

SOUL AND PERSON

COMMENTARY ON «YOUR SOUL IS A DISTRIBUTED PROPERTY OF THE BRAINS OF YOURSELF AND OTHERS» BY MICHAEL A. ARBIB

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Abstract: In this commentary on Arbib's paper the problem raised is the epistemic legitimacy of natural sciences of dealing with philosophical questions, presupposing the distinction between science and philosophy according to their different methodologies. The problem is applied to the topic of the soul. It is argued a sense in which neurobiology can partially approach the reality of the soul and be helpful for a better understanding of the soul conveyed as an essential dimension of the human person, avoiding both materialism and Cartesian dualism.

Keywords: body, soul, empirical method, philosophical method, philosophy and science interaction.

I am grateful to professor Arbib for his approach to the topic of the soul as far as it can be considered from a scientific perspective. The points he develops are helpful, in my view, for an enrichment of the concept of human soul even in the Aristotelian and Thomistic approach which I follow.

I appreciate especially the social and dynamical view he presents and the importance given to the schemas for the mutual understanding between individuals and for the collective representations. This topic in neuroscience is related to the discovery of mirror systems. Arbib applied the mirror system theory particularly to the study of language and imitation.

Thanks to his contribution in this field, it is possible to explain the deep association between perception and action concerning both one's and others' actions. Arbib's social neuroscience is extended to the comprehension of the Self thanks to the schemas theory which constitute the key for the understanding of shared experiences and mutual communication. The sense of Self is related to the deployment of schemas in function of the different social roles accomplished in various contexts, according to which each person meets expectations

and faces goals, taking account of the internal models he/she uses for the comprehension of others' behaviour.

Arbib presents a hierarchical vision of the human person – and of animals as well –, constituted by higher and lower levels, each of them being describable with a relative autonomy, while at the same time it is possible to relate one level to another in what Arbib calls «conversation», in order to ascertain the causal relevance of each one upon the other. The levels considered, starting from the bottom, range from biological structures – genes, molecules, membranes, neurons –, up to the higher levels constituted, finally, by persons and societies. The schemas represent a bridge between the neural and the mental, as well as between persons and reality.

I find interesting Arbib's hypothesis about the origin of human language starting from imitative behaviour and extended to the appearance of protolanguage that finally evolve into human language. In the paper he presented in his exposition in Holy Cross University, I remind his suggestions concerning the unique ability of humans of putting questions about future actions and about what individuals have done in the past in order to correct what was done. This is a reflective ability conveyed by linguistic abilities, as one can see in rational operations such as negation, generalizations and thinking in terms of counterfactuals. Thus, human persons can change their behaviour not just through mere adaptation, but through reflection, shaping and re-shaping their personality in social interactions, and not as individuals closed in themselves or limited to instinctive reactions or to forms of behaviour simply dictated by habits. These changes, though based upon genetic structures, are kept in the individual's background through processes of learning (skill learning) and memory (episodic memory).

I. EPISTEMOLOGICAL LEVELS

The general view emerging from Arbib's exposition is not purely biological, but it is also psychological and even anthropological, since it presents a whole insight of human beings, grounded on natural science.

My comments in these brief observations, I would say, constitute a kind of dialogue between science and philosophy. References

to religion and theology are present in Arbib's paper (the afterlife, the resurrection), but I prefer in this occasion to set my reflection at the philosophical level and its interaction with natural science. It is difficult to speak about science and religion without the mediation of philosophy, or, in another words, an encounter between religious faith and scientific rationality is not easy, and probably fruitful, without the intervention of some philosophical rationality.

Now, what is the difference between natural sciences, as biology or neurobiology, and philosophy (philosophy of science, philosophy of mind, philosophical anthropology)? Both groups of disciplines try to understand reality. The difference lies in their objectives and methods. Natural sciences try to systematically understand the structure and causal functioning of bodily entities as far as they are empirically accessible to the human cognitive powers. Their method is empirical. However, neurobiology is a very special natural science, because at a certain level it presupposes the existence of psychological facts or events which as such are not empirical. Emotions, thoughts and perceptions are not empirically observable. Neuroscience studies the empirical basis – the nervous system – of the psychological events, for example, the neural correlates of consciousness and emotions, so one can conclude that it is fundamentally empirical, but not in an absolute way.

Philosophy, on the other hand, deals with very fundamental questions regarding the whole reality (including man and human knowledge), questions that normally, but not exclusively, are presupposed by the sciences. At a certain point, therefore, philosophy considers meta-scientific problems, such as the nature and justification of science, the problem of what is truth and falsity, or whether knowledge is real or constructed, and so on. In general terms, the method used by philosophers is a kind of meta-physical reflection. Of course, every school of philosophy has its own specific methods. But metaphysical reflection is not empirical. Philosophical questions cannot be neither answered nor decided appealing to empirical controls. If you ask, for instance, «what is truth?», the answer, whether realistic, idealistic, skeptical or whatever, cannot be validated using empirical recourses. It cannot be decided by natural sciences. The answer lies on the human capacity of comprehension, and to question this very human capacity already means doing philosophy. I claim that the distinction between science and philosophy that I just proposed is based upon what scientists and philosophers actually do.

If we read a few pages of any scientific or philosophical book, we shall easily see that this is the way followed by the authors engaged in these areas of human thought.

Many problems usually raised in cognitive sciences, such as neuroscience or cognitive psychology, addressing for example the distinction between mental acts and neural acts, the nature of the Self, or the existence of freedom, are typically philosophical. They are normally treated in the philosophy of mind. One of these problems is the question of the soul or the mind and its relation to the body and to the brain.

Scientists can also do philosophy, and it is very frequent today that physicists, biologists, computer scientists, complement their research with philosophical considerations. This is quite natural, since man has an incurable – and very positive – tendency to do philosophy or, in other words, a tendency to take a position in relation to the great quests of humanity from the specific field in which each one is presently working. Accordingly, one can observe in Arbib's paper a scientific section, more detailed and extensive, and a shorter but significant part with some philosophical suggestions. The same can be said of many important neurobiologists, for example Damasio, Changeux, Edelman, and others. The philosophical statements contained in Arbib's article refer to the Self, to the unity of the mind, to God, to the sense of ultimate experiences, and obviously to the concept of the human soul.

Then, is it possible from natural science to speak authoritatively about the soul? Contrary to positivism, I think it is natural to do that (but not necessary), since there is always some continuity from what we essentially learn in science and the corresponding philosophical interpretations. But a first methodological caveat is in my view that, due to the different logical methodologies, what is asserted in natural science cannot be used as an argument for the validation of philosophical (let alone religious) conclusions. The latter must be sustained by their own arguments and cannot be derived from natural science, neither to demonstrate nor to confute. This is the reason why it is not possible to demonstrate God's existence or non-existence from physics, cosmology, or neurobiology. The same can be said concerning the dignity of the human person, the existence of human rights or the validity of ethical norms. These topics cannot be deduced from biology, economy, etc., unless we add to these sciences a philosophical interpretation. How-

ever, maybe presupposing some philosophical common basis, or even not, philosophy and science can dialogue, and sometimes can suggest corrections or adjustments to each other.

2. THE SOUL AND THE PERSON FROM THE SCIENTIFIC AND PHILOSOPHICAL PERSPECTIVE

Arbib mentions in his paper different religious and philosophical traditional positions about the existence and the nature of the soul: the Aristotelian and Platonic view, Cartesian dualism, the Christian account of the soul, the soul as seen by Hinduism and Buddhism. The Christian view can be considered in the Catholic orthodox account, which includes both the immortality of the soul and the resurrection of the body, particularly developed by Thomas Aquinas, and different versions followed by other Christian authors (those, for example, who reject the notion of soul, keeping the dogma of the resurrection). To these positions we could also add modern emergentist views which acknowledge the existence of the mind as something different from the body. The difference between mind and soul, classically, is that the former appeals more to the property of consciousness, while the latter is usually seen as something more ontological. For the sake of completeness, we could also consider other positions in philosophy of mind that reject a strong account of the mind or whatever could be seen as different from bodily entities, such as functionalism, eliminativism or the identity theory (monistic materialism).

From what I said before, I claim that all these positions, being mutually incompatible, are not completely incompatible with neuroscience, or, the other way around, that neuroscience is not incompatible with all of them, i.e., it is compatible with many possible philosophical interpretations. The same can be said, naturally, in relation to other philosophical or ethical issues. Natural science, for example, is compatible with different ethics. The problem of determinism and indeterminism, to mention another important topic, cannot be decided using only neurobiological arguments.

Does this mean that there is a total separation from science and philosophy? Certainly not. In many ways, though not exclusively, philosophy provides an interpretation of science – so we have philosophy of quantum physics, philosophy of biology, etc. –, and scientists

sometimes are anxious to give or to find a philosophical interpretation of their findings. So there is not a necessary separation between both disciplines. There is rather a distinction of levels, which also includes methodological distinctions in terms of definitions, explanations and proofs. Presupposing these points, natural sciences can suggest some aspects useful for the philosophical interpretations.

Let us go now more directly to the problem of the soul. This problem is ontological, in the sense that it is not related merely to operations and capacities, such as mental acts or free will, but to what is constitutive for an entity. If we accept that there are real entities – or substances – having properties and relations, then the question about the nature of an entity, for example to be «a body», is what I mean here as «ontological». Thus, we can ask – philosophically – what means to be a person, or what is the difference between persons, machines and societies. These questions are never raised *as such* in empirical sciences. Natural sciences normally *assume* the existence of some given entities, without posing the potential philosophical questions concerning those entities (whether they are real, and what they are, etc.).

Neuroscience studies the brain, or more exactly the nervous system. Therefore, it takes the brain as a subject of linguistic predication. Everything that neuroscience studies is referred to the brain, its parts, its functions, its properties, and its relations. But the real subject of the brain is the human person (or an animal, but let us consider here only humans). Obviously, to be more complete one must say that the brain is a part of the human body (it is the main part of our body). Now, the next step is to consider the body as a part of the human person. This point seems more problematic, and it is very philosophical indeed.

Couldn't we say that the whole human body is just the person? Persons have thoughts, emotions, consciousness, intentions, decisions, a personal identity as reflected in the Self. All these elements can hardly be reducible to brain structures, though they are intrinsically related to the brain. They are rather psychosomatic operations and states, in that they include a psychical dimension as a dynamical and unitary whole including the body.

Thus, a human person seems to be constituted by the bodily structure, observable from the outside and with spatio-temporal properties, and by an «interior life», which for the human person is more intimate than the body, although is completely rooted in the body

(thoughts, emotions, etc.). The existence of this interior life of persons is always there. It is all the time present to ourselves. To say that this is a property of the brain, or that it is the brain taken as a whole, in my view is very vague, because properties and wholes have the same qualitative character as their subjects and parts. When one thinks « $2 + 2 = 4$ », this thought is not a bodily or a material property, and as such it has nothing to do with material things as neurons, even if the brain enables to produce that thought, and not merely its symbolic expression. So it would be better to say that those immaterial aspects constitute a higher dimension of the human person.

The ultimate subject of predication of these elements is the person. Now, if we go from the operations and states to the constitutive («ontological») elements, just as we call *body* (or may be *organism*) the whole structural and dynamical set of physical parts – molecules, cells, tissues, systems – of the person, similarly we can call *mind* or *soul* the whole structural and dynamical set of psychical parts of the person. To make more complicate things, the object which is thought, for example the notion of «justice», is not psychical, but is immaterial. This is not necessarily dualism, which classically includes a separation between body and soul. It is rather the dual constitution of the human person. I think that this dual constitution in some way is obvious («phenomenologically») to every person. But its rational explanation, not easy, is a philosophical task.

I am not dealing here with the problem of the immortality of the soul. This is a difficult question for philosophy that it would take a long time to discuss. In these comments I am simply arguing that the dual constitution of the person – physical and psychical – is more obvious than materialistic monism (the psychical dimension seen as purely physical).

If one remains at the level of operations and states, one can simply speak of psychical and physical properties or events, which is normally sufficient in psychology, psychiatry and neuropsychology. If one attains the substantial level – I take the word «substantial» in a wide sense –, then, according with the dual constitution of the human person, one should speak of body and mind, or of body and soul, even if there are many physical and psychical levels, which means that the duality can be also seen as a hierarchy of levels.

A philosophical discussion about the way whereby body and soul are related needs an interactive dialogue between disciplines as

philosophy, psychology and neuropsychology. In Arbib's paper I discover several aspects suggesting a richer account of the characteristics of the soul, its capacities, and its relationship with the body and the whole reality. This enrichment pertains more to the operational level, which is always the starting point to get a deeper view of the constitutive level and warns us to avoid a simplistic account of the ontological principles. Thanks to this enrichment, we know that the sense of the Self is built and develops upon the integration of several schemas concerning the person's engagement in social roles, taking account of his/her personal narrative memory. Thus, self-consciousness, as it is usually called in philosophical anthropology, is not isolated, but it is relational, and it implies the co-existence with others and the mutual acknowledgment of the personal traits. The person is relational, and the soul-body duality, far from the Cartesian view, is also relational. This relation can be extended not only to human persons, but also to God in a religious perspective. In Arbib's article one can see how trust in God and interpersonal trust go together, as it can be seen in the activating of the respective neural correlates.

The idea that the soul – the mind, the self, the person – is «distributed» throughout the organism and even in other persons means, as far as I understand the suggestion, that the personal soul is not present in a special area of the brain, but that it is present in the whole personal body, while at the same time is distributed in different areas according to many specific powers, as linguistic abilities, memories, emotions, etc. Besides, the soul/body – the person – is intentionally – not physically – present in the external environment and particularly in other persons. Personal interrelations imply, in this sense, the reciprocal and dynamical co-existence of each one in the cognitive and affective workspace of other persons in many respects, since friendly relations, familiar relations or even wider collective relations are very different in quality and cannot be considered univocally.

I find Arbib's considerations useful in order to avoid a dualistic version of the soul. It can be discussed whether the soul is a property or an act – in the Aristotelian sense: *enérgeia*, *enteléjeia* –, but one can assume that it is distributed in the body and that it is intentionally «present» in others. My definitive impression is that in the current dialogue between philosophers and scientists there is much convergence in many points, which are seen through different perspectives. The ontological questions can be more controversial and need methodo-

logical clarification, at least if one wants to avoid misunderstandings. But even in these ontological matters it is possible to take some steps forward.

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