

INTENTIONALITY AND THE EMERGENCE OF MEANING

*One must have a mind of winter
To regard the frost and the boughs
Of the pine-trees crusted with snow;*

Wallace Stevens (*The Snow Man*)

In my thesis, entitled «*Intentionality and the Emergence of Meaning*» I attempt, on one hand, to classify some main problems of the philosophy of mind (as intentionality, the body mind problem, qualia and subjective experience of the world). On the other hand, I am trying to formulate a hypothesis for the naturalistic foundation of human mind and intelligence. The common field in this investigation was the question of the meaning, in other words the mental content or otherwise «how something is meaning one thing and not something else». As starting point, I took Heidegger's consideration that humans are capable of «meaning-giving» to their world.

This Heideggerian hypothesis prompted, in a way, the philosophical context of my research and the sources which were included: Heidegger's works of the first period (*Lectures in Marburg* and *Sein und Zeit*) and contemporary philosophers who were influenced by him, such as Hubert Dreyfus and John Haugeland. Of course, addressing issues such as language, meaning and behavior, but also the question of the background, the works of Wittgenstein (and also other philosophers of the same direction) were extremely important, while the total work of John Searle was in many points really helpful. Additionally, original somehow is the fact that at several points I took in account theories and claims of important neuroscientists, such as Walter Jackson Freeman III, Damasio and Ramachandran.

The thesis is divided into three chapters. The first chapter deals with the problem of intentionality, the second examines the body mind relationship, and the third, after a brief discussion of the problem of qualia, ends up with the formulations of the case and presents the findings of the investigation.

So, I started looking at the problem of intentionality. In general, what we mean by the term «intentionality», is the property of minds to be directed_towards «something», things, objects (real or imaginary), events, situations, relations and ideas of the world, which are mostly external, «outside» the mind itself that thinks. For example, when we are thinking, we are thinking about something, when we decide, we decide something, when we want, we want something, and so on. The formation of a specific mental content, of a meaning, is a fundamental characteristic of this property.

But what we call «the problem of intentionality» and why is it important to start an investigation by understanding this point? One part of the problem is how a biological-physical event inside one's head, *i.e.* neurons or brain, directs_towards something that is

«outside», in the world and during this process, a certain mental content, a certain meaning, arises. The second part of the problem relates with the nature of intentionality. Is the intentionality in fact a physical process or is it merely a psychological or linguistic interpretation in our attempt to explain mental phenomena? If the answer, to the second part of the question, is «yes», and we consider the intentionality as a natural process, founded by nature, then we should explain the first part of the question and look at the relationship between intelligence and matter, mind and body, and further on, in order to see what exactly is the mental content, the meaning of intentional conditions.

This study is important because by studying the intentionality as a «directionality_towards_something» we examine a problem that includes both: an unknown and inaccessible factor as the mind process, and also a known and accessible factor such as world.

For the naturalistic foundation of intentionality, some suggest that this «direction_towards», does really exist both in natural and artificial phenomena. For example, a flock of birds heading to their destination, or a map which refers to a path which is outside of the map itself, can be considered as having intentionality. But what makes the intentionality of the human mind really unique, is the natural, inherent tendency, to continuously testing of the mental content, of the meaning, and confirm or modify the way in which the world of the subject that thinks is interpreted.

This can be better understood, if we look at what happens to various human activities, with the sciences as a leading example: what is happening after all, is a «try and change» procedure, through which the problems are being solved. If an hypothesis cannot be proved and the problem is not resolved, then happens what Kuhn calls «crisis» and Heidegger calls «anxiety». These situations are leading to a «paradigm shift» or, in the Heideggerian point of view, to a «change» of the way we are giving meaning to the world.

The deniers of intentionality consider that supporting intentionality is like advocating for a mind-body dualism. So trying to explain the biology of psychological conditions, is in vain. This account has resulted in the elimination of all mental phenomena as the remains of a folk – and unscientific – psychology. Heidegger and the supporters of intentionality – whose view I adopt – consider, in contrary, that this is a purely natural phenomenon. This phenomenon tends to be rejected due to some philosophical misunderstandings starting from Descartes and supported by Brentano. Unlike others, Heidegger assumed that intentionality is not a metaphysical notion but a feature of the way we are experiencing the world. Dasein (the human subject thinking and being in the world) when «directed_towards» something, doesn't comes out of the inner «sphere» of itself where it is supposed to be enclosed. Dasein is already there in the world, and when it thinks or realizes something, it doesn't «return» into a «chamber» of consciousness, but remains, as in-the-world-Being, in the same structural level with the rest of the world.

Based on this position neuroscientists, like Walter Freeman III, inspired an explanatory model which shows that the human body (brain – nervous system – sensors) is in a constant interaction with the environment. This interaction continuously modifies the content of the intentional statements updating the way that subject interprets its world.

So we can say that intentionality is a «wayness», in other words intentionality is the way that humans (via their brain, central nervous system and sensors) exist in the world and interact with it. In this sense intentionality can be naturalistically established.

However, if intentionality is naturalistically founded, we have to define the theory that explains the relationship between mind and the biological background. Through my study I have concluded that the emergence theory, adequately explains this relationship. Specifically, the emergence theory accepts the concept of mental phenomena as properties of

certain structural level. In other words, it accepts a duality of properties but a monism of entities. To understand this we have to remember how the matter is organized into different structural levels. At the primary – lowest – level for example are the elementary particles. Concentration of such particles constitutes the level of atoms. Concrete structure of these atoms determines the level of molecules. Molecule gatherings consist the level of cells, and so on. The theory of emergence argues that in high complexity systems, from one structural level to another, new properties are emerging. These properties do not have the features of the level from which they emerged, nor are they the sum of the properties of the parts of the lower level. While it is usually explainable how these new properties have been emerged, they are not predictable by studying only the individual properties of the level from which they become. For example, liquidity and transparency of water are emergent properties of a particular chemical compound of hydrogen and oxygen in certain conditions but cannot be predicted by studying the properties of hydrogen or oxygen separately. So if we know the laws which are governing the higher level of organization, the lower level could be explained, but if we just know the laws governing the lower level, we cannot (always) predict the emergent properties of the higher level.

What is interesting here is, that often the emerging properties causally affect the lower level of organization. This is the so called «problem of downward causation», which seems to be one of the most powerful arguments against to the emergence theory. How is it possible for an emergent property to affect causally the lower structural level from which it becomes? For example, how is it possible the property of solubility of the sugar in the water to affect causally the molecular structure of sugar?

The supporters of the theory of emergence argue that there is no problem with downward causation, when occurring in high complexity conditions. For example, imagine a car moving on the road. Then imagine more vehicles moving in the same direction, and then some more. The actual movement of these vehicles creates traffic and congestion. This traffic jam is an emergent property of the system that includes the moving car and the other vehicles, the road, the traffic lights etc. The «bottleneck effect» is nothing but a downward event that affects causally to the car (and other vehicles) and finally slows down or stops the car.

So, according to the theory of emergence, mental phenomena are emergent properties of a system of a certain complexity. The question is to approach the appropriate level of the system. As it has been noted, the proper level at which the research has been done, is crucial for each scientific discovery. For example, if Crick and Watson studied the inheritance at cell or quantum level, they probably would never have discovered the helices of DNA.

At this point, my hypothesis is being formulated. The mind process is a natural process, at the appropriate structural level of which, a property is emerging. This emergent property affects downward some parts of the structural level, which it became from. But which is the appropriate structural level and which is the emergent property?

Studying the topic of qualia and subjective experience and the debate between internalists and externalists – those who argue that the mental content is 'within' or 'outside' the subject's mind (*i.e.* the mental content: «is in» the mind, or «is in» the neurons, or «is out» in the language, or «is out» on the things of the world themselves, etc) – concluded that the meaning – the mental content – depends on neither the subject, nor things or language, only. It thus does not depend only on internal or external factors. It is an emergent property of a system, unique for each thinking subject.

For the existence of mental content there must be world and language. As Aristotle em-

phasizes, «no one can learn or understand anything in the absence of sense». Imagine a man who, once born, lives and grows artificially enclosed in a dark shell, without any sensory stimulus. We assume that without any stimulus, without any contact with the environment, the body will not experience mental events, except, perhaps, the mental events which are being directed at his own body, such as pain, thirst, hunger, etc. If we start out to provide stimulus to the encapsulated man, first words, then images and finally complete empirical experiences, we will see that the mental content, the meaning, is progressively transformed.

So, we can assume that the meaning is an emergent property of a system consisting of a human body, environment and linguistic community.

This thesis combines the Heideggerian theory of Dasein and the theory of emergence.

Based on this assumption, the mental content, the meaning, is not in a metaphysical mind, or in an external third entity (such as language), but also there is not in the things themselves. In fact, the meaning is nowhere. It is a property of the certain system and it cannot be understood apart from it, such as the transparency of the water can be understood separately from the water. Asking «where is the mental content» or «where is the meaning», is like asking where is the liquidity, or the whiteness.

We can assume that there is an operational structure in the brain, which is affected downward by the meaning. There is not something unnatural on this. We just don't know yet the physical mechanism.

Heideggerian philosophers argue that no representations or «knowledge» are contained in the brain. The mental content is embedded in the world and embodied in the human body (as total). It is neither internal nor external. The meaning then, as an emergent property of the system, when affecting downward the brain (for example), strengthens or weakens somehow this «embodiness». In this sense, each new mental event depends on how previous mental events are «embodied» in the body (brain, neurons and organism as a totality).

The meaning, thus, can be read as: the emergent property, that will strengthen, weaken or modify the mental «paradigm» (as in Kuhn's theory) that constitutes the background of the embodied knowledge.

What belongs to us is the «paradigm», the way, the theory, on which we give meaning to the world. The meaning itself does not belong to us. It is a common property of the system, in which we are integrated, and can causally affect downwards our neural operating background.

In conclusion, I would say that if we really want to preserve the scientific and naturalistic foundation of mental phenomena, cognition and mental content, we must understand that the brain is just a structural level in the organization of the matter. The total body (nervous system, senses, etc) and the world – as environment and linguistic community – linked in a system, are necessary, indispensable, factors for a naturalistic interpretation.

A. GOUNARIS
(Athens)