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Tendencies in Contemporary Philosophy of Mind

Abstract

The paper surveys the three major metaphysical strategies in 'framing' the mind: dualism, reductionism, and eliminativism. An evaluation of their achievements is being made in order to outline the perspectives of three main explanatory approaches to the mind: functionalism (dualistic and reductionistic), connectionism (eliminativistic), and the emerging view of the so called dynamic systems theory. The last is described as the most adequate according to contemporary condition of cognitive science and the philosophy of mind.

Key Terms

Mind, Dualism, Reductionism, Eliminativism, Functionalism, Connectionism, Cognitive Science.

Çağdaş Zihin Felsefesindeki Eğilimler

Özet

Bu makale, zihnin "bir çerçevesini çizmede" üç tane metafiziksel stratejiyi incelemektedir: düalizm, indirgemecilik ve elemeci tavır. Zihne yönelik üç ana açıklayıcı yaklaşımın: işlevselciliğin (düalistik ve indirgemeci), bağlantıcılığın (elemeci olan) ve dinamik sistem teorisi adı verilen yeni ortaya çıkan bakışın perspektiflerini özetlemek amacıyla onların başarılarının bir değerlendirilmesi yapılmaktadır. Sonucusu, bilişsel bilimin çağdaş formuna ve zihin felsefesine göre en uygunu olarak tanımlanmıştır.

Anahtar Terimler

Zihin, Düalizm, İndirgemecilik, Elemeci Tavır, İşlevselcilik, Bağlantıcılık, Bilişsel Bilim.

Introduction

Each and every culture has its peculiar views about what the soul or the mind is, where is it “seated”, what is it made of, and how does it function. Contemporary debates echo in many respects the distinction between mind and body made by the early modern philosopher Rene Descartes. Descartes has bequeathed to the next generations of philosophers the very language in which we often talk about minds and bodies. This language, according to the English analytic philosopher G. Ryle (Ryle 1960², Ch. 1) has precluded philosophy and psychology from a satisfactory solution of the problems that arise from the mind-body dichotomy.

Moreover, the Cartesian language speaks about minds with the same words used to speak about bodies: as if our thoughts, desires, and beliefs are ‘things’ or substances on a par with tables, chairs, and houses. This is a category mistake G. Ryle (Ryle 1960², p. 16) which makes the mind look as something impossible to catch, ‘a ghost in the machine’ G. Ryle (Ryle 1960², p. 15) of the human body. Many contemporary philosophers and scientists object to ghosts of whatever kind and their debate with adherents of cartesianism has gave birth to the three major strategies in the metaphysics of mind: dualism, reductionism, and eliminativism.

In what follows I will outline the major features of these strategies in comparison to each other. Then I will sketch the explanatory approaches which supervene the metaphysical strategies – functionalism (dualistic and reductionistic), connectionism (eliminativistic), and the emerging view of the so called dynamic systems theory.

1. Dualism. Modern dualism has been stated most clearly by Descartes, who insists: ‘The rational soul could not be in any way extracted from the power of matter but must be expressly created.’ (Descartes, 1637/1970:117-118). More recently, the Austrian philosopher F. Brentano replaces the soul with the phenomenon of intentionality and turns it into the most important and un-eliminable feature of consciousness: ‘the reference to something as an object is a distinguishing characteristic of all mental phenomena. No physical phenomenon exhibits anything similar.’ (Brentano, 1874/1973:97). This has become known as ‘Brentano’s thesis’ and many contemporary dualists like Th. Nagel accept it. What dualism – beside superstition, religious belief in angels and immortal souls, and other historical roots – amounts to, is that mind is a ‘brute metaphysical fact’ which cannot be explained in non-mental terms like physical or biological ones. Nagel (see Nagel 1974) adds that mind could be never known in the way we know material things, i.e. from an objective perspective. We will never be able to understand what it’s like to be a bat, because ‘some things can be known only from the inside’.

2. Reductionism. Not all philosophers agree with Nagel. Some raise the question whether any phenomenon can be known in some other way different from the first person perspective, insofar as we cognise ultimately as persons, not from an objective perspective as e.g. telescopes or thermometers. These philosophers believe that mental phenomena can ultimately be explained -in one way or another - as physical phenomena. It is a matter of scientific development and philosophical analysis of mental concepts like ‘mind’, ‘belief’, or ‘hope’ to achieve such explanation. This doesn’t mean that belief is a physical thing. It means that the word ‘belief’ refers to something in our

lives that can also be referred to by non-mental terms like 'propositional representation that leads to a certain movement, e.g. avoiding negative stimuli'. By analogy, when chemists speak of H_2O , i.e. when they have reduced 'water' to ' H_2O ' it doesn't mean that water doesn't exist.

Dualists claim that no proper reduction of the mental to the physical is possible, while some philosophers take the reduction to be actually elimination: not of the term by which we refer to the mind and its derivatives, but of the very thing itself. They are called eliminativists.

3. Eliminativism. In the year 1960 the American philosopher W. V. O. Quine wrote: 'One may take the Brentano thesis either as showing the indispensability of intentional idioms and the importance of an autonomous science of intentions, or as showing the baselessness of intentional idioms and the emptiness of a science of intention. My attitude unlike Brentano's is the second.' (Quine 1960:221) Quine insists that as no physical phenomena exhibit intentional properties, then intentional properties do not exist, and we should focus on the study of physical phenomena which underwrite the so called intentional ones. As the most prominent contemporary eliminativist P. M. Churchland puts it, 'the thesis that our common-sense conception of psychological phenomenon constitutes a radically false theory, a theory so fundamentally defective that both the principles and the ontology of that theory will eventually be displaced, rather than smoothly reduced, by completed neuroscience.' (1981: 206)

Churchland outlines a picture of the world in which there is no place for minds, beliefs, desires, etc, just like a century ago the progress of physics and biology seemed to show us a world where there is no place for God and angels. Eliminativism is motivated both by the disbelief in souls, ghosts, and other immaterial substances, and by the failure of the proper reduction, like in the following popular example: in the 1970-ies some neurologists discovered that a stimulation of the visual cortex with electric impulses of certain frequency causes experience of red in the subjects. Researchers concluded that red is just an oscillation with this frequency in a certain brain area. But what does make the brain so special that if we apply the same frequency to a TV-set, for instance, it won't show a red image?

Here is another example that shows why eliminativists want to reject the possibility of adequate reduction. Neuroscientists claim that depression is accompanied by decreased quantity of serotonin in the brain. It is highly possible to be the case because depression is being cured successfully by increasing the serotonin levels. However, do those decreased levels explain the content of the depressed person's thought 'Life is meaningless'?

Eliminativists propose that we may go on using the mental vernacular (words like 'depression', 'soul' or 'hope') in everyday communication, but such a language must be abandoned in science. This is similar to the situation in which we speak in everyday situations about sunsets and sunrises, although we know from physics that the sun does neither set, nor rise.

4. Functionalism. It is the approach which dominates contemporary research in not only philosophy of mind, but in the emerging interdisciplinary enterprise called

cognitive science. The latter coordinates the efforts of philosophers, psychologists, linguists, artificial intelligence theorists, neuroscientists, and anthropologists to understand the nature of mind.

The core idea of functionalism is quite simple. 'Many things in the world are what they are, not particularly by virtue of what they're made of, but by virtue of what function, or role, they serve in some sort of system.' (Rey, 1997:165). A telephone is not a telephone because it is made of plastic, or metal, or something else, but because it enables us to talk over distance. A heart can also be made of plastic and we call it an artificial heart, so it is still a heart, because it serves the function of pumping blood in the organism. Similarly, something is a mind insofar it represents the world in an organism, performs some operations on those representations and causes changes in the organism's behaviour so that it can survive in its world in competition with other organisms.

5. Computationalism. Computational version of functionalism has been established due to the works of the English mathematician Allan Turing in 1940. The basic idea of his Turing Machine is that operations in the neurons which either fire an impulse or don't, can be represented as digital units, say of 1s and 0s. Performing computations on such symbols, a purely mechanical device can add 3 to 2 and get as a result 5, which is correct. More complex operations can be digitalized and implemented in a Universal Turing Machine, so we can say that mind is similar to a computer in that minds process information by the same rules as computers. This view has become known as the computer metaphor of the mind.

However, there remains the broad and difficult question how those representations are being embodied in the nervous system of organisms.

6. Connectionism. Symbolic representation which we encounter in language does not seem possible for embodiment by the neurons which die too often to be able to use their growth or metabolic changes as a means for encoding information. Therefore connectionism evoked the concept of neural networks which implement in their sustainable patterns of activation memory and knowledge, even conceptual knowledge. Neural networks are being modeled in computers, and quite successfully – robots which keep balance when kicked by the experimenter are constructed on this basis. 'Connectionism can be distinguished from the traditional symbolic paradigm by the fact that it does not construe cognition as involving symbol manipulation. It offers a radically different conception of the basic processing system of the mind/brain. This conception is inspired by our knowledge of the nervous system. The basic idea is that there is a network of elementary units or nodes, each of which has some degree of activation. These units are connected to each other so that active units excite or inhibit other units. The network is a dynamical system which, once supplied with initial input, spreads excitations and inhibitions among its units. In some types of networks this process does not stop until a stable state is achieved.' (Bechtel and Abrahamsen, 1991:2)

According to connectionism, representation in the mind is distributed among neurons that form a network, so that if an individual neuron die, the pattern of activation persists as far as a new neuron joins the network to carry on the function of the dead

one. You can see that connectionism is a variation of the functionalist approach. It is called also 'the brain metaphor of the mind.'

7. The dynamic systems theory. The dynamical approach strives to overcome some of the deficiencies of computationalism and connectionism, mainly the still lurking mind-body dichotomy, which leads in the long run to a division of reality into a physical one and a semantical one. According to the dynamical approach, the question about the mind can be formulated broadly as that of the relationship between natural order, or the way physics describes the world, and subjective order, or the world as seen from 'within'. Against the tradition that argues we cannot be mere things among things, the dynamic systems theory tries to find a place for human minds and human selves in this very natural order, in the same time preserving all the qualitative properties (e.g. colours) of subjective experience. As Jennan Ismael puts it in her *Myth of the Origin of Selves* (Ismael, 2007:4-5), long-long ago part of the world separated itself into pockets of functionally integrated structure controlled by internal subsystems – minds. The outer surfaces of the pockets intercepted signals from the environment and the internal wiring make them significant for behaviour. Moving across different places required of the pockets to find a way to map same signals on different occasions to different things. As a response the pockets built an internal model of the world on which their positions and sensory states were plotted and related to environmental places and properties of interest. This is how ideas became connected with things via sensory perceptions serving as transformers. Overcoming the limitations of energy, information, and experience the pockets developed additional links with other pockets and built a communal image of the landscape. Now most of our information does not come from natural environment nor through unmediated channels, but from socially and linguistically mediated ones.

This picture captures the essence of the story about the mind told by the dynamic systems theory. Mobility, navigation, unhindered flow of information, and the like are key dimensions of human condition. By building explicit models of the environment, the mind is able to be conscious. Another dynamical aspect of these models is that they treat of the relations between mind and world as co-variance in a number of contexts. Moreover, the co-variance relation is considered more fundamental than the intentional relation (the aboutness of mental states, postulated by Brentano). The dynamical approach to thought regards its components as mental particulars which are responsible for the correspondence of the mind model to the world, and this correspondence is a process, not a frozen state of affairs.

Going out of the Myth, we can summarise that an organism and its environment are coordinated with each other so that the coordination can ensure a smooth and incessant flow of information between them. Physical laws govern this flow in the natural world and conceptual shifts govern it in thought. Experience coordinates us with the environment, and language coordinates us with other people. Thought organises experience, experience sorts out the world. Thus mind and body are ontologically indivisible and epistemologically explainable via their informational functions.

Conclusion. In presenting the major tendencies in today's philosophy of mind I have employed knowledge from various disciplines like philosophy, psychology, neuroscience, etc., showing that philosophy gets more and more entangled with

cognitive science. This is to be considered an advantage, because the integration of disciplines opens new and fascinating perspectives to the mental phenomena in which we as humans are unquestionably interested.

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