THE PHILOSOPHY OF MIND

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Rezumat. Acest studiu structurat concis, dar substanțial, stabilește și investighează fundamentele filosofiei minții, ale cărei resurse se pot identifica la începuturile istoriei filosofiei, la filosofii antici, prin problematica reprezentaționalismului mental și a scolasticilor medievali, prin dualismul cartezian, fizicalismul lui Spinoza și introspecționism, la Berkeley, în special la Hume, în teoria calităților și a conținutului mental, la Leibniz și teoria sa despre comunicare și calcul mental, și la alți giganți ai gândirii filosofice – funcționalismul și cognitivismul la Kant, concepția fenomenologică a intenționalității la Husserl, unitatea logic-psihic-practic în perspectiva pragmatică și concepția școlii analitice asupra fenomenelor mentale. concluziile studiului indică mutațiile care apar în câmpul epistemologiei, cu acceptarea entităților istorice și antropomorfe în structura proprie a demersului științific și caracteristicile curente ale filosofiei științelor despre om, care, odată cu lucrările lui J. Habermas, constituie categoria științelor hermeneutice.

Abstract. This concise and substantial study establishes and investigates the groundwork of the philosophy of mind that can be traced back to the history of philosophy as early as the ancient philosophers, through the mental representationalism of mediaeval scholasticism, the Cartesian dualism, Spinoza's physicalism and introspectionism, to Berkeley, especially to Hume, in the theory about qualities and mental content, to Leibniz and his theory about communication and mental calculation and to other giants of philosophical thought – functionalism and cognitivism with Kant, the phenomenological conception of intentionality with Husserl, the logic-psychic-practical unity in the pragmatic outlook and the analytical school's conception of mental phenomena. The conclusions of the study point at the mutation occurred in the field of epistemology, following the acceptance of historical and anthropomorphic entities in the structure proper of the scientific undertaking and to the current characteristics of the philosophy of sciences about man, that along with J. Habermas's works, constitute the category of hermeneutic sciences.

Keywords: mind philosophy, mental phenomena, epistemology

The philosophy of mind represents the ontological, epistemological and semantic approach of the human ego, of its cognitive acts, of conscience and intentional behaviour. It acts today also as a methodological foundation for cognitive science - new disciplines in the field of research into the states and processes of conscience.

The groundwork of the philosophy of mind can be traced to the history of philosophy¹ as early as the ancient philosophers, from the cognitivism of Socrates

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¹J.C. Smith (ed), *Historical Foundations of Cognitive Science*, Boston, Kluwer Acad. Publ., 1990.

and Plato, the naturalist functionalism of Aristotle, through the mental representationalism of mediaeval scholasticism, the Cartesian dualism, Spinoza's physicalism and introspectionism, to Berkeley, who identifies existence with perception (*esse est percipi*), but especially to Hume, in the theory about qualities and mental content, to Leibniz and his theory about communication and mental calculation and to others. One can also note the existence of a certain type of functionalism and cognitivism with Kant, the phenomenological conception of intentionality with Husserl, the logic-psychic-practical unity in the pragmatic outlook and the analytical school's conception of mental phenomena.

There are philosophers who could be considered as forerunners of the contemporary philosophy of mind because of certain concepts and methods they use. Such are: Occam with the language of the mind, Descartes with the mind-matter dualism, Ramsey with the functionalist theory of belief, Wundt with the psychomental processes and their parts, Wittgenstein with the game of language and of the forms of life. There are also others, such as: Titchener, Bergson, Jung, Freud, Teilhard de Chardin, Merleau-Ponty, Habermas, Chomsky. Elements of the philosophy of mind can also be found with such Romanian philosophers as C. Rădulescu-Motru, L. Blaga, M. Florian, and S. Odobleja.

Within the confines of the philosophy of mind, the main trends involved in debates are: eliminative materialism and anomalistic monism, naturalism, physicalism and functionalism, according to which the mind is part of the naturai world as a function of the corporeal; mentalism and emergentist holism wich claim that mental existence differs from the physical one and has a psycholinguistic structure and an intentional behaviour. Then come: connectionism - mental acts are the result of internai neuronal connections with parallel nodal structures, contextualism - mental acts result from the influence of the environment on the subject, cognitivism - all mental acts are of a cognitive nature, and constructivism - cognitive and social factors interact in the construction of mental acts. It is also possible to speak of exlernalism, reliabilism, internalism, neutralism, the theory of identity, of unity and of the constitution of the mental and the physical. The personalities explicitly representing this discipline include Stawson, Ryle, Searle, Davidson, Sellars, Block, Fodor, Churchland, Dennet, Hacker, Honderich, Putnam, Nozick, Pollock, Papineau, Rorty, Mellor, Wilkes, Parfit, Sperry, Harré, McIntyre, Crane and others. A number of reviews on the philosophy of mind and cognitive science are being published, such as: Mind, Mind and Machines, Philosophical Psychology, Philosophy and Psychology.

Present-day debates focus on the correlations and differences between the objects and the goal of cognitive sciences and of the philosophy of mind, in an attempt to define their interactions.

62

Cognitive science is defined as the systematic study of cognition and of associated psychological phenomena based on facts evidenced through the structuring, accumulation and utilization of knowledge in the cybernetic machine. Therefore the analogy is from the computer to the brain. The connectionists are the ones to claim that the mind is the activity of an invariant neuronal structure, a distributive parallel neural processor.

Other authors believe that in the field of cognitive science there is not enough evidence for laws and generalizations of a classical scientific type. The problem that arises refers to the possibility of another type of science of the mind, besides the physical one, and whether it is ontologically legitimated by another type of existence than the real, substantial one and by its specific laws.

From a philosophical point of view, these problems related to cognitive science were given a contemporary aspect in the philosophy of science and language by Wittgenstein, Ryle, Davidson, Sellars, Block, Fodor and Putnam, Churchland. a.o.

Connectionism as represented by St. Stich¹, P. Smolensky and P. Churchland is a new approach in the interdisciplinary field known as cognitive science, which deals with the cybernetic machine and the functioning of the brain. Unlike the classical system, the connectionist one has a neural structure made up of multiple nodal centres with a bond between them, not subordinated to a processing centre that would direct the system's operations. The connections between the nodal centres are so established that they recreate the information whenever this is necessary; therefore, they do not have a memory as conventional computers have.

Connectionism is the name given to the research aimed at building such system models, but also to the conception on knowledge that interprets the cognitive starting from artificial intelligence systems toward the mental stales of the human brain. This conception favours the theory of psychophysical relations and eliminative materialism. It is claimed that, if such a model could explain all the aspects of the mind, then the group of classical theories of knowledge would be falsified and the entities postulated by it should be eliminated.

Connectionism tends to replace the classical epistemological paradigm by the philosophy of mind and cognitive psychology. It attempts to solve, based on a new neural structure, many of the seemingly insoluble problems, explaining the functioning of the brain as a transducer endowed with possibilities of distributive representation and of detecting errors.

¹Stephen P. Stich, *From Folk Psychology to Cognitive Science*, London, Penguin Books, 1993.

On that basis Paul Churchland¹ promoted the theory of *eliminative materialism*, which considers that the psychology of common sense would support only false theories about ontologically inexistent things such as faith, wish, intention, remembrance, hope, fear. Since any reference to them remains a reference to something mysterious and obscure, the science of mental states needs to be reduced to an approach of their physical neurophysiological bases. In general, eliminativism requests renunciation of those parts of knowledge that are ridden with errors, in the case of the philosophy of mind not only of the psychology of common sense but also of terms like "knowledge", "ego", "qualia", "intentionality", etc. Until cognitive science develops so much as to understand these terms, it is necessary to eliminate them.

About the attempts to develop a philosophy of mind exclusively inspired by cognitive science and in a reductionist line, P.M.S. $Hacker^2 - a$ well-known commentator of Wittgenstein and promoter of original philosophical conceptions about the mind -says that they represent a new form of philosophical "barbarism" as N. Malcolm rightly characterized them, as they are largely scientistic, exhibiting the worst part of scientism. The philosophy of mind proves to be more than a methodology of cognitive science.

Cognitive science describes mind structures and processes as being distinct tram social and biological factors. The term of cognitive science was used a decade after World War II in order to name a mode of psychological investigation in the behaviourist school showing an explicit interest in mental structures and processes. In that sense, behaviourism was represented chiefly by Skinner.

The computer is a twofold instrument: while researching reality, it is a model of human mind's cognitive science. With its help, an explicative model is proposed for knowledge, which reveals the dependence of cognitive acts on the informative capacity of a computer-assisted subject (an enhancer and stimulator of natural intelligence). Thus classical themes are approached with the instrument offered by artificial intelligence.

Another concern of contemporary philosophy of mind, besides cognitive science, is the problem of mental representation, with the associated themes: the nature of consciousness and of the psychological explanation, mental causality, the mind as a computer, and the physical-mental relation, intentionality. This concern presupposes relating within linguistics disciplines, psychology, and artificial intelligence.

64

¹P.S. Churchland. *Neurophilosophy. Towards a Unifield Theory of Mind-Brain*, Cambridge, MIT Press, 1986.

²P.M.S. Hacker, *Wittgenstein and Post-War Philosophy at Oxford*, in Proceedings of the I7th International Wittgenstein Symposium, Oxford, 1994.

According to Tim Crane, there are two ways of approaching the philosophy of mind, with historical roots in Galileo, Bacon, Descartes and Newton - the mechanical world outlook, and in Aristotle, the Middle Ages and the Renaissance - the organic finalist view of the universe. The mechanical outlook on the mind explains any organic existence through the inorganic parts, whereas for the organic outlook the reverse holds true, any inorganic element being interpreted in the context of an organism.

Descartes placed the mind outside the mechanical universe of matter, this being the starting point of the debate of the mind-body relationship with its multiple scientific and philosophical aspects. Reductionist or non-reductionist perspectives have alternated to this day, when a special philosophical discipline, the philosophy of mind, has set out to research the nature of conscience and of all mental states.

Within its purview continues the controversy between physicalists and non-physicalists, between mechanical-deterministic and organic-finalist outlooks. Conscience and representative thinking are two of the essential themes of the philosophy of mind: how can a mechanism (even a psychological and not a physical one) become conscious and how can it think about and form representations of things outside it.

The philosophers of mind therefore focus on the idea of representation. It is directly related to the life of the spirit. Uttered and written words, images, signs, symbols, gestures, mimicry are representations in everyday life, they signify things and events; the question is, how is this done? On the one hand, they seem to have a natural origin, on the other hand they are themselves physical structures -vibrations of the air, movements, material signs, etc.

Although they seem natural, from the philosophical viewpoint representations carry a mysterious load that combines the concepts of time, truth and existence. Currently a very strong position among the philosophers is held by antirepresentationism, illustrated by Polanyi, Rorty, and the schools of social constructivism and of epistemological relativism.

In order to understand what representation is and how it is possible, it is necessary to investigate the representational state of the mind and thus one comes to the well-known *mind-body issue*, the way the interrelationship between mind and brain, between thinking and body emerges. Present in one form or another throughout the history of the philosophy of knowledge, the problem was considered insoluble by most thinkers. With the advent of cognitive science, the information theory and artificial intelligence, the topic was resumed in all its methodological and philosophical aspects: dualism, physicalism, functionalism, epiphenomenalism. The mind-body problem is directly related to other philosophical themes such as *immortality* (survival of the psyche after physical death, debated by Plato Descartes, Kant, Ryle), the *unconscious* as part of the mental activity (Freud) and *artificial intelligence* (the relationship between the soft- and the hardware of the cybernetic machine).

It appears as one of the fundamental problems of philosophy, the mind being approached as thinking substance, soul, ego, intelligent nature, psyche, spirit in relation to matter and the external world, to corporeality and the physical. There exist many trends connected to the mind-body relationship. One of the latest being that grounded on the quantum spirit which accepts the complementarity of the spiritual entity with the material one, passing holistically beyond monism and dualism.

Intentionality, too, is central to the philosophy of mind. The concept emerges in the Middle Ages with the meaning of intentional inexistence, that is, directional state over something that may not really exist (the unicorn, for instance). Brentano uses the term to name an exclusive trait of the mental phenomenon, the one of intentionally including an object.

"Directioning" or "being about something" characterizes the conscious states, the beliefs, thoughts, and wishes, will, which are about certain things. Intentionality represents the understanding of the relationship between mental states and the things they an about. Intentional relations depend on how the object appears (extensional, intensional, opaque, transparent). That is why Quine considers the term inadequate for scientific use, and eliminativism expels it from the rational world. However, it is still necessary to characterize the mind, so that science must accept its inability to exhaust the field.

The language in which mental states are expressed also has a reference object, as well as a way of presenting them. In certain opinions, intentionality is exclusively characteristic of language and is not a metaphysical or onlological aspect of the world.

The one who considers himself as the father of mental functionalism, the American philosopher W. Sellars is, he too, concerned with preserving a view that conceives man as an autonomous rational agent, irreducible in point of personality. He considers that the scientific image of man must include the aspects of freedon and of *intentionality*, which Kantianism had excluded.

Sellars emphasizes that only functionally, not extensional-ontologically, can the states of the brain be equivalent to intentions, wishes, human thoughts. Though accepting physicalism, Sellars and Davidson separate it from the knowledge of the personality. Sellars proves interested in functionalism as it appears with M. Putnam, J. Fodor and M. Block. In his opinion, material physical

66

structures determine the intentional function of the mind. With Sellars, conscience appears as a product of structures with semantic functions. Consequently the scientific image of man is obtained by transmuting the mind (conscious experience.) into a third world, the one of the expression through language. Sellars, through the conception of the "republic of rational existences" and Davidson through the "constitutive ideal of rationality", try to solve the problem of the irreducibility of the human agent endowed with deliberative qualities.

Anomalous monism, Davidson's conception, rejects the idea that all mental phenomena can have purely physical explanations. In Davidson's opinion, certain mental events and personality, as their grouping, are "anomalies" without the explanations provided by physical science.

Therefore a totally deterministic, causal approach of personality is impossible. Scientific laws are "homonomous" whereas the psychological ones are "heteronomous". The vocabulary relative to mind and body differs. The "holism of the mind" cannot be grasped by physical theories. It would serve io eliminate any intentionality from physics, biology and psychology, as Quine demands, but Davidson proves that this demand cannot be sustained when personality or man are at issue. It is *intentionality* that makes knowledge of the mind "heteronomous". The language of exact sciences explains the physical change through initial conditions and laws, the language of psychology explains human action by "backgrounds", opinions and intentions.

Another theme debated by the philosophers of mind is *supervenience*. D.H. Mellor and Tim Crane¹ consider that neither laws nor its specific causality can deprive psychology of the ontological authority of nonmental sciences. Still, there is room for a meaningful interpretation of physicalism. The ultimate refuge of modem physicalism is *supervenience* - the thesis that there is no change or no difference without a nonmental change or difference. Two things can never change or differ in any way, without the nonmental changing or differing in some way. The physical precedes the mental by the fact that the physical is something wherefrom anything else, the mind included, supervenes.

In his capacity as an expert in the thematic area of the philosophy of mind, David Papineau refers, besides representation, mental state, teleology, to supervenience and reliabilism as the foundations for physicalism and realism. As the main representative of the naturalist trend in the philosophy of science (Peacocke, McGin, J. Smith, McFertrige, S. Lycan).

David Papineau² claims that the human being and its mental capacities are

¹T. Crane, D.H. Mellor, *Nu poate fi vorba de fizicalism*, în *Realism și relativism în filosofia contemporană a stiinței* (ed. Angela Botez), Bucharest, DAR, 1992.

²David Papineau, *Philosophical Naturalism*, Oxford, Blackwell Publ., 1993.

pan of ihe natural world, and therefore conscience can be explained scientifically, if one accepts that the purpose of science is not exclusively certainty but also reliability. The philosophical problems he is concerned with are chiefly those about *representation* and *knowledge*. He develops a *teleological* theory of representation and a reliabilist theory of knowledge.

The extension of naturalism to the mental world entailed a Copernican revolution which brings man and his knowledge to the centre of the universe, forcing the supernatural to shrink ever more, even in the sphere of the spirit. Naturalism does not reduce the physical world to material entities.

Papineau holds, but extends to the informational and conscious states, to everything science can explain, from the physical, chemical and biological areas to the psychological, sociological and economic fields. Between them, as a link, it is possible to speak of those sciences that combine aspects of the physical and mental domains: neurophysiology, artificial intelligence, and cognitive science.

Naturalist epistemology developed at the same time as this type of knowledge relative to complementarity intentional and nonintentional phenomena. Based on descriptivism it proves that the mind has the same existential quality as the body, although it can also show such specific features as supervenience, for instance.

Besides the naturalism mentioned above from the new vantage of the philosophy of mind, it is important to tackle *cognitivism*, which is not a simple theory of knowledge but a good theoretical version resulting from the emergence of cognitive science and claiming that any mental activity is cognition.

Perception, understanding, learning and acting can be grasped only on the basis of the cognitive model, which comprises: issuance of the hypothesis, achievement of the inference, and resolution of the problem.

It is considered¹ that cognitive psychology did for the understanding of thinking what Galileo did for the understanding of the physical universe and Darwin for the understanding of biology.

The philosophy of mind, philosophical psychology and the methodology of cognitive science cast new light of the ways of knowing the human being, referring to the essence and existence of the "ego and its cognitive states"².

Two conclusions stand out from this theoretical area.

¹K. Manktelow and D.E. Over. *Rationality, Psychological and Philosophical Perspectives,* London, Routledge, 1993.

²Roger Penrose, *The Emperor's New Mind Concerning Computers. Mind and the Laws of Physics*, London, Oxford, Penguin Books, Oxford University Press, 1989.

One refers to highlighting the mutation having occurred in the field of epistemology when concerns related to mental events¹ were included in the object of this philosophical discipline, following the acceptance of historical and anthropomorphic entities in the structure proper of the scientific undertaking.

The second conclusion pertains to the current characteristics of the philosophy of sciences about man, cognitive science included, that is, the philosophy referring to those sciences which, according to the classification made by J. Habermas², constitute the category of hermeneutic sciences, standing alongside the category of empirical-analytical sciences and that of praxeological sciences (medicine, economics, sociology, politics).

The philosophy of hermeneutical sciences reveals that they are characterized by the fact that they produce both intersubjective consensus and interpretation, whereas the others produce only nomological knowledge or have performative results. A new philosophical area opens up with the emergence of such sciences – the philosophy of mind.

¹Rom Harré, Wittgenstein and Artificial Intelligence, in Philosophical Psychology, vol. I. no.1/1988.

²J. Habermas, *Knowledge and Human Interests*, London, Routledge, 1972.

REFERENCES

- [1] Liliana Albertazzi, *The Down of Cognitive Science Early European Contributors*, Amsterdam, Kluwer Academic Publ., 2001.
- [2] R.D. Alexander, The Biology of Moral Systems, New York, Aldine de Gruyter, 1987.
- [3] Richard Amoroso, "How to Engineer a Conscious Quantum Computer", în *Science and the Primacy of Consciousness*, Orinda, The Noetic Press, 2000.
- [4] B.J. Baars, *In the Theatre of Consciousness*, Oxford, Oxford University Press, New York, 1997.
- [5] George Berkeley, *Three Dialogues between Hylas and Philonaus* 1710, Indianapolis, Hackett Publishing CO, 1979.
- [6] George Berkeley, *Treatise Concerning the Principles of Human Knowledge* 1713, Indianapolis, Hackett Publishing CO, 1983.
- [7] Lucian Blaga, Despre conștiința filosofică, Edit. Facla, Timișoara, 1974.
- [8] Simon Blackburn, Oxford Dictionary of Philosophy, Oxford, Oxford University Press, 1996.
- [9] C. Blakemore, S. Greenfield (editors), *Mindwaves: Thoughts on Intelligence, Identity, Consciousness*, Oxford, Basil Blackwell, 1987.
- [10] Ned Block, *Readings in Philosophy of Psychology*, Harward Univ. Press, 1980.
- [11] Ned Block, O. Flanagan și G. Güzeldere (editori), *The Natura of Consciousness. Philosophical Debates*, Cambridge MA, MIT Press, 1997.
- [12] Alexandru Boboc, "Cartesian și neocartesian în stilul modern al limbajului", în *Descartes și spiritul științific,* București, Edit. Academiei, 1990.
- [13] Mary Boden, *The Philosophy of Artificial Intelligence*, Oxford, Oxford University Press.
- [14] Radu I. Bogdan, Belief. Form, Content and Function, Oxford, Clarendon Press, 1986.
- [15] David Bohm, Wholness and the Implicate Order, Londra, Routledge, 1980.
- [16] Angela Botez, Metamorfoze actuale în filosofia științei, București, Edit. Politică, 1988.
- [17] Angela Botez, Filosofia mentalului. Intenționalitate şi experiment mental, Bucureşti, Edit. Științifică, 1996.
- [18] Angela Botez, *Filosofi britanici la sfârșitul secolului al XX-lea*, București, Edit. MercServ, 2000.
- [19] David Chalmers, "The Puzzle of Conscious Experience", în "Scientific American", dec/1995.
- [20] David Chalmers, *The Conscious Mind: In Search of a Fundamental Theory*, New York, Oxford, Oxford University Press, 1996.
- [21] David Chalmers, *Consciousness and the Philosophers: An Exchange*, New York, "Review of Books", 15/1997.

- [22] David Chalmers, "First-Person Methods in the Science of Consciousness", în "Consciousness Bulletin", Fall 1999.
- [23] George A. Christos, "Attractors and Consciousness", în "The Noetic Journal", vol. l, nr. 2, 1998.
- [24] Tim Crane, "Mental Causation and Mental Reality", în "Revue Roumaine de Philosophie" nr. 3-4/1995.
- [25] Tim Crane, *The Mechanical Mind*, Londra, Penguin Books, 1995.
- [26] F.H.C. Crick, *The Astonishing Hypothesis. The Scientific Search for the Soul*, New York, Scribnen, 1994.
- [27] P.M. Churchland, *Matter and Consciousness*, Cambridge Mass MIT Press, Bradford Books.
- [28] P.S. Churchland, Neurophilosophy, Cambridge Mass MIT Press, 1986.
- [29] P.M. Churchland şi P.S. Churchland, On the Contrary, Cambridge Mass MIT Press, 1998.
- [30] Holk Cruse, Hefhrey Dean, Helge Ritter, (editori), *Prerational Intelligence: Adaptive Behavior and Intelligent System without Symbols and Logic*, voL. I, II, Amsterdam, Kluwer Academic Publishers, 2001.
- [31] Robert Cummins și Georg Schwarz, "Connexionnismme, computations et cognition" în *Introduction aux sciences cognitives* (editor D. Andler) Paris, Gallimard, 1992.
- [32] Robert Cummins și Denise Delarosa Cummins (editori), *Minds, Brains and Computers. The Foundations of Cognitive Science*, Oxford, Blackwell, 2000.
- [33] M. Davies și G. Humphreys (editori), *Consciousness: Psychological and Philosophical Essays*, Oxford, Blackwell, 1993.
- [34] R. Dawkins, *The Blind Watchmaker*, Londra, Edit. Longman, 1986.
- [35] Donald Davidson, Essays on Actions and Events, Oxford, Clarendon Press, 1980.
- [36] D. C. Dennett, *Brainstorms. Philosophical Essays on Mind and Psychology*, Sussex, Harvester Press Hassocks, 1978.
- [37] D.C. Dennett, *Consciousness Explained*, Boston, Little Brown, 1991.
- [38] D.C. Dennett, *Kinds of Minds. Toward of Understanding of Consciousness*, New York, Basic Books, 1996.
- [39] R. DeSousa, *The Rationality of Emotion*, Cambridge Mass, MIT Press, 1987.
- [40] D. Deutsch, "Quantum Theory, the Church-Turing Principle and Universal Quantum, Computer", "Proc. Royal Soc. Londra", A 400, 1985.
- [41] B.S. DeWitt şi R.D. Graham (editori), *The Many Worlds Interpretation of Quantum Mechanics*, Princeton University Press, 1973.
- [42] Ilham Dilman, "Body and Soul", în "Philosophical Investigation", vol. 25, nr. 1/2002.
- [43] P.A.M. Dirac, *The Principles of Quantum Mechanics*, (ediția a III-a), Oxford University Press, 1947.

72	Angela Botez			
[44]	Mihai Drăgănescu, <i>Profunzimile lumii materiale</i> , București, Editura Politică, 1979, trad. în engleză: <i>The Depths of Existence</i> , București, ediție Internet, 1997, URL: http://www.racai.ro/books/doc.			
[45]	Mihai Drăgănescu, Ortofizica, București, Editura Științifică și Enciclopedică, 1985.			
[46]	Mihai Drăgănescu, Informația materiei, București, Editura Academiei, 1990.			
[47]	Mihai Drăgănescu, "On the Structural-Phenomenological Theories of Consciousness", în "The Noetic Journal", Vol. I, nr. 1, 1997.			
[48]	Mihai Drăgănescu, "Taylor's Bridge across the Explanatory Gap and Its Extension", în "Consciousness and Cognition", 7, 1998.			
[49]	Mihai Drăgănescu, "The Interdisciplinary Science of Consciousness", în <i>Science and the Primacy of Consciousness</i> , Orinda, The Noetic Press, S.U.A., 2001.			
[50]	J.C. Eccles, K.R. Popper, The Self and Its Brain, Berlin, Heidelberg, Springer, 1981.			
[51]	J.C. Eccles, The Understanding of the Brain, New York, Edit. McGraw Hill, 1985.			
[52]	Michael Esfeld, Holism in Philosophy of Mind and Philosophy of Physics, Amsterdam, Kluwer Academic Publishers, 2001.			
[53]	James H. Fetzer, <i>Computers and Cognition: Why Minds are Not Machines</i> , Amsterdam, Kluwer Academic Publishers, 2001.			
[54]	R.P. Feynman, OED: The Strange Theory of Light and Matter, Princeton University Press, 1985.			
[55]	Denis Fissette și Pierre Poirier, <i>Philosophie de l'ésprit Etat des lieuse</i> , Paris, Librairie Philosophique, J. Vrin, 2000.			
[56]	Owen Flanagan, Consciousness Reconsidered, Cambridge Mass, MIT Press, 1992.			
[57]	Mircea Flonta, "Natura omenească și puterile cunoașterii în filosofia lui David Hume" (studiu introductiv la David Hume <i>Cercetări asupra intelectului omenesc)</i> , București, Edit. Științifică și Enciclopedică, 1987.			
[58]	Mircea Florian, Recesivitatea ca structură a lumii, vol. I, București, Edit. Eminescu, 1983.			
[59]	J.A. Fodor, The Language of Thought, New York, T. Y. Crowell, 1975.			
[60]	J.A. Fodor, The Modularity of Mind, Cambridge Mass MIT Press, 1983.			
[61]	J.A. Fodor, Psychosemantics, Cambridge Mass MIT Press, 1988.			
[62]	J.A. Fodor, <i>The Elm and the Expert: Mentalese and Its Semantics</i> , Cambridge Mass MIT Press, 1994.			
[63]	Howard Gardner, <i>The Mind's New Science: A History of the Cognitive Revolution</i> , New York, Basic Books, 1985.			
[64]	J. Greenwood, The Future of Folk. Psychology: Intentionality and Cognitive Science, Cambridge, Univ. Press, 1991.			
[65]	W.J.J. Gordon, Synectics. The Development of Creative Capacity, Londra, Collier MacMillan Ltd, 1961.			

- [66] R.L. Gregory, "Mind in Science. A History of Explanation", în *Psychology and Physics*, Weindengeld and Nicolson Ltd, 1981.
- [67] R.L. Gregory, The Oxford Companion to Mind, Oxford, Oxford University Press, 1987.
- [68] P.M.S. Hacker, *Wittgenstein. Meaning and Mind*, volumul III din *Analytical Commentary on the Philosophical Investigations*, Oxford, Blackwell, 1993.
- [69] J. Hadamard, *The Psychology of Invention in the Mathematical Field*, Princeton University Press, 1945.
- [70] S. Hameroff şi R. Penrose, "Conscious Events as Orchestrated Space-time Selection", "Journal of Consciousness Studies", 3/1996.
- [71] E. Harth, *Windows on the Mind*, Sussex, Harvester Press Hassocks, 1982.
- [72] S.W. Hawking, A Brief History of Time, Londra, Bontam Press, 1988.
- [73] S.W. Hawking şi R. Penrose, "The Singularity of Gravitational Colapse and Cosmology", "Proc. Roy. Soc.", Londra, A 314.
- [74] D.O. Hebb, "The Problem of Consciousness and Introspection", în *Brain Mechanics and Consciousness*, Delafresnaye (editor), Oxford, Blackwell, 1954.
- [75] John Heil, *Philosophy of Mind. A Contemporary Introduction*, Routledge, Londra și New York, 1998.
- [76] R. Herken (editor), *The Universal Turing Machine. A Half-Century Survey*, Hamburg, Kammerer şi Unverzagt, 1988.
- [77] A.P. Hodges, *Alan Turing: the Enigma*, Londra, Burnett Books and Hutchinson, 1983.
- [78] D.R. Hofstadter, *Gödel Escher, Bach: En Eternal Golden Braid*, Sussex, Harvester Press, Hassock, 1979.
- [79] D.R. Hofstadter şi D.C. Dennett, *The Mind's I. Fantasies and Reflections on Seif and Soul*, Basic Books, Inc Penguin Books Ltd, Harmonsworth Middex, 1984.
- [80] Ted Honderich, "Functionalism, Identity Theories and the Union Theory" în "Revue roumaine de philosophie" nr. 38/3-4, 1994.
- [81] Ted Honderich, *Cât de liber eşti? Problema determinismului* (trad. din limba engleză de Angela Botez), București, Edit. Trei, 2001.
- [82] J.J. Hopfield, "Collective Processing and Neural States", în *Modelling and Analysis in Biomedicine*, World Scientific, NY, 1984.
- [83] David Hume, Cercetare asupra intelectului omenesc (An Enquiry Concerning Human Understanding) București, Edit. Științifică și Enciclopedică, 1987.
- [84] F. Jackson și D. Braddon-Mitchel, Philosophy of Mind and Cognition, Oxford, Blackwell.
- [85] William James, The Principles of Psychology 1890, în volumul 53 al Great Books of the Western World, Encyclopedia Britannica, 1953.
- [86] M. Jibu, K. Yasue, Quantum Brain Dynamics and Consciousness, John Benjamin, Amsterdam, 1995.
- [87] M. Kafatos, și R. Nadeau, The Conscious Universe, New York, Springer Verlag, 1990.

74 [88]	Angela Botez André Lalande (editor), <i>Vocabulaire technique et critique de la philosophie,</i> ediția a VIII-a, Paris, Presses Univ. de France, 1960.	
[89]	David Lewis, "Psychophysical and Theoretical Identifications", în "Australasian Journal of Philosophy", 50: 249-258, 1972.	
[90]	David Lewis, "Reduction of Mind", în Samuel Guttenplan (editor), în A Companion to the Philosophy of Mind, Oxford, Basil Blackwell, 412-431, 1994.	
[91]	B. Libet, "Consciousness: Conscious Subjective Experience", în <i>Encyclopedia of Neuroscience</i> , Birkhauser, 1987.	
[92]	John Locke, An Essay Concerning Human Understanding, editor P.H. Nidditch, Oxford, Clarendon Press, 1690/1978.	
[93]	Michael Lockwood, Mind, Brain and Quantum, Oxford, Basil Blackwell, 1989.	
[94]	E.J. Lowe, Locke on Human Understanding, Londra, Routledge, 1995.	
[95]	J.R. Lucas, "Minds, Machines and Godel", în "Philosophy", 36/1961.	
[96]	W.C. Lycan, Consciousness, Cambridge, Mass: MIT Press, 1987.	
[97]	W.C. Lycan, Consciousness and Experience, Cambridge Mass, MIT Press 1996.	
[98]	B.B. Mandelbrot, "Fractals and Rebirth of Iteration Theory", în <i>The Beauty o Fractals: Images of complex Dynamical Systems</i> , H.O. Peitgen și P.H. Richter, editori, Berlin, Springer Verlag, 1986.	
[99]	C.B. Martin, "Proto-Language", în "Australasian Journal of Philosophy", 65: 277-289 1987.	
[100]	Ion Mânzat și M.P. Craiovan, Psihologia simbolului arhetipal, București, Edit. INI, 1996.	
[101]	John McDowell, Mind and World, Cambridge Mass, Harward University Press, 1995.	
[102]	John McDowell, "Sellar's Trancendental Empiricism", în <i>Rationalität Realismus, Revision</i> , (editor), J. Nida Rumelin, Proc. of GAP, 3 rd. Int. Congress 1977, Berlin, Edit. Walter de Gruyter, 2000.	
[103]	C. McGinn, The Problem of Consdousness: Essays Toward a Revolution, Oxford Blackwell, 1991.	
[104]	Hugh Mellor, Matters of Metaphysics, Cambridge, Cambridge University Press, 1991.	
[105]	Maurice Merleau-Ponty, Phenomenologie de la perception, Paris, Galimard, 1971.	
[106]	Ruth Millikan, Language, Thought, and Other Biological Categories: New Foundations for Realism, Cambridge, Mass: MIT Press, 1984.	
[107]	Ruth Millikan, "Biosemantics", în "Journal of Philosophy", 86: 281-297, 1989.	
[108]	M. Minsky și S. Papert, <i>Perceptions: An Introduction to Computational Geometry</i> , Cambridge Mass, MIT Press, 1969.	
[109]	Gregory R. Mulhauser, <i>Mind Out of Matter - Topics in the Physical Foundations of Consciousness and Cognition</i> , Kluwer Academic Publishers, Dordrecht/Boston/Londra 1998.	

- [110] Thomas Nagel, "What Is It Like to be a Bat?", în "Philosophical Review", 83, 1974, trad. în limba română Germina Chiroiu "Cum e oare să fii liliac?" în vol. Veşnice întrebări, Ed. All, 1996.
- [111] Thomas Nagel, *Mortal Questions*, Cambridge, Cambridge University Press, 1979.
- [112] Martine Nida-Rumelin, "Transtemporale personale Identität. Realismus oder Revision", în *Rationalität, Realismus, Revision*, editor J. Nida Rumelin, Proc. of GAP 3 rd Int. Congress, 1997, Berlin, Edit. Walter de Gruyter, 2000.
- [113] Lis Nielsen, "The Intersection between Consciousness Studies and Emotion Research", în "Consciousness Bulletin", Fall 1999.
- [114] J. Von Newmann, *Mathematical Foundation of Quantum Mechanics*, Princeton University Press, 1955.
- [115] D.A. Oakiey, editor, Brains and Mind, Londra şi New York, Methuen, 1985.
- [116] Alex F. Osborn, *Aplied Imagination. Principles and Procedures of Creative Problem-Solving*, ediția a III-a, New York, Edit. Ch. Scribner's Sons, 1963.
- [117] David Papineau, *Reality and Representation*, Oxford, Blackwell, 1987.
- [118] David Papineau, *Philosophical Naturalism*, Oxford, Blackwell, 1993.
- [119] Roger Penrose, "Quantum Physics and Conscious Thought", în *Quantum Implications: Essays in Honour of David Bohm*, B.I. Hiley, T.D. Peat (editori), Londra și New York, Routiedge and Kegan Paul.
- [120] Roger Penrose, The Emperor's New Mind. Concerning Computers, Mind, and Laws of Physics, Londra, New York, Penguin Books, 1989 (tradusă în românește la Editura Tehnică, București, 1996).
- [121] Roger Penrose, Shadows of the Mind, Oxford, Oxford University Press, 1994.
- [122] Camil Petrescu, *Doctrina substanței*, vol. I, București, Edit. Științifică și Enciclopedică, 1981.
- [123] U.T. Place, "Is Consciousness A Brain Process?", în "The British Journal of Psychology", 47, 1956.
- [124] Jeffrey Poland, *Physicalism: The Philosophical Foundations*, Oxford, Clarendon Press, 1994.
- [125] Ion Petrovici, "Spirit și corp" (III), în "Revista generală a învățământului", nr. 9/1906.
- [126] Hilary Putnam, "The Meaning of 'Meaning' ", în Keith Gunderson (editor), Language, Mind, and Knowledge (Minnesota Studies in the Philosophy of Science 7), Minneapolis, University of Minnesota Press, 1975.
- [127] Hilary Putnam, *Mind, Language, and Reality: Philosophical Papers*, vol. 2, Cambridge, Cambridge University Press, 1975.
- [128] Zenon Pylyshyn, "What then "ind's Eye Tells the Mind's Brain: A Critique of Mental Imagery", în "Psychological Bulletin", 80, 1973.
- [129] W.V.O. Quine, "Two Dogmas of Empiricism", în From a Logical Point of View, Harvard University Press, Cambridge Mass, 1953.

76	Angela Botez	
[130]	W.V.O. Quine, Word and Object, Cambridge, Mass: MIT Press, 1961.	
[131]	C. Rădulescu-Motru, Personalismul energetic și alte scrieri, București, Edit. Eminescu, 1984.	
[132]	David Rosenthal (editor), The Nature of Mind, New York, Oxford University Press, 1991.	
[133]	C. Rey, Contemporary Philosophy of Mind, Oxford, Blackwell, 1997.	
[134]	Richard Rorty, Philosophy and the Mirror of Nature, Oxford, Blackwell, 1980.	
[135]	Richard Rorty, Consequences of Pragmatism, Brighton, Harverster, 1982.	
[136]	Richard Rorty, Essays on Heidegger and Others, Cambridge, Cambridge Universe Press, 1991.	
[137]	Richard Rorty, "Pragmatism, Davidson and Truth", în <i>Obiectivity Relativism and Truth</i> , Cambridge, Cambridge University Press, 1991.	
[138]	Bertrand Russell, Analysis of Matter, Londra, Kegan Paul, 1927.	
[139]	Gilbert Ryle, The Concept of Mind, Londra, Hutchinson, 1949.	
[140]	J.R. Searle, "Minds, Brains, and Programs", în "Behavioral and Brain Sciences", vol. 3, Cambridge University Press, 1980.	
[141]	J.R. Searle, "Minds and Brains without Programs", în <i>Mindwaves</i> , Blakemore și Greenfield (editori), Oxford, Basil Blackwell, 1987.	
[142]	J.R. Searle, The Rediscovery of the Mind, Cambridge, Mass: MIT Press, 1992.	
[143]	J.R. Searle, The Construction of Social Reality, New York, The Free Press, 1995.	
[144]	J.R. Searle, "Consciousness and the Philosophers", în "New York Review of Books", 6 martie, 1997.	
[145]	J.R. Searle, Mind, Consciousness and Rationality. Interviu în "Free Inquiry", 19/4, 1999.	
[146]	J.R. Searle, The Mystery of Consciousness, Londra, Granta Books, 1997.	
[147]	J.R. Searle, Mind, Language and Society, în "Real World", Londra, Routiedge, 1998.	
[148]	Marc Slors, The Diachronic Mind. An Essay on Personal Identity, Psychological Continuity and the Mind-Body Problem, Amsterdam, Kluwer Academic Publishers, 2001.	
[149]	Sydney Shoemaker, "Functionalism and Qualia", în "Philosophical Studies", 27, 1975.	
[150]	Sydney Shoemaker, "Causality and Properties", în Peter van Inwagen (editor), <i>Time and Cause</i> , Dordrecht: Reidel Publishing Co., 1980.	
[151]	Sydney Shoemaker, "Some Varieties of Functionalism", în "Philosophical Topics", 12, 1981.	
[152]	Sydney Shoemaker, <i>Identity, Cause, and Mind: Philosophical Essays,</i> Cambridge, Cambridge University Press, 1984.	
[153]	P.F. Strawson, Individuals: An Essay in Descriptive Metaphysics, Londra, Methuen, 1959.	
[154]	B.F. Skinner, Science and Human Behavior, New York, Macmillan, 1953.	
[155]	B.F. Skinner, "Behaviorism at Fifty", în "Science", 1963.	

- [156] J.J.C. Smart, "Sensations and Brain Processes", în "Philosophical Review" 68.
- [157] S.B. Smith, *The Creat Mental Calculators*, Columbia University Press, 1983.
- [158] R.W. Sperry, "Brain Bisection and Consciousness", în *Brain and Conscious Experience*, J.C. Eccles (editor), Berlin, New York, Springer Verlag, 1966.
- [159] Eric Ch. Steinhart, *The Logic of Metaphor Analogious Parts of Possible Worlds*, Amsterdam, Kluwer Academic Publishers, 2001.
- [160] Stephen Stich, From Folk Psychology to Cognitive Science: The Case Against Belief, Cambridge, Mass MIT Press, 1983.
- [161] Stephen R. Stich, şi T. Warfield, *Mental Representation. A Reader*, Oxford, Blackwell, 1994.
- [162] Henry P. Strapp, *Mind, Matter and Quantum Mechanics,* Berlin, Heidelberg, Springer-Verlag, 1993.
- [163] Alexandru Surdu, "Psihologia sinergetică a transconștiinței", în *Gândirea speculativă*, București, Edit. Paideia, 2000.
- [164] J.G. Taylor, "Cortical activity and the explanatory gap", "Consciousness and Cognition", 7, (2), 1989.
- [165] Charles Taylor, "The Philosophy of Mind" articol în *The Concise Encyclopedia of Western Philosophy and Philosophers*, Londra, Routledge, 1991.
- [166] Ștefan Trăuşan Matu, Interfața evoluată om-calculator, București, Matrix Roni, 2000.
- [167] A.M. Turing, "On Computable numbers, with on aplication to the Entscheidungs problem", "Proc. Lond. Math. Soc", 42/1937.
- [168] A.M. Turing, "Systems of Logic Based on Ordinals", "Proc. Lond. Math Soc", 45/1939.
- [169] A.M. Turing, "Computing Machinery and Inteligence", "Mind", 59/1950, reeditat în *The Mind's I*, Hofstadter şi Dennett (editori).
- [170] Gheorghe Vlăduțescu, "O reconstrucție a Eului în raporturile lui cu lumea", prefață la I.D. Gherea, *Eul și lumea*, București, Edit. Științifică și Enciclopedică, 1984.
- [171] J.B. Watson, "Psychology as the Behaviorist Views It", în "Psychological Review", 20, 1991.
- [172] L. Weiskrantz, "Neuropsychology and the Nature of Consciousness", în *Mindwaves*, Blakemore și Greenfield (editori), Oxford, Blackwell, 1987.
- [173] J.A. Wheeler, şi W.H. Zurek (editori), *Quantum Theory and Measurement*, Princeton University Press.
- [174] Morton White, Science and Sentiment in America. Philosophical Thought from Jonathan Edwards to John Dewey, Oxford University Press, 1972.
- [175] T. Winograd, Understanding Natural Language, "Cognitive Psychology", 3/1972.
- [176] John Wisdom, Other Mind, Los Angeles, Univ. of California Press, 1968.
- [177] Fred Alan Wolf, *Star Wave. Mind, Consciousness and Quantum Physics,* New York, Macmillan Publishing Company, 1984.

[178]	Ludwig Wittgenstein, <i>Tractatus Logico-Philosophicus</i> , traducere D.F. Pears şi B.F. McGuinness, Londra, Routledge şi Kegan Paul, 1922/1961.
[179]	Ludwig Wittgenstein, <i>Philosophical Investigations</i> , traducere G.E.M. Anscombe, Oxford, Basil Blackwell, 1953/1968.
[180]	Ludwig Wittgenstein, <i>On Certainty</i> , G.E.M. Anscombe și G.H. von Wright (editori), trad. Denis Paul și G.E.M. Anscombe, Oxford, Basil Blackwell, 1981.
[181]	*** Blackwell Companion to Metaphysics, editori Jaegwon Kim, Ernest Sosa, Oxford, Blackwell, 1995.
[182]	*** British Philosophy in the 19 th Century, editori, J. Haldan şi A. Ryle, Routledge, Thoemmes Press, 1992.
[183]	*** The Concise Encyclopedia of Western Philosophy and Philosophers, editori J. O. Urmson și Jonathan Ree, Londra, Routledge, 1991.
[184]	*** Dicționar de psihologie socială, București, Editura Științifică și Enciclopedică, 1981.
[185]	*** The Enciclopedia of Philosophy, editor Paul Edwards, New York, Londra, The Macmillan Company and The Free Press, 1967.
[186]	*** One Hundred Twenty th -Century Philosophers, editori S. Brown, D. Collinson, R. Wilkinson, Londra și New York, Routledge, 1998.
[187]	*** Toward a Science of Consciousness III, editori Stuart R. Hameroff, Alfred W. Kaszniak și David J. Chalmers, The MIT Press, 1999.