRESENTATION

If we have inhomogeneous beings representations unconditionally exist. Representation is an appearance of the inhomogeneity of beings: its different parts / aspects / etc. coexist, i.e. interact with each other, are determined by each other, refer to each other, express each other – represent each other. Representation is a mutual relationship.

The “entity-with-its-context” beings together with its integrity and reproduction can be described in different languages, for example in this way: a kind of representation of the environment for the “beings” has a crucial role to support their “survival”. In this style of thinking we can identify three historical forms of representations:

- 1) representations in the inorganic sphere of beings are passive and generate expression;
- 2) representations in the organic sphere of beings are active and generate acquaintance;
- 3) representations in the human sphere of beings are reflective and generate knowledge (and consciousness).

Shortly on a really long history: passive, active and reflective representations generate expression, acquaintance and knowledge. The passive representation (sometimes it is called simply interaction) has a crucial role in the natural history, but here and now we would like to focus on the more complex active and reflective representations. Their complexity basically associated with the more complex entity-with-its-context structure. It is very clear that a living organism is much more structured than the inorganic beings. A trivial appearance of this structural distinction is the passivity-activity transformation.

Considering the active and reflective representations and their interrelationships in the processes of evolution two representation strategies can be characterized: the bound and the free strategies. In this view the nature of reflection is associated with a more structured activity of a more structured organism, and the possibility of the “self” (in the form of self-interaction, self-activity, self-organization, etc.) appears at a moment.

For a better understanding of this process a clear distinction between the bound and free strategy is very crucial¹. First it is necessary to characterize the concept of acquaintance and knowledge.

Cognition – if we interpret its concept widely enough – can result in acquaintance and knowledge. Acquaintance and knowledge are different mainly in that acquaintance represents the object of cognition but it does not necessarily reflect on it; on the other hand, knowledge is reflected representation, that is, it is a special version of acquaintance. The necessary and contingent characteristics of the object are usually not separated in acquaintance; however, as a result of reflection, this separation necessarily appears in knowledge. Thus, following Aristotle, it seems to be justified differentiate between the knowledge of the contingent and the necessary. Acquaintance implies only knowing the contingent, it is about what exists. Knowledge involves knowing what is necessary; it is about what exists and cannot exist in any other way. Acquaintance is not necessarily conscious; typically, consciousness is not even needed for it; a certain sensitivity and perhaps memory are sufficient for it. In fact, all entities are acquainted with some things, at least during their existence since their existence, among other things, consists in representing their environment in a peculiar way; in other words, they are different and can be differentiated from their environment. Using reflection, knowledge, which is

necessarily conscious, limits our being at mercy of our environment and creates the possibility of an active relationship to it. Obviously, human cognition uses both versions of cognition.

These versions of cognition follow different strategies of representation. While acquiring acquaintance, the bound strategy of representation is useful; however, we can only acquire knowledge through following the free strategy of representation. The bound strategy offers an accurate, unambiguous and stable representation of the object of cognition quickly without conditions and changes, and this representation is individually accessible at any times. In contrast, the free strategy disconnects the representation from its object and it represents its object while operating flexibly, with multiple meanings and inaccuracy. Meanwhile, the access to the representation is a slow process loaded with conditions, changes and community relationships. Any kinds of material mechanisms can represent acquaintance created through the bound strategy; however, there is a need for a consciousness for knowledge which requires a free strategy.

Acquaintance gained through the bound strategy is directed at contingencies and circumstances and through the representation of the situation, it serves the “control” over the situation directly, “here and now”, that is, they serve the persistence of the existence of the cognizing agent and its separation from its environment. The knowledge which can be produced through the free strategy can at most be utilized in an indirect way, since it only represents certain existing elements of the concrete situation (which exist necessarily, that is, in other situations as well) and in this way, it is oriented towards the “not here and not now”. Knowledge does not serve the “dasein” or the existence of the agent “here” but his existence “not here” and it makes his existence as “an other”, that is, the expansion of his environment (into a world) possible, and it makes the evaluation and understanding of his endowments and possibilities available for him.

Representation is the representation of something in both strategies of cognition (e.g. the environment of the agent) and as a result, it necessarily requires a connection between the representing entity and the represented. The representing entity replaces the represented entity – it is as if the former was the latter, the representing entity is virtually the represented. We can also describe this connection by utilizing the concept of information, provided that we notice that it is only the entity identified and understood (interpreted) as a sign which exists as if it was the signified, that is, it is virtually the signified. Information itself is a virtual entity which comes into existence as a result of this identification and interpretation process, that is, when an entity proves to be the sign of another and when we regard it as such. In the end, both representation strategies could be characterized through the analysis of the development and understanding of information as well. In this case, we would have to concentrate on the characteristics of the correspondence between the sign and the signified (the representing entity and the represented entity) and we could take it into account that in case of acquaintance produced through the bound strategy, the interpretation of the sign (the representing entity) is essentially determined by the signified (the represented entity) while in case of knowledge achievable through the free strategy, the interpretation of the sign (the representing entity) is essentially free.

In human cognition, we can identify typical forms of representation connected to each strategy. Thus for example technologies understood in the widest possible sense (that is, the methods which provide a control over concrete situations) are usually satisfied with using acquaintance connected to the given technological situation, while in the sciences (situation independent) knowledge operates. In the end, the ancient Greek terms “techné” and “episteme” refer to such differences.

We collected the most important characteristics of the bound and the free strategies of cognition in the Table 1.

Table 1. A comparison of strategies of cognition.

BOUND STRATEGY	FREE STRATEGY
<i>The representation</i>	<i>The representation</i>
Accurate	Indefinite
Unambiguous	Multiple meanings
Stable	Flexible
Its accessibility	Its accessibility
Fast	Gradual
Unconditional	Conditional
Individual	Community
Standardizing	Changing
<i>Typical medium of representation</i>	<i>Typical medium of representation</i>
Biochemical, physiological, physical and other material mechanisms	The mechanisms of consciousness, communication and culture
<i>The content of the representation</i>	<i>The content of the representation</i>
Acquaintance	Knowledge
Contingency	Necessity
Circumstances	Causes
Situation	The World
Purpose: control	Purpose: understanding
<i>Typical form of representation</i>	<i>Typical form of representation</i>
Technology	Science
“Techné”	“Episteme”

MIXED STRATEGY

Man does not simply exist, but he is also able to sustain and change his existence. He does not only operate his representational abilities in his relationship to his environment but also his reflective representational abilities. Man is the “citizen of two worlds” in several senses: he is subjected to natural and “cultural” limitations, he is the impression of his environment and he also shapes it, he is both “a character and the author of his own drama”. The concrete and historical coexistence of the bound and free strategies presents human cognition as a never ending, complex, multipurpose, changing process which develops special methods, structures and organisms.

The typical example of the *mixed strategy* is the special ability of the human brain through which it can represent the object of the cognition in two ways simultaneously: on the one hand, following the bound strategy, as an object represented with its most concrete characteristics, on the other, following the free strategy, through the so-called secondary representation [5] as something completely different, for example as a tool which makes it possible to attain a goal. Secondary, tertiary, etc. representations are indispensable conditions of becoming human and they already appear in the development of primitive tool use and tool making, speech and conceptual thinking, consciousness and communities.

The complexity of human cognition, the mixed form of acquaintance and knowledge which intricately permeates human activities (think of for example the technological elements which can be observed in scientific activities) and the multitude of the levels built on each other contingently (e.g. brain/consciousness/culture) do not make it unjustified to clearly separate the basic cognition strategies, acquaintance and knowledge. Indeed, let us also mention that

by taking them into account, the peculiar division of labor of the brain acquires a special meaning: the coexistence of the brain mechanisms following the bound strategy and the mental mechanisms following the free strategy in one system is obviously an evolutionary advantage.

After this discussion of cognition strategies, we can identify a few characteristics of *culture*. First of all, it is important to notice that it is the usage of the free strategy of cognition which makes the development of culture possible. In this way, the claim according to which only man, who (also) operates the free strategy, has a culture seems to be justified. It is also important that culture is inseparable from knowledge created through reflexive representation. The development of culture is tantamount to man stepping out of the situation dependent form of existence and building a world from the multitude of situations. Besides the knowledge of situations, he is also interested in knowing the world, since man's activities also become extended: they become worldwide.

Perhaps we can summarize what we have said in this paragraph so far in the simplest way by saying that man is the creature who does not only live in naturally given circumstances, but through his own activities, he shapes his life conditions, that is, he *reevaluates and occasionally transforms* the naturally given circumstances both in his thought and in his practical activities. We can regard this activity of reevaluation and transformation, the *cultivation* of natural circumstances, this world creation as the essential meaning and most basic form of culture. The reevaluation does not take place on the basis of definite characteristics – neither its execution nor its execution in a given way is necessary. To a certain degree, man's own possibilities, which he influences through his own decisions, are realized in the reevaluation and transformation of natural circumstances and a certain *freedom* of man appears. The whole process, at least to some degree, is autotelic, that is, culture in fact necessarily contains contingency and even superfluous things. The artificially created and maintained human environment developed through continuous reevaluation and transformation is the *cultivated world*. In this way, culture equally exists as a human possibility (as a *possibility* of reevaluation and transformation of the circumstances around man), as an actual human activity (as the acts of reevaluation and transformation, that is, as cultivation), and as a realized *result* (as the artificial environment containing the cultural circumstances).

CONCLUSION

A final conclusion of this short and certainly fragmented train of thoughts perhaps could be a simple statement: the source of human mind and cognition can be found in the context of the extension of freedom of beings, and for the understanding of the emergence and functioning processes would be useful to apply a philosophy which sensitive enough to the problems of freedom.

REMARK

¹Fred Dretske's concepts of systemic and acquired indicator of representations has a similar function in his theory than the bound and free representations strategies in our views [6].

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DISPOSITIONAL BELIEFS

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ABSTRACT

Dispositional beliefs are part of an account of belief-formation and of belief entertaining in view of possible action. Belief-formation and belief entertaining are activated from morphological content. So dispositional beliefs are activated from morphological content.

KEY WORDS

dispositional beliefs, belief formation, morphological content, dynamical system

CLASSIFICATION

JEL: Z10

DISPOSITIONAL BELIEFS NATURALIZATION

Naturalization of mind is a wide-ranging project, dealing with reduction, elimination and compatibilism embracing ways to go. Suppose that there are two substances, the mental and the physical. Reductive approach will try to reduce the mental to the physical. Eliminativism will try to show that there is nothing substantial that is left after such effort on the side of the mental. While compatibilism will try to explain both substances in a wide ranging nonreductive manner, that will announce the importance of both areas and their interdependence.

We think that naturalization of *dispositional beliefs* is an important case which may show an interesting way of naturalizing the mind, and which up till now was under-appreciated. We try to give a certain beginning direction to this enterprise.

First we briefly mention *dispositional properties*, which in heydays of behaviorism were used to shed some light upon beliefs. Ryle [1] and U.T. Place [2] wrote about this, among several others. One such property is sugar solubility. We may take a look at the naturalist description of the matter. Obviously, sugar has some physical and chemical structure which is such that under appropriate conditions its property of solubility will be activated. Notice that surrounding circumstances trigger coming into realization of that property. Sugar should be put into water, but of course it should not be mixed into the frozen water. The temperature should be such that the sugar will dissolve. Some people had their concerns about dispositional properties, one of these being that the explanation of dispositional propensity may be circular. They reminded us of Molière's depiction of medical doctors, explaining the effectivity of sleeping pill by evoking *virtu dormitiva*, the sleeping ability. Of course, Molière despises some guys from his times trying to profit from people's ignorance. Obviously, what Molière wished for as against these was a naturalized account of property with some explanatory dignity.

One could take belief to be a kind of *dispositional property* as well. For we have all the time dormant beliefs which get activated in appropriate contextual circumstances. If I talk with you and you remind me of the existence of squirrels, my squirrels related belief will come to the fore. Looking for naturalization explanatory support in such a case we can observe two directions: the naturalistically specifiable basis of the belief in my brain, or again the naturalistically specifiable basis that triggered my dispositional belief to appear in an occurrent shape in the environment of community. Neither of these, it seems to us, will provide an adequate basis for *dispositional belief's naturalization*.

In what follows we will try to sketch a possible departure for dispositional belief's naturalization in as far as the *naturalization of mind* is concerned, knowing full well that a naturalistic account related to community is important, having to do with contextual normative circumstances.

Saying that naturalization basis of dispositional belief is the physical underlying system that allows for belief to be stored and to appear under appropriate circumstances leads to views of emergence or of supervenience. The difference is that the emergence of mental properties one of which is the mentioned belief succeeds upon a physical basis without that an explanation involving general natural laws would be involved. As British emergentists say, we should acknowledge the appearance of the mental upon a certain physical arrangement with religious piety. The supervenience to the contrary provides a general natural law based explanation, with the minimal requirement that identical physical arrangements will produce identical mental arrangements, such as that of occurrent belief. Both emergentism and supervenience are compatible with the relation between physical and mental structures, just that explanation in accordance with natural laws is available just in the second case.

But naturalization of dispositional belief stays restricted. We propose the following in order to provide some ammunition for further investigation. On the side of *dispositional belief*, we

will distinguish between its function in *belief-formation* on the one hand, and between its function in *belief entertaining in view of possible action*. In this manner, we introduce two different accents into our investigation, in respect to the dispositional belief's role. The stress in belief-formation namely is upon the causal environment, the space of causes. Here we have to do with the role that dispositional belief plays in categorization of the encountered stimuli. Dispositional beliefs on the other hand can motivate our actions, and this has to do with the normative *space of reasons*. In the first case dispositional belief provides reason for categorization, and in the second case it provides reasons for possible action. I see a cup of tea on my table and I *form* belief that there is a cup of tea, using dormant categorizing capabilities of my corresponding dispositional belief. The formation of this belief and its dispositional storage gives me the ability to reach for the cup of tea and take a sip, even after an hour or so since I have formed the belief. Dispositional belief will then shape the direction of my possible actions.

It seems that the simple *physical basis – the structure of mind* relatedness is not sufficient for a viable *naturalization* of dispositional belief. We claim that an appropriate naturalization of dispositional belief is possible if we envision a *middle dynamical level* of cognitive system's description. Just such an approach will offer appropriate naturalization basis for dispositional belief. The introduction of middle level between physical and mental realms is nothing special. We talk about three levels of description concerning cognitive systems: the description at the physical level, the one at the upper cognitive level, but there is as well the description at the middle level establishing relation between the physical and the *mind*. A viable naturalization of mind, again, requires an introduction of middle level. We believe that this level is *dynamical*, and that it cannot be described by exceptionless general rules. *Naturalization of dispositional belief* thus requires middle level of cognitive system's description dynamics. Cognitive background enabling appropriate naturalization of dispositional belief is at the *dynamical* middle level of cognitive system's description. Given that dynamics is involved, the appropriate naturalistic description of the middle level is mathematical and not inferential, representations and exceptionless rules involving one.

We will proceed with a sketch of an argument first, along the following lines. Dispositional beliefs are part of an account of belief-formation and of belief entertaining in view of possible action. Belief-formation and belief entertaining are activated from morphological content. So dispositional beliefs are activated from morphological content.

DISPOSITIONAL BELIEFS ARE PART OF AN ACCOUNT OF BELIEF FORMATION AND OF BELIEF ENTERTAINING IN VIEW OF POSSIBLE ACTION

I believe that there is a cup of tea in front of me on the table. And I believe that it would be appropriate for me to help a person in need. The first of these beliefs is descriptive and I have acquired it through my perceptual capabilities. The second one is normative and I take it to be the result of my cultural environment and educational impact. As I write these lines, I form the first of these beliefs, for I notice the cup being positioned left of my computer. This belief was brought into the center of my attention once as I felt that I needed some tea, looked for a cup, and spotted it. Then I said to myself: "Well here is the cup." Then I took a sip of tea. As follow-up of all this, the belief concerning cup became *occurrent*, it took the position of my *total cognitive state* at this very moment. The other mentioned belief of mine, about the appropriateness to help the people in need, was not *occurrent* at that time. Rather, it was sitting there in my background belief system, waiting for a suitable occasion to trigger it, so that it would then become an *occurrent* belief. At a certain moment in time I only form one *occurrent* belief. Other beliefs are there in the just mentioned belief system, waiting in the background. There are many of them, encompassing everything that I know, in the widest

sense of the word. I believe that cats are four legged animals. But I did not believe this in an occurrent manner before my attention was driven to it. So up to this point in time the mentioned belief was dispositional, slumbering in the background of my cognitive system. Each of these *dispositional* beliefs is waiting for a suitable context or circumstances so that it would be able to enter my attention. *Dispositional* properties such as that of sugar being soluble enter upon the scene once as the environmental circumstances are appropriate. Sugar has its solubility property all the time as it is waiting in the dispenser. But the dispositional property only comes to life in suitable circumstances, such as when I put a spoonful of sugar into my cup of warm tea. Similarly, dispositional or standing beliefs become occurrent when I encounter appropriate contextual circumstances.

First we have to take a look at the status of belief. What differentiates belief from the content – which may be featured in this belief? What makes the belief that there is a cup different from the psychological content figuring the cup? The answer may be that content is an objective commodity, and that entertaining such content may be seen as a shared enterprise in which several of us can take part. Such an objective kind of content – perhaps proposition – entertaining and sharing may be then quantitatively compared and traded, and it may be called *credency* [3]. If myself and you disagree in respect to some of our credences, we may compare their quantitative impact, each of us giving way to the other, and we then finally conciliate in direction of a middle ground. This is not the case with *beliefs* though, for we hold these in an all or nothing manner. We will not be easily ready to give up on our beliefs, until there is something such as an underlying change occurring in our overall attitudes. Our political beliefs may be a case in point. As well there is quite a changed perturbation of my system when I discover that something that I believed to be a hamster is actually a rat¹. We are inclined to take beliefs that we entertain, in dispositional and then in occurrent manner, to be part of our rationality, and thus to be our cherished property. They are not something objective but rather a first person point of view matter. This goes for dispositional and occurrent beliefs. Some of these are linked to normative pressures that we comply to, and others to the goal of truth. The evaluation of beliefs, however, in counter distinction to that of credences, succeeds through *phenomenological experience* of beliefs inhabiting the space of reasons, although they may well be produced in the environment proper to the space of causes [4].

The question now is whether dispositional beliefs have some role to play in my *belief-formation*, and in my *entertaining beliefs* in view of a possible action [5]. *Belief-formation* of factual beliefs happens in the space of causes. We start with *factual* beliefs because they avoid discussion of possible realist commitments proper to normative or moral beliefs. Perceptual belief would be a case in point. I form factual belief about a chair being over there by observing the chair, thus entering in causal relation to it. But this external causal relation is not sufficient for my formation of the mentioned belief. Although chair is in the same causal relation to myself as I am in respect to it, it is more than doubtful whether it would be able to form a belief about myself being there². An answer is that myself, in counter distinction to the chair, possess the ability to *categorize* features and entities that I happen to encounter. But just what would this ability consist in? One answer at hand is that it is there in *dispositional content*, in my dispositional belief involving the chair. But is this explanation circular, given that belief-formation concerning the chair relies upon the dispositional general belief about the chair? The explanation is not circular because of the following. We try to explain *belief-formation*, namely how a belief gets formed, dealing here with factual perceptual *occurrent* belief as the result of this process. But occurrent belief is not dispositional belief³. And dispositional belief just helps occurrent belief to be formed by offering categorization support for it. Besides to the external causal support of relation with the chair, there is as well the support of *dispositional belief* that allows me to recognize the chair and categorize it. This usually succeeds in a

moment, in a fraction of a second. Dispositional belief about the chair that is there in my overall belief system enables me to form perceptual belief about the chair⁴. Connection between the stimulus that is coming to my system and between the dispositional belief allowing me to recognize it is of the predominantly causal nature, perhaps quasi-causal would be an adequate term for describing it. There is no substantial inferential process involved into such recognition and categorization, it rather proceeds kind of reflex-like. Dispositional belief is a belief all right, but it acts in a directly active causal manner by providing categorization to the encountered stimuli. The usual perceptual belief-formation that we talk about here is of course different from my original belief-formation which allowed me to form the now existing *dispositional belief* in the first place. At that time I had to learn what a chair is, and such a learning is portrayed as consisting of several hundred trials at least in the proceedings of connectionist networks. Once the category is learned though and once as the dispositional belief gets formed, there is the ability to apply categorization to the possible vague encountered approximations of the category in one's surroundings. This is a brief account about how dispositional belief is involved in *formation* of perceptual beliefs. Dispositional belief provides ability to form an occurrent belief, through the quasi-causal impact of categorization.

There is as well the role of dispositional belief in *belief entertaining* in view of a possible action. Beliefs that are stored in my cognitive system wait for an appropriate occasion where they can eventually lead to my action. These are *dispositional beliefs* as well. But their role is different to the one that they take in categorization which is linked to belief-formation. Now we deal with the *motivational* role of beliefs. Once the motivational role is recognized in dispositional beliefs, its direction is not easily reversed. As it is customary for dispositional matters, dispositional beliefs exercise their possible agentive role in contextually appropriate circumstances. In belief-*formation*, standing or dispositional beliefs have categorization role and in this sense they figure as *reasons for categorization* of the encountered items. They are thus partial reason of belief-formation. Dispositional beliefs are as well *reasons for action*, for a possible action, and this is quite a different role from the former categorizing one.

Dispositional beliefs inhabit the background cognitive system, or belief-system. There is presupposition that they are atomistic entities, with a role that is close to propositions which enter into inferential relations, sometimes with other supposed entities such as desires. If I undergo a desire to drink some beer, and if I also entertain belief that the beer is in the fridge, then I am motivated to go to the fridge and fetch myself a can of beer. Believing p and as well believing $p \rightarrow q$ brings me to believe q . Dispositional beliefs look to be like pebbles waiting to be involved into the game of inferential links.

BELIEF-FORMATION AND BELIEF ENTERTAINING ARE ACTIVATED FROM MORPHOLOGICAL CONTENT

Given that beliefs are part of one's cognitive, psychological constitution, it is a pertinent question what kind of model is appropriate as an account of human cognition. Often, rationality of human psychological processes is emphasized, and inferential processes are provided as a model. Beliefs are then taken to be atomistic ingredients fitting into rationality engaging inferential relations. They also provide reasons for the inferential flow to carry on. Language of thought⁵ [6] would be one such model, where representations end up as atomistic points pushed around by inferential relations. Language of thought model of mind was inspired by the classical computational von Neumann architecture, trading on rules and representations. Rules in such a system need to be tractable, and the supposed atomistic nature of representations helps them comply with this direction. Such classical computational model has advantage of putting atomistic beliefs in an inferentially ordered overall rationality displaying system.

As against classical computational architecture inspired model of mind, the so called connectionist or parallel distributed processes involving systems were proposed, inspired by connections between neurons and their intertwined paths such as these that may be found in human brain. Connectionist approach is not inferential rationality friendly as was the representations and rules involving model. Rather, direct responses to the encounters of the system with its surroundings and empirical reactions are important here. *Learning* as repeated exposure to stimuli with their always changing details is embraced. Through such exposure patterns are learned by the system. System recognizes patterns after repeated encounter with them in variable conditions.

Three levels of cognitive systems' description were proposed [7]. The upper level figures representations. The lower level takes care about physical implementation of the system. Whereas the middle level of system's description provides mechanisms enabling and regulating appearances at the upper level. In the classical computational model of mind, inferential links are to be found at the middle level, determining the appearance of presentations as total cognitive states at the upper level of the system's description. Mechanisms at the middle level of cognitive system's description enabling appearances of total cognitive states at the upper level are different in connectionist networks and in abstract dynamical systems that are inspired by these. Such an approach allows for *dynamics* and it does not depend upon rules⁶. Once as one presupposes the existence of a dynamical system at the middle level of system's description, the appearance of total cognitive states at the upper level gets supported by dynamical interactions. Following such a departure one may doubt that total cognitive states are atomistic and that they appear as the result of activities guided by classical inferential relations. Rather, patterns or representations are positioned in their *dispositional* form at the middle level of dynamical system's description as attraction points. Once as forces at the multi-dimensional landscape navigate towards a certain point with sufficient insistence so that they make a momentary stop there, this one is displayed at the upper level as a total cognitive state. This intractable dynamical middle level of the system that is inspired by but is not identical to the connectionist network's computational architecture, may be called *morphological content* [8, 9]. Morphological content is an overall dynamical system including everything that one knows, which is not occurrently but *dispositionally* positioned in the background of the multi-dimensional landscape. Innumerable possible activation points at the dynamical multi-dimensional potential activation landscape may be seen as dispositional beliefs. This holistic background is not tractable and neither is it itself explicitly presented at the upper level of total cognitive states. Multi-dimensional landscape is inspired by connectionist networks whose activation environment consists of numerous potential directions, called dimensions. Such a landscape is not presented at the upper level of system's description, at least not in a direct manner. But it is again present there in the way that it *chromatically illuminates* total cognitive states once as they appear at the upper level⁷. We may now say that dispositional beliefs are embedded into this dynamical morphological content at the multi-dimensional landscape proper to the middle level of system's description. They are positioned as activation points at this dynamical landscape. As system of dispositional beliefs they exercise their impact upon each of their peers, as well as at the upper level featuring total cognitive states. This presence of *morphological content* has an impact upon both belief-formation and upon belief entertaining in view of a possible action.

Why should atomistic nature of beliefs be abandoned? This hangs together with the dynamical nature of cognitive system such as it is there. Notice that one faces a constant influx of information which one experiences. Although I am in my room that is really static as compared to a crowded city street or windy and steep mountain path, there is abundance of information that I process at each moment. The light coming through the window is

constantly changing, following the interplay of sun rays with the moving clouds. There is some sound that I barely hear from the nearby room, the typing sound of my keyboard, and so many other humming alterations. I also experience my position of sitting in my chair as I type, the specific warmth of the air, the pressure of my body upon the chair exercised by gravity. All these and many more pieces information are coming to me all the time. Some of these are noticed and other build the background which enables this noticing to occur. All along this, some of information is stored in my system, whereas so much more of it is there in what may be described as an unconscious manner. Notice that cognitive system goes on with its activity all the time. Even during the night as I sleep there are some dreams, and information in my background keeps to be reshuffled. Some of this information is accessible to consciousness under some circumstances, and some information in the system is not so accessible. Considering all this, it is plausible that beliefs, such as dispositional beliefs, are in the grip of *dynamical* information impact all the time. But there is as well *constancy* in beliefs, according to their content that allows their categorization role to unfold itself.

The holistic Quinean picture can be of help here. Perhaps the most important question for Quine was that of explaining how the information that we empirically gather at our receptive surfaces (audible, visual and the like) ends up constituting the shape of our developed theories. His criticism of analytic – synthetic distinction proposed the picture of scientific theory as a bunch of concentric circles, whose kernel consists of basic axioms that cannot be abandoned, such as the law of noncontradiction, and whose borders are under constant impact of empirical information [10] (just as we have described it for our perceptual situation as well). These external matters have impact upon outer embedded circles, but in principle their transformative force does not touch the kernel. But kernel itself may also be transformed once as the impact of the outer information comes about with sufficient strength. This is a picture of Quinean holism that can now help us to explain the position of dispositional beliefs.

First we take a look at *belief system*. Each of dispositional beliefs inhabiting it is under constant dynamical pressure. Dispositional beliefs as points at the activation landscape may come into dynamically ever new relations, given that their distance at this landscape is constantly varied under pressure of incoming information, reshuffling the situation. This can give a picture of the background morphological content upon which dispositional beliefs or potential total cognitive states are positioned as so many attraction points.

Each dispositional belief itself, again, may be depicted as consisting of invariable kernel with the surrounding border where there is constant impact of incoming information from the system. But even the kernel of such a dispositional belief can be put under question if there is sufficient pressure on the periphery. This gives an idea about belief's constancy once it is there in the morphological background. Belief may be changed though once as the impact of the entire environment that it inhabits is altered.

This goes for *belief-formation*, where the dispositional belief will imprint its mark upon the incoming information, by categorizing it. The dispositional belief's kernel will be active here, providing justification for categorization. The *entertaining* of belief is even closer to the holistic kernel and periphery picture, showing the tendency of beliefs to persist in its kernel, all along the peripheral accommodation, encompassing such matters as belief's vagueness. In entertaining belief as reason for a possible action, there is motivation attached to its relatively unchangeable kernel. Just under sufficient pressure from the periphery will there eventually come the change of motivational direction provided by belief. In such cases, the whole of belief system would change in order that that belief's kernel will display different motivational weight. All this becomes manifest once as both belief-formation and entertaining of beliefs in view of a possible action are seen as forthcoming from the dynamical background

morphological content shaped belief-system, with its kernel and periphery involving structure. Both kernel of the dynamical system and its peripheral pressures may as well be used for an account of dispositional belief's vagueness. There is no wimpy boundary that would account for the possible qualitative transitions. Anyway, morphological content dynamical nature fits well the behavior of dispositional beliefs. As attraction points at the multi-dimensional landscape they offer stable categorization support in belief-formation, and motivational support for possible actions. Holistic morphological background exercises its causal impact in the categorization case, and it is reasonable impact in the motivational case.

THEREFORE, DISPOSITIONAL BELIEFS ARE ACTIVATED FROM MORPHOLOGICAL CONTENT

What are *dispositional beliefs* if we take a look at them from the holistic dynamical background system of the morphological content perspective? They are *activation points* at the multi-dimensional activational landscape of morphological content. There are ongoing pressures all around them, as the system changes under experientially incoming variation, all in trying to preserve the needed constancy, both as a whole, and in respect to its many activation points. The expression morphological content turns our attention away from the implications of the name belief system, which aims to depict individual beliefs as atomistic entities that form a *net* through substantially inferential relations. Perhaps this is close to the coherentist epistemic quantitative graded support picture, with its displacing the evidential support from its privileged place⁸. Once we take morphological content as our departure, we can realize that there is constant pressure exercised in respect to a certain dispositional belief, from the dynamical happenings in the system as a whole, and in some of its regions. Dispositional belief is namely something such as a *point* positioned at the multi-dimensional dynamical activational landscape. The surroundings of a certain point, of one specific dispositional belief, will be agitated and partially transformed as the dispositional belief will adopt its occurrent role, be it in belief-formation, or in belief's motivational entertainment. So periphery of that point changes all the time, supporting through its variation in a kind of adaptive darwinian spirit the constant kernel of dispositional belief through its adaptive activity. The beliefs' kernel stability increases as it complies to the changed support through its surrounding landscape.

What is the activational role of morphological content in belief-formation? Dispositional belief is a floating point at the morphological landscape. As it is used for categorization of encountered items or features, its persistence increases. If there is a link between activation of one point leading to another point in classical terms this may be called inferential relation. But in the morphological content dynamical perspective inferential relation is just one between several supporting relations. A special and important case belongs to the chromatic illumination that comes as an indirect qualitative impact upon a certain dispositional belief from its surrounding. Inferential relation is just a certain link between the positioned points, which comes embedded into dynamical background surrounding, this impact showing itself in an indirect qualitative illuminating manner.

As a certain point at the morphological landscape becomes a *reason*, this time not for categorization, but for a *possible action*, its surrounding (the surrounding of this dispositional belief point) provides *motivational direction* to the agent who entertains such a dispositional belief. Motivation of a certain belief therefore again relies on an *indirect* impact that the point's, the dispositional belief's surrounding, namely the embedding multi-dimensional landscape, exercises in its respect. If I am motivated to go hiking, this specific hiking-belief comes as embedded in relation to several other points at the landscape, such as my awareness of hiking impact upon my health prospect and many more reasons that I can think about as related to this. If I go hiking repeatedly, the motivational impact of my dispositional belief in

this regard, the activation points, gets boosted through the background connections related to other points, to other dispositional beliefs at the landscape, as forming of habitual connections and *patterns*. The formation of such patterns itself displays impact of the morphological content. Notice that patterns in question may link different dispositional beliefs as activation points between themselves, occasionally producing a new point, a new dispositional belief.

The fact that morphological background landscape with the morphological content activates beliefs opens a question about such dispositional belief's justification through such activity. Justification is an epistemic matter. There is a thesis that justified belief provides justification for action, except for what may be called deviant cases [11]. But justification for a certain belief comes from the support of this belief from its surroundings, encompassing such matters as *gettierized* worries. And this surrounding is a feature of morphological content, dynamically weighing and supporting a certain dispositional belief as activation point at the multi-dimensional activation landscape. From here morphological content activates justification profile of dispositional beliefs.

What about belief-*formation*? It would be quite implausible to look at categorization ability of dispositional belief, in face of encountered situations, as happening without support of its environment, in kind of atomistic manner. To the contrary, categorization, especially in variable perceptual circumstances say, will be successful just in case there will be the impact of the activation point's surrounding landscape, chromatically illuminating the encountered scene. So again it is morphological content that activates dispositional belief.

REMARKS

¹Forming of a pattern in this background sense exercises its influence upon appearance of specific patterns as total cognitive states, and upon the shape of their dispositional storage. Compare patterns coming to surface in moral belief formation. Phenomenological experience of moral judgment formation is provided by Koehler's friend Maurice Mandelbaum [12]. Here is a story told to us by an old lawyer friend. On the occasion of his Thai vacation a guy saw a nice looking hamster and took him home as a pet. Then one day his cat disappeared. He took the hamster to the vet, and this one said: "Where the hell you have got this creature? It is a kind of oriental rat, so no wonder he ate the cat."

²In terms of intentional relation, the question to be answered here is to explain how it is possible that I form a belief about the chair, whereas the chair is not able to form belief about myself. Chisholm [13] posed this question, answering with the primacy of intentional upon the basis of an evidential relation.

³By the very nature of dispositional belief this one is general in respect to its content, which is different from specific occurrent beliefs. Categorization ability of dispositional belief goes together with its functional generality.

⁴The categorization contribution of dispositional belief to the formation of occurrent belief succeeds in a reflex-like, intuition displaying manner. This shows dispositional belief's effectivity in categorization to be causal-like and to proceed by avoiding inferential step-wise manners.

⁵Language of thought rationalist model is opposed to behaviorist and pragmatist trends. Both atomistic representations and inferential setting provide reasons for functioning of computational processes. Systematizability and productivity provide basis to the structure.

⁶Dynamical system is described mathematically by arithmetic means and not by the logical inferential relations.

⁷Chromatic illumination may be illustrated by the sources of light that illuminate the scene, providing a specific qualitative feeling to it, without that they would be themselves depicted in the scene. This approach may be used to describe the impact that reasons exercise upon our actions.

⁸Keith Lehrer [14] vs Roderick Chisholm, in a broad outline of epistemic justification.

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CONVERSATION ABOUT THE CONCEPT OF SPIRIT

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ABSTRACT

The following dialogue is an excerpt from a longer conversation in Piran (Slovenia) between Andrej Ule (University of Ljubljana) and Matthias Varga v. Kibéd (LMU Munich) on April 19, 2015 regarding Ule's concept of spirit.

KEY WORD

concept of spirit

CLASSIFICATION

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INTRODUCTION

Matthias Varga v. Kibéd (*M*): Dear Andrej, talking about the concept of spirit here, you mention three different levels: A level of experience, a level of individual thoughts and a trans-individual level [1, 2]. Could one put it like this?

Andrej Ule (*A*): One could.

M: What I would like to ask you first is whether, in making such a distinction, you do not somehow commit a reification of a kind that you could not from a Wittgensteinian point of view?

A: Yes, there is a danger. I see this risk clearly, yet I do not commit a reification, but rather a sort of integration of the concept of spirit into the form of life of human beings, to be more precise: into the human form of life. For with regard to a situation I am speaking of the implicit entirety of all communication, all joint action, all shared intentions – and I regard this entirety as the most fundamental sort of spirit. This ‘spirit of the situation’, as I call it, is not a spirit per se but rather analogous to an adjective, something that accentuates a certain trait of situations. The situations this concerns are, for example, conversations between two people, or interpersonal situations in general. Of course, besides such informal situations there are also institutional or inter-institutional ones of this kind. Naturally, in the sense of such situations that go beyond the merely interpersonal, there also are higher kinds of a spirit of a situation.

M: It seems to me that for you, then, the point is not to say that there is a spirit, or that this or that form of spirit exists, or such and such spirits, but rather, that there is a spirit of a specific situation, for each situation [1, 2].

A: Yes, that is my proposition. All other propositions one could make about the spirit are in my view schematic or symbolic.

M: As I am not yet convinced so far of the adequacy and usefulness of this notion, let me ask you the following question: So far I do not believe that speaking of the ‘spirit of a situation’ enables me to state anything that I could not say about this situation just as well and perhaps with fewer unnecessary assumptions without using this wording. So what are the statements or what are the applications of this idea of the ‘spirit of a situation’ those, in your view, show that thereby something essentially new can be conveyed? Thus, statements or applications that are adequate to defend the wording, and not just using it as a phrasing that in principle is superfluous?

A: I think the first new possibility is that one speaks of the implicit entirety of the conjoint meanings, rules, meaningful actions etc. in some sort of unified sense. And for me this implicit entirety is a real aspect of what is actually happening [1]. If the people involved in a situation do anything cooperatively or together, then a process occurs that connects them more deeply than in a merely arbitrary relation. This kind of engagement can implicitly be continuously effective. If those people are in a similar situation again later, it is quite possible that they will swiftly be able to continue with what had begun, without requiring many prerequisites or preliminary talks. They will know from the outset how this is done. Such kinds of commonalities arise by, as I call it, “the objective spirit of the situation actualising itself”.

M: Insa Sparrer¹ would call this ‘a relationship’, not an object. They have stepped into another kind of relationship.

A: Not only relationship. They can already enter a relationship before this. If they meet again, apparently this implicit entirety is already there: as a conjoint readiness of theirs. The spirit of the situation is not a thing besides the situation or beyond it, but rather a trait of the situation. Such a trait consists, for instance, as a conjoint willingness of those involved to collaborate in a certain meaningful way [1]. Of course, strictly this applies only to simple situations, e.g.

simple cooperation's or conversations. In more complex situations one needs tangible representatives of the spirit such as symbols, images, regulations, or norms. There I like to use Nicolai Hartmann's term: One needs certain 'objectifications' (Ger.: Objektivierungen) of the spirit [3]. They enable us to retain the implicit entirety of the objective spirit (in a certain situation) and if necessary to refresh the spirit in new, similar situations.

M: But nevertheless you proceed on the assumption that this trait of the situation has some endurance; that it persists in some form, independently of whether the people remain together.

A: Yes, but under certain conditions it can also get lost.

M: So, we had the question how the spirit of the situation for a specific situation can be comprehended. The notion of 'taking a content' in your sense was to be understood as a generalised concept that encompasses, e. g. the ideas of 'considering the content of a message', 'understanding a schema for following a rule', 'sharing and understanding an attitude or a value', etc. You tried to explain the spirit of a situation to me through the concept of 'taking a content' [1], and I found the term 'taking a content' difficult because much would be subsumed under this term that would, usually at least, be regarded as 'non-contential' e.g. not based on contents being given beforehand, as rather belonging to the realm of structure, patterns and rules. Hence I would have understood it better if you would spoken of referring; yet referring can occur towards structures, patterns and rules as well as towards processes and objects.

Yet maybe you also mean something else. Let's try another way. If you speak of the spirit of a situation, hitherto my attitude to this would be that it is only a manner of speaking and that if used in this way the term is in fact superfluous. Furthermore, it seems to me that we can develop the topic without such erroneous notions. On the other you stated the hypothesis of this term having its own value, as it is able to endure over time, so that if in a situation between two people a certain spirit of the situation is there, one can so to speak tie in with the spirit of this situation. Am I representing your notions correctly thus?

A: Yes, it is something like this.

M: And this was why I wanted to connect it with Korzybski. For according to Korzybski's idea of 'time binding' there should be something that guarantees this continuation or makes it more probable [4]. So, again: If the spirit of a situation is lasting in such a manner, then I would compare this to the idea that certain, specifically human learning processes are possible only through model creation. Models or rather maps in the Korzybskian sense are in particular models created linguistically. Nevertheless these linguistic models also have a physical reality – likewise as one never has a sign as a pure type but also needs a token. This is something fundamentally different than if, for example, three people stand in a triangular configuration instead of in a straight line and the next time they stand in a triangle again. Then the question where the triangle had been in the meantime would obviously be an absurd question. I am almost as unconvinced by the circumstance that a spirit between three persons re-emerges, hence, that it, as it were, has existed in the meantime – except if one makes it a sort of entity, at least something like a model, which in its physical correlate also contains a corresponding entity [5]. So, where is this idea of the spirit to be found? Is it only the triangle? Then the idea of its existing in the meantime is absurd. Is it something like a model? Then one has to ask: With what physical substrate? And if it is of some third kind – how can there be such a third kind?

A: Yes, I am considering here a third kind of analysis. If a social situation is so binding that the people who are interconnected within it can somehow continue to follow this and if they have somehow 'incorporated' this situation.

M: Unfortunately I do not understand this.

A: This means, if they have acted accordingly in a situation, and if this situation, this acting, has had such a deep effect in them that if they get into a similar situation later, they will (one says ‘unconsciously’) find it easier to act similarly or in accordance with this (see [1]).

M: Insa would compare this to the notion of memory.

A: Not just memory, not necessarily memory; it may or may not be memory. Either way, they have effectively incorporated this. This is about conjoint actions, especially cooperative actions, experiences that are related to it – all this can happen in many different ways.

M: The difference is simply that with a model it can be three different people, and they can go into this constellation again because of an image, a photo for example.

A: Of course this can come to pass more easily through a shared model that one regards as ‘binding’ in a situation. Yet I believe it to be sufficient if people are so deeply settled in a situation, so familiar with their shared practice – then their shared rule-following potentially lives on in them and can be re-actualised in another analogous situation (see [1]).

M: It seems to me you just now understood my question in another way than I meant it. My question was: Three months later, three people, if these are the same people once more, can constellate precisely as before because they have a memory. Of course there are different forms of memory, with all of this being realised physically; but that is not what is interesting, for in this case there is a model. For this type of models we have quite extensive research on memory. But what is interesting is exactly, if these are three other persons, if there really is anything objective about the spirit, then three other persons should also be able to react to it in some analogous way.

A: This of course is something else that occurs. This can happen, but for this there needs to be something like an objectification (Ger. *Objektivierung*) of the spirit, according to Hartmann [3]. So this practice really needs to be objectified in an object – in a script, an image, a book maybe; there must be something of the sort. And now if three other people arrive and see this image and understand it accordingly, then this spirit of the situation actualises. It does not work in an ‘abstract’ way, with something ideational transmigrating from one group in another, I do not believe that.

M: Well, at the moment I do not yet see anything about your term of the ‘spirit’ to be necessary beyond the notion of memory.

A: If three other persons arrive ...

M: Regarding the first case.

A: All right. I see, if the same people arrive, then arguably one can describe the phenomenon of their recurring activities as an extended memory. Yet if you describe how these people have in some manner materialised their experiences, for example in an object, written it down, and then three other people arrive who are not at all informed about this first situation, yet who understand what the first three did and what they need to do in an analogous situation, then I speak of them having re-actualised this objective spirit of the situation (see [1, 2]). This is possible in such a way without memory. The shared understanding of a specific form of life is sufficient.

M: I would say it succeeds via model creation. Memory and model creation are very simple notions.

A: Yes, in a sense here I am interested in generalised forms of memory and of model creation. This actually has something to do with my conviction that we begin with connection; that all human actions are in some sense connected to the other human being; it is like this from the outset and in principle.

M: Yes.

A: We always begin in this connectedness; in a way there is no separate act of connecting. I believe that thus we can comprehend how to act in a situation well if we have incorporated the pertinent shared human form of life. This means not only language, but also culture and so on. Then our three people can do or understand things in a similar situation in a quite similar manner to three entirely different people from the same form of life. And I believe that these sorts of commonalities arise from this fundamental kind of connectedness that is before any separateness. So in this sense I speak of the spirit of the situation.[1, 2]. This means a precedence of cooperation or connectedness as opposed to separateness.

M: I fully agree to you regarding this primacy of connectedness. Now if we speak about two different situations, then one should also be able to speak of different spirits of these situations. For example, the one could have been a situation where two people were in a spirit of collaboration, and in another they were in a spirit of distrust.

A: It can be like this.

M: Now I would prefer to say that in the one case they collaborated with trust and in the other they were distrustful. Why do I need to transition from the statements “They trusted each other” and “They were distrustful” to the new entity ‘the spirit of trust’ or ‘the spirit of distrust’? Does it not suffice to say that they trusted each other or were distrustful, and is this not, spoken in the sense of Ockham’s razor², the more elegant solution?

A: Yes, at first glance it is thus. I was content with this for a while, but ceased to be in the long run. I considered cooperation etc. intensely, and every time I reached a point where I had to assume that one cannot understand cooperation, mutual understanding, rules of the game etc., and this means in principle nothing from out of separatedness, beginning with a separate human being, a single agent alone; in all this one always needs to presume a fundamental commonality [1]. Now what is this commonality? I have tried out different terms and at the end arrived at the old-fashioned term of ‘objective spirit’ or ‘the spirit of a situation’. In this I felt encouraged by Nicolai Hartmann and to some extent the later Wittgenstein and his term of a shared ‘form of life’ [3, 6]. All this gave me the impression that in a certain sense I just have to use another way of categorising human actions, namely on the one hand actions of individuals without reference to others and on the other hand actions of individuals and groups occurring in a social situation and referring to others who are involved in this situation. I regard these generalised actions as actualisations of the (objective) spirit of the situation. I realize that this is a risky phrasing, as one very quickly ends up in bad metaphysics. Nevertheless I believe that there is an important step in this for which at present I do not see any imaginable substitute (see [1]).

M: Let us take the two of us and our friendship. Would you say that our friendship is something that exists independently of the two of us?

A: Ha, independently. Yes and no. A big yes-and-no.

M: So it is independent in the sense that for example something of the way in which we are friends can be perceived by someone else and in this sense also has an effect on this other person?

A: Yes.

M: Do you believe that this effect subsists independently of any memories and reports? Only then, I would say, you have an objective spirit. Otherwise you only have a passing on of good or not-so-good traits.

A: Yes, that is how I see it. At a stage where we have been friends for so long that many people know us as friends, then at us – not only between us and in us – an implicit disposition

emerges to regard ourselves thus. I believe this to be more than something in our memory or whatever. I believe there is an implicit readiness, a potential field, a potentiality for this way of seeing it.

The ‘something in us’, the experiences of commonality, that is: the becoming aware of our commonality. The ‘something between us’, this is the commonality inasmuch as it connects us personally. It can also be our speech, the thoughts or evaluations that we create during our conversations. The ‘something at us’, those are the thoughts or evaluations that we share with each other and that characterise us as ‘human beings in the common-unity’³ (as a specific kind of human form of life). And besides there probably is ‘something above us’, that is everything to which maybe the two of us feel connected.

M: Beautiful – this sounds intriguing. One question first: How exactly do you mean that the shared thoughts are neither in us nor between us?

A: It is difficult to say how they are. I speak of them being neither ‘in us’ nor ‘between us’, but ‘at us’.

M: So they can be in us, between us or at us.

A: They can be at us if in a particular situation we do something with them, i.e. with these shared thoughts that characterises us as conscious and responsible people. And what I take to be the spirit of the situation is something that in this ‘prevails’ around us or maybe above us.

M: Well, then I would say that I find this typology of ‘in us’, ‘at us’, ‘between us’ and maybe ‘above us’ much more consistent and more suitable according to Ockham than any talk of different forms of spirit and spirits of a situation and so on. I would like to develop this ‘in us’, ‘at us’, ‘between us’ and ‘above us’ further. Then one can say retrospectively that people formerly tried to express this in a such-and-such manner. This would be a similar way of proceeding as if for example one says that under such conditions something can become conscious instead of defining consciousness as an object.

Then to render this into something like the spirit of the situation and the objectified spirit is something I basically still regard as a drastic transgression against Ockham’s principle.

A: Maybe it seems to be, but let us take another example: We are in a concert together, and we are trying to somehow grasp the music. What is this grasping – is it only my separate experience? Is it only something separate, purely individual, something in me or at me? Probably it is something between us, at us and even above us. I say, “We have understood the spirit of this music.” This is a special kind of situation ...

M: Yes, and is not it sufficient to just use the terminology ‘between us’, ‘at us’ and ‘above us’?

A: I am not able to find a more suitable word than the ‘spirit of the music’.

M: Yes, look, is not it sufficient then to use a non-substantialist manner of speaking? If for instance one says: “Since then, I have always had the scent of the rose around me.” The scent of the rose is a beautiful image, but it is not that therefore I would speak of an individualised scent, a collective scent and the objective scent, but I use this phrasing, as something that is poetically clear, especially at a point where further reifications would lead to absurdities. Think of the traits of a face. Now list them! – Is that, there, the same trait? Where does the one trait turn into the other? Does this trait still exist if the person momentarily has another facial expression? I get the impression that one introduces many pseudo-questions by this and similar reifications.

Yet by rendering the spirit into something that is so distinguished from the traits of a face and more similar to cups and plates, that is: to things, one generates meaningless questions. And as with things, we humans have a strong tendency to develop, Buddhistically speaking,

attachments, then ownerships are formed, and, one could say: new sins arise. Therefore I think, like Wittgenstein when he speaks of regretting his sins [7], that here something like a logical sin would be committed. And it simply seems to me as if you have already been a bit more virtuous there, and now again you are beginning to advocate a more 'sinful' version of philosophy.

A: That may be; but on the other hand I think, spirit is the entirety of the potentiality, wherein I emphasize that this is an implicit, never an explicit entirety (see [1]). This means that the spirit is never like a thing.

M: Well, I like to speak of the space of possibilities ...

A: OK, space of possibilities, but space of possibilities always is an implicit space, that is, it is interconnected in itself, or better, integrated, so that one cannot separate it into single 'parts' or 'points'. We can say only formally or abstractly, "In it there is implicitly or potentially this and that," but in a way this does not mean anything. Only in the process of actualisation of the potentiality 'there are' possibilities, only there we can say, "This or that is possible."

M: That with which you fill the space of possibilities can be separate, but the space itself is always connected. This is comparable to a scale or a yardstick – you cannot take the single gradation mark out of the scale (see [8; p.76]).

A: This is right, if one views the space of possibilities in this way. It can also be the entirety in the potentiality (see [9]).

M: Concerning Wittgenstein's definition of form as the possibility of structure [10; 2.033] (and structure as the way in which they are connected, [10; 2.032], I differentiate three notions of possibility, all of which should be regarded as co-intended in the text of the *Tractatus*: possibility as space of possibilities, i.e. the simultaneous (so to speak, spatial) consideration of all these possibilities; possibility as tree of possibilities, i.e. the sequential (so to speak, time-wise) consideration of the possibilities (as e.g. with decision trees); and lastly the possibility in principle, i.e. the circumstance that possibility is given. 'Possibility in principle' may be comparable to your notion of what is potential. So if one only regards the simultaneously given entirety, the space of possibilities, and here misapprehends entirety as the result of forming a set, then nonsense is the result, because we have, so to speak, left out the relevant interconnectedness of the possibilities within the space. That, of course, is one of the reasons why Wittgenstein did not like the notion of 'set'.

A: Yes, another intuition, from quantum physics, is important to me here. Namely, before observation occurs, that is, any kind of measurement, there is no probability but only potentiality. The potentiality is mathematically depicted by the complex function, the psi-function. But probability, or even the space of probabilities, emerges only with observation. It is observation that transforms potentiality into possibilities [9]. In this sense I speak of implicit or potential entirety of the spirit [1, 2]; for me there is a fundamental analogy. I suppose there is something similar in the macro-world also, e.g. in the processes of life. There we can talk about certain process potentialities, yet these can be realised as particular possibilities, that is, as actualities, and this happens only through action. In my opinion something similar occurs in a social situation where a number of people live, work, think or feel in accordance with it. One can say that for example with their actions, their speech, their thinking and feeling, the mutual understanding of many shared 'contents' also is potentially included. I want to emphasise that this commonality can be there only implicitly, namely as a potentiality. It 'actualises' in the real deeds etc. of those involved, acting in accordance with the situation. One can also say that, through this, particular possibilities of action were realised, but only the actual readiness of those involved, their wish to comport themselves according to the situation, 'transforms' mere potentiality into real possibilities of social behaviour in which some of those possibilities are realised. I know it is difficult to

express all this logically and semantically correctly, yet for me this fundamental intuition fits better than any of the other conceptual alternatives I know.

M: Why do not we try to find a wording that can be comprehended on a level that is before quantum physics? We can think for example of the idea that first Carl F. v. Weizsäcker and then Michael Drieschner pursued, namely the representation of quantum physics via so-called ‘spaces of alternatives’ with a different concept of probability [11, 12]. Maybe you see each possibility on the level of probabilities, analogous to a space of possibilities being built via possibilities, via alternatives, as separate particulars that are in principle independent of each other. Then here, potentiality at first might be something like the possibility of various distributions that can develop. We do not have something like probability distributions over probability distributions. I believe here lies something like one of the ways into the question of what freedom is. Heinz v. Foerster expressed this in the peculiar form that we can decide only what is in principle undecidable; for so to speak only what cannot in principle be decided mechanically can become the object of a human decision [13]. If now one says, “Potentiality, by observance, becomes probability”, then one can also say, “Potentiality, by acting, becomes possibility.”

A: Yes.

M: What is it that you would ultimately like to achieve by making such statements concerning the spirit that can, as we saw in our discussion, so easily be misunderstood?

A: It is because I believe that it is a mistake of humankind to have lost our sense of the spirit of the situations. Simply stated, we have lost the spirit.

M: And how would one notice that we have rediscovered the spirit or the sense of the spirit?

A: Ah! Precisely inasmuch as we are aware of something truly significant happening in particular situations and of us being responsible for it; that we feel responsible for it. Something like this.

M: What does ‘here’ mean? On earth?

A: Yes, of course.

M: In general?

A: Yes, in general also or in particular, this can be a particular situation.

M: Then spirit would be just something like the perception of significance or essentiality?

A: Well, if one strictly reduces it to certain situations, then something like this. But significance that in one situation is deeply meaningful to us, so to speak, has a transcendent bindingness.

M: So if in Wittgenstein’s Tractatus it says, “The form is the possibility of structure,” [10; 2.033] then in your sense he is talking about a potentiality. Only we can not very well say, “The form is the potentiality of structure,” for then it sounds as if structure has something special, a potentiality; so one should rather say, “The form is the potentiality of the occurrence or of the forming of a structure”.

I think Wittgenstein is referring to the separate possibilities where he explicitly speaks of possibilities in the plural, for example when he says, “and all possibilities are its facts” [10; 2.0121]. But if he says that the form is the possibility of structure, then I believe he is primarily talking about this sheer potentiality, of which maybe one could say: This is spoken on the level of logical space in itself, not yet of the logical space being filled with any points as if with concrete points of matter. So this too is on the level of what we at times called protological negation, i.e. the theory of bipolarity; it occurs on this level of possibility.

A: This is a good example of potentiality in the sense I use it, but one needs to bear in mind that this potentiality would remain empty if there were no beings that were able to create pictures, or, better, logical pictures.

M: So your question was whether nowadays it might be favourable and maybe even necessary to shed new light on the term ‘spirit’ and if so, why. Regarding this you said that this is about differences and relations, hence about the distinctions and mutual dependence from each other of the concepts of consciousness, mind, and spirit. If now you ask whether it would be favourable to shed new light on the term of spirit, then from my point of view one needs to ask, favourable for what? So, in what context do you ask this question?

A: Yes, the first context is to regard it historically, culture-historically. For it is here that I see the real lack of spirit, spoken in a metaphorical sense. For many, even very intelligent people are somehow curtailed in their experiencing, in their actions. They understand action in a manner that is too simple, too separate, too focused on particular circumstances. They do not see the binding connections between people, nor those between different situations. This means their acting is in some sense skewed.

M: I do not understand sufficiently what you mean when you say that they do not see the connections between people and between actions. What do you mean by this?

A: If for example in a situation you need to act somehow ethically, then these days one very often interprets this as being only about the concrete particular circumstances, and that if one loosely meets the requirements of this situation, to many people these days this seems to be everything that is going on there. But actually, if one is not conscious of having acted in such a manner that by this one has affirmed my, your, our humaneness (or even somehow saved it), then one does not have a real ethical stand on this situation. One has understood the situation in a curtailed manner. And then there is a danger of conceiving of one’s whole life in such an atomized sense. You comprehend the one situation like this, the other like that, you do not really understand what it is about. One consequence of this is that life has become so shallow. Human acting is ethical only if one sees the binding connections between actions, situations of acting and the humaneness of those involved in the situations, so, only if this is with reference to (i.e. with an understanding of) the spirit of the situation and if by this understanding something valuable happens. If it is not acting in this sense, it might perhaps be morally correct, yet it cannot be ethical.

M: It is meaninglessly fragmented, as it were. Do you imagine that a newly conceived, clearer term of ‘spirit’ might contribute to us more easily comprehending the ethical meaning of a situation and our duties in it?

A: I believe this, and also that this would mean a sort of minor ‘constructive’ cultural revolution.

M: The other option would be to say that one gives up the illusion of being able to approach those terms through naming, and instead understands that one needs to look beyond what can be named. So, if Pinchas Lapide says that “Love thy neighbour as thyself” actually should rather be translated as “Do deeds of love towards your neighbour,” thus shifting everything away from emotion into the realm of action [19]. Then the hardly fathomable term ‘love’ can be replaced by the perfectly tangible notion of deeds of love. I can understand that when someone is hungry in some way, to give them something to eat is a deed of love, even if I do not have a shared notion with someone else regarding the difficult term of love.

A: Yes, I see. Kierkegaard also underlined the internal connectedness of true love with corresponding deeds. However, in his prayer at the beginning of his Works of Love [14] he warns us that in the heavens no action is pleasant except a work of love, yet this means: sincerely done in self-abnegation, in the urge of love, and thus without any aspiration to meritoriousness.

At the end I still have to say something important regarding the notion of spirit: In order to understand a spirit or create pictures of phenomena concerning the spirit, one needs to have some kind of subjective or ‘experiential’ perspective [9, 15]. Then there need to be beings who comprehend their subjective perspective or at least are sensible to it. So one needs to ask what beings have this and what beings don’t yet. Or: Where does ‘subjectivation’ begin?

M: This reminds me firstly of the prerequisite of a point outside the picture from whence the picture depicts what is depicted; this is called the ‘representational form’ (Ger.: Form der Darstellung) according to the Tractatus [10; 2.173, 10; 2.174]; on the basis of the pictorial form (Ger. *Form der Abbildung*) [10; 2.15, 10; 2.151] alone the picture would lack a subjective perspective and thus its applicability. Yet what do you regard as the necessary conditions for the development of such a subjective perspective in experience?

A: For higher kinds of perspectives in experience at least, firstly a public rule following is necessary, and for more highly developed kinds a form of discursive thinking is also needed, and with it some sort of logically differentiated kind of language [2, 9, 15]. With humans, the practice of rule following is something long-term, steady, something that belongs to one’s form of life. I believe this steadiness of the human practice concerning rules has to do with the thought form and linguistic form of the subjective perspective, that is, with one’s awareness of oneself.

M: I need to think some more about this connection of the notion of spirit with the necessity of a subjective perspective, but in any case it seems promising to me. Nevertheless it would still be fascinating for me to develop the notion of Korzybskian time binding in such a way that the development of a subjective perspective can be seen as a mandatory element; this might be possible through self-referential maps [5], e.g. by extension of Smullyan’s selfreferential languages [16, 17] in the style of Blau’s Logic of Reflection (Ger. *Reflexionslogik*) [18].

A: Yes, maybe – this still has to be clarified.

M: In any case I have the impression that because of you I once more see something fundamental from a surprising new perspective. It seems as if you may have found a sort of logical place of the spirit. And if through a conversation I begin to regard something in such a new way, for me this precisely shows the good spirit in which our conversations have already taken place over such a long time!

REMARKS

¹Insa Sparrer, psychologist and psychotherapist, Matthias’ partner [20].

²It would seem that Ockham never formulated the famous saying in the form that is commonly attributed to him. In his writings one finds statements such as: as *numquam ponenda est pluralitas sine necessitate* (Plurality must never be posited without necessity). But the following statement: ‘*entia non sunt multiplicanda praeter necessitatem*’ (entities must not be multiplied beyond necessity) was, as it turns out, a later addition [21].

³Susanne Kessler’s new English expression “common-uality” mimicks Ule’s new German word *Gemeinsamtheit* as connection of the three concepts: commonality (Ger. *Gemeinsamkeit*), totality (Ger. *Gesamtheit*) and unity (Ger. *Einheit*).

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SVIJEST, UM I DUH: TRI RAZINE LJUDSKE KOGNICIJE

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SAŽETAK

Rad razjašnjava tri značajna koncepta i stvarnosti koje se odnose na kognitivne pojave, a često ih se (pogrešno) rabi kao sinonime: svijest, um i duh. Oni predstavljaju tri razine ljudske spoznaje: individualnu iskustvenu, individualnu mentalnu i trans-individualnu mentalnu. Jednostavno rečeno: koncept svijesti odnosi se na buđenje mentalnog života ljudskog bića, dok se koncept uma odnosi na sposobnost i aktivnost svjesnog poimanja i razumijevanja sadržaja i objekata ljudske aktivnosti. Naznačujem tri „vrste“ duha: osobni duh, objektivni duh i objektivizacija duha u razvoju ljudske kulture. Međutim, javljaju mi se sumnje o postojanju svemirskih i super-svemirskih dimenzija duha, iako neke interpretacije kvantne fizike i moderne kozmologije upućuju na mogućnost postojanja takvih dimenzija.

KLJUČNE RIJEČI

svijest, um, duh, konceptualna misao, objektivni duh, osobni duh

NEKE MISLI O MOGUĆNOSTI NATURALIZIRANJA UMA

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SAŽETAK

Rad istražuje mogućnost postavljanja koherentnog prirodoslovnog opisa emergencije uma (duha) iz mnoštva mentalnih sposobnosti ljudskih bića. Analiziram Batesonovu teoriju uma temeljenu na informacijskom sustavu, Peirceovu teoriju semiotike i neke biosemiotičke ideje. Niti jedan od navedenih pristupa ne uspijeva uvjerljivo objasniti emergenciju uma, posebno (i) emergenciju interpretiranja znakova i (ii) emergenciju iskustvene perspektive van nežive prirode. Diskutiram o hipotezi temeljenoj na ideji o trans-objektivnoj dimenziji perspektive, tj. o stvarnoj mogućnosti stjecanja manje-više izdvojene iskustvene perspektive u obliku *kako je biti X* za sve dovoljno razvijene entitete u prirodi. Prihvatanje iskustvene perspektive također podrazumijeva veću osjetljivost ne samo na aktualne nego i na potencijalne događaje, tj. veću osjetljivost na sve što može biti „korisno“ ili „štetno“ za razmatrani sustav.

KLJUČNE RIJEČI

um (duh), informacijski sustav, semiotika, biosemantika, iskustvena perspektiva

UM U PRIRODI, PRIRODA U UMU: ODGOVOR ULEU

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SAŽETAK

Rad je odgovor na Uleove ideje o (ne)mogućnosti naturalizacije uma. Nakon kraćeg pregleda glavnih nesukladnosti Uleovog pristupa diskutiram kako je naturalističko objašnjenje značajki uma, kako ga je konstruirao Ule („iskustvena perspektiva“) stvarno prihvatljiva, ali samo ako se nadopuni jednako značajnim pomakom u našem konceptu prirode. Središnji dio rada sastoji se od dvije cjeline. Prvo, sljedeći mišljenje koje su razvili (većinom) Jonas i Varela, rad pokušava naznačiti put naturalizacije perspektive, koji je u skladu s tzv. autopoietskom teorijom i popratnom dvostrukom dijalektikom identiteta i stvaranja smisla. Kao drugo, naglašavam kako je navedeno samo prva polovica cjeline te da se drugi element Uleove konstrukcije uma, „iskustvenost“, ne može objasniti metafizičkim pristupom modernog naturalizma, nego zahtijeva radikalno restrukturiranje naših istraživanja u vidu temeljne cirkularnosti između proživljenog iskustva i znanstvenih nastojanja. Zaključno, proces naturalizacije života i uma treba biti popraćen procesom fenomenologizacije prirode i rekonceptualizacije naturalizma.

KLJUČNE RIJEČI

um, život, naturalizacija, fenomenologizacija, redukcija, autopoietika, Jonas, Varela

BOLJA METAFORA ZA RAZUMIJEVANJE SVIJESTI?

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SAŽETAK

Rad je još jedan pokušaj nalaženja izvora prikladne metafore istraživanja svijesti, u okviru kvantne mehanike. Rad započinje iskazivanjem sumnje u mogućnost naturalizacije istraživanja iskustva. Na takav početak nastavlja se potraga za primjerenijim načinom implementacije Varelinih ideja o uravnoteženom premošćivanju procjepa u objašnjenjima. Uspoređujući određene stavove kopenhaške interpretacije kvantno-mehaničkih pojava sa svojstvima introspekcije, nastoji se istaknuti kako mogu postojati bolje epistemološke pozicije za razumijevanje svijesti od onih koje se često rade u današnje vrijeme.

KLJUČNE RIJEČI

introspekcija, fenomenologija, kvantna mehanika, isprobavanje, mjerenje

NATURALIZAM I PERSPEKTIVA ISKUSTVA

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SAŽETAK

Rad razmatra varijante naturalizma i fundamentalno neslaganje između redukcionizam vs. perspektivizam. Fokus središnjeg dijela rada je ideja Andreja Ulea o perspektivi iskustva i naturalizaciji uma. Moram navesti kako nisam razradila sve njegove prijedloge o tome kako uklopiti perspektivu iskustva u prirodu, ali su njegove ideje zasigurno podsticajne.

KLJUČNE RIJEČI

naturalizam, svijest, iskustvo, redukcionizam, filozofija kognitivnih znanosti

REPREZENTACIJE I NEHOMOGENA BIĆA

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SAŽETAK

Osim pojmova koji se redovito primjenjuju u opisu uma i spoznaje (npr neuron, mozak, znak, reprezentacija, kod, osjet, iskustvo, percepcija, itd.) za bolje razumijevanje uma i spoznaje predlaže se uvođenje dodatnih pojmova (entitet, interakcija, granica, nehomogenost, dijalektika, nužnost i kontingencija, sloboda, povijesnost, poznavanje i znanje, kultura.). Predložena je anti-Parmenidska ontologija u kojoj se svaki entitet može smatrati entitetom samo u određenom kontekstu, tj. svi entiteti su nehomogena bića. U toj ontologiji nalaze se neke značajke, zajedničke anorganskome, organskome i ljudskim bićima. Reprezentacija je ključni koncept ontologije nehomogenosti. Uzimanjem u obzir povijesti prirode može se iskonstruirati povijest reprezentacije: pasivna anorganska, aktivna organska i refleksivna ljudska reprezentacija. One generiraju dojmove, poznavanje i znanje. U evoluciji reprezentacije može se identificirati tri bitno različite strategije: vezana, slobodna i miješana strategija. Vezana strategije generira poznavanje, slobodne strategije generiraju znanje. Ljudska bića istovremeno mogu slijediti obje strategije – tj. ljudska strategija je miješana reprezentacija. Slijedom navedenoga, napredak slobode može se identificirati kao pokretač emergencije i funkcioniranja uma i spoznaje.

KLJUČNE RIJEČI

reprezentacija, nehomogenost, ontologija, poznavanje, znanje

DISPOZICIJSKO VJEROVANJE

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SAŽETAK

Dispozicijska uvjerenja dio su stvaranja uvjerenja i bavljenja uvjerenjima u svijetlu mogućih akcija. Stvaranje uvjerenja i bavljenje uvjerenjima aktivirani su morfološkim sadržajem. Dakle, dispozicijska uvjerenja aktivirana su morfološkim sadržajem.

KLJUČNE RIJEČI

dispozicijska uvjerenja, stvaranje uvjerenja, morfološki sadržaj, dinamički sustav

RAZGOVOR O KONCEPTU DUHA

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SAŽETAK

Sljedeći dijalog izvadak je iz dužeg razgovora kojeg su u Piranu (Slovenija) u travnju 2015. god. vodili Andrej Ule (Sveučilište u Ljubljani) i Matthias Varga von Kibéd (LMU Minhen) na temu Uleovog koncepta duha.

KLJUČNA RIJEČ

koncept duha

MANUSCRIPT PREPARATION GUIDELINES

Manuscript sent should contain these elements in the following order: title, name(s) and surname(s) of author(s), affiliation(s), summary, key words, classification, manuscript text, references. Sections acknowledgments and remarks are optional. If present, position them right before the references.

ABSTRACT Concisely and clearly written, approx. 250 words.

KEY WORDS Not more than 5 key words, as accurate and precise as possible.

CLASSIFICATION Suggest at least one classification using documented schemes, e.g., ACM, APA, JEL, PACS.

TEXT Write using UK spelling of English. Preferred file format is Microsoft Word. Provide manuscripts in grey tone. For online version, manuscripts with coloured textual and graphic material are admissible. Consult editors for details.

Use Arial font for titles: 14pt bold capital letters for titles of sections, 12pt bold capitals for titles of subsections and 12pt bold letters for those of sub-subsections.

Include figures and tables in the preferred position in text. Alternatively, put them in different locations, but state where a particular figure or table should be included. Enumerate them separately using Arabic numerals, strictly following the order they are introduced in the text. Reference figures and tables completely, e.g., “as is shown on Figure 1, y depends on x ...”, or in shortened form using parentheses, e.g., “the y dependence on x shows (Fig. 1) that...”.

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