

A physical mind but not just organic

Abstract

Throughout history, in different times and in different areas of thought, mind was very differently conceived than we do today. Here is shown an unconventional design to modern science, which is the idea of soul as something, material, in one hand, yet not totally contained within the physical limits of the body or located in any specific part of the body, in the other. This idea, that can be shocking, is that of an 'extensive' soul, a material element that acts on the body. This soul would be 'made' of a non-solid, much more subtle than the body, almost imperceptible, like air or breath, but also physical.

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Introduction

Initially it is difficult to understand a conception like this, in which the most human, what defines us as persons, ceases to be located within 'us' in the misunderstanding, that 'we' are simply 'our body'. In our interpretation the soul as an exclusive product of nervous system function disappears, it does not 'emerge' spectacularly from brain activity. This contradicts apparently some fundamental assumptions to modern science. But, not being this soul anything metaphysical or immaterial but just pure matter also seems to contradict the religious dogmas.

One idea of the soul and mind like this encounters with religion (see the case of Michael Servetus for example) and initially gives the impression that escapes the 'scientific' study or, at least, is strange to the philosophical and psychological 'scientific' paradigms, but, ultimately, persists in many manifestations of popular tradition and in imagination and beliefs of people. The existence of an ethereal soul that 'comes' from nature and that 'moves' the body, that literally gives life to it and its ability to move and act, and that is the ultimate cause of acts of the subject, is an idea that, even today, illuminates thinking of many people and appears repeatedly in many expressions of oral and written tradition worldwide.

This appears over entire literary tradition of ancient mythology, in the Orphism, in Homer, in the Ionian philosophers thinking, in fairy tales and fantastic stories; it appears in Hippocratic Corpus, in Ibn Arabi and Michael Servetus writings, in Meister Eckhart, in Shakespeare... And generally is given a deep meaning to it extremely intimate and poetic related to the sense of life and the individual's link with nature and the universe. This is a no ordinary topic but, on the contrary, is quite poetic. The words of Emerson and Hölderlin perfectly could illustrate this sensitivity we speak about.

In Homer the soul is regarded as strictly material: a spirit or a ghost, something vaporous surrounding the body. Homer speaks in particular of 'zimos', the 'substance of life', the steamy breath of the soul, the active material, the sensing and thinking one related to air-spirit and to blood.¹ It is a physical substance, but vaporous, not solid, and not just an inert material but active. In fact it is what provides activity to human body when is in contact with it. Provides the ability to feel and think carries life and activity, moves and encourages the body... It is the principle of life. It leaves us, Homer says, when we vanish or, with our last breath, when we die. The human body is totally inert without it. The zimos only manifests itself when acts on the blood that runs through the living body, when, as air, gives breathe to the body and so life and the ability to think. Air, blood, life and thought are inseparable.

However, when this type of stuff does not touch nor act on a body, but exists, has not the ability to manifest in a vital and mental way. Homer called 'psyche' to this condition, and reduced it to that which remains, with no real consciousness, in the 'house of Hades', while it has not a living body and does not feed on blood. Somehow the psyche exists only potentially, it consists of unrealized ideas that can manifest but they do not, of potential content of thought but not real mental activity. They are only ideas not expressed in any vital (mental) act.

To Homer the conscious life and thought processes are not confined to the ideas themselves, in abstract, but they go beyond and depend, more than of ideas as informational content, of the action of air on blood through breathing, namely of the psychobiological act that makes the ideas 'live': the zimos. The soul is identified with the engine of the living body and is considered the principle of life. It spreads throughout the body, through breath and blood, from lungs and the heart.² Clearly, this Homeric soul corresponds to the air introduced into the body by the action of lungs (breath), which spreads around it through blood and the heart and finally manifests in the mental activity as the form of vital activity that it is. Another term used by Homer to refer to mind was 'frenes'. This term originally meant, in this author, 'lungs and heart', precisely (Onians R.B., chapter 2). With frenes Homer did not refer directly to air or breathe of the soul, which corresponds to zimos, but to body organs through which the air or breath acts and manifests on soul and mind.

Homer shows repeatedly in his work a mind-body dualism that persists in later Greek authors. This dualism,³ is typical of the ancient tendency to think in terms of mortal-immortal polar antithesis. The body is mortal and the soul is immortal. In Homer the soul, but immortal, is just a material element, although different and irreducible to the stuff of the body. In fact (and this is important) this is a materialistic dualism. The soul is identified with life, with material elements of life like breath and air, and blood, and involves the functioning of body organs. But it is not confined to them; physically transcends the body, comes from outside and is immortal, as the air is.

In the Ionian philosophical tradition, the so-called physical philosophers, from Anaximenes to Diogenes of Apollonia, the Homeric conception of the soul remains almost intact: the soul is essentially air. We know this, in part, by Aristotle, who also said about the ancient religion of Orpheus "*called Orphic poems say that the soul, carried by the winds, fully fits animals when they breathe*".⁴ Aristotle himself located in the heart, the organ that distributes the air with the blood throughout the body, the seat of consciousness. As Guthrie⁵ points out, to Aristotle 'psyche' meant "*not only a soul, but soul in general, namely a kind of psychic material that filled the*

world". Indeed, it seems that Aristotle himself, as the preceding materialist thinkers, considered the soul as air, and the particular soul as an air parcel, because the soul must be the lighter form of matter that people knew, which the air was.

Before Aristotle, Anaxagoras stated that "*the mind is the most rarefied and purer stuff; it knows everything about anything and has the ultimate power. Moreover, anything that has life or 'psyche', the largest body and the smallest, it is governed by the mind yet*". To Anaxagoras, the mind is the principle of movement and order and, consequently, it is the principle of life. And he distinguishes the mind from all other substances as the more 'rarefied and pure', namely something ethereal or 'air'. And he identifies this 'ethereal stuff' as the cause of knowledge that governs mind and life of organisms, like the zimos of Homer.

To Heraclitus, the soul is fire. Not so much a substance as a process. All material stuff flow, all is processes, the universe as a whole included. Each is governed by the order or 'logos', and universal intelligence. To Heraclitus, fire is the most powerful material process, purer and also the finest and subtle. And so he identified it with the soul. Fire is the 'logos' and is the soul, which subsumes both the man and the entire universe. The soul is not the air itself yet, but the fire, the process in which air is consumed. Soul is not a state of the air but a process (of consumption) of it. To Democritus, probably the most consistent materialist thinker, the soul is composed of smaller atoms. They are especially suitable for round and move through all things and to move one to others through their own movement. According to Aristotle (*De anima* 403b31), they are the same atoms of fire. This little soul atoms penetrate the body and distribute so that they alternate with bigger bodily atoms and act on them through their inner movement.

In addition, Democritus concretizes that "*the soul has two parts: one that is rational, located in the heart, while the irrational is dispersed throughout the entire body*". Briefly, the soul acts on the body in a totally mechanical force exerted by atoms on the full extent of the body, force that has its origin in a rational order generated in the heart. This is more or less the same: small atoms, round, dynamic, similar or identical to those of fire (which is the process of consumption of air, remember) that is distributed throughout the body and provides order and 'reason' (mind) from the heart (blood circulation again). The Hippocratic School held a similar approach on the soul, despite putting in the brain the seat of feeling, thought and movement control, instead of the heart. They explain that the air is what gives intelligence to the brain (through blood) and interpret very explicitly this air as the highest soul. The air contributes directly to intelligence. The location in the brain is argued in the sense that when a man introduces air into himself (by breathing), this air always reaches the brain at first (from blood circulation), they say, and thus acts on it with all the power of a 'logos-order-intelligence' inherent to the intact and pure air, which many people consider 'divine'.

Discussion

At this point, we can say that all materialist explanations of the soul that we have seen yet do not conflict with each other, at least in the central aspects, but, on the contrary, can be interpreted in a complementary path. They respond to the will to develop and to precise the Homeric conception of the soul, which is reconsidered repeatedly. It is important to note, too, that all these authors are, besides materialistic, dualistic, in the sense that they differentiate the mental of the corporeal. They don't reduce, with their 'materialism', man to a mere automaton without conscience and slave of his body, but they well understand the existence of a full mental life, or a mental

plane (even moral) of existence, totally different of body plane. The mental and the physical (bodily) are different worlds. Mental world is not immaterial, but it is made of a very different matter of that of body, and is immortal (pure matter don't die) and has full capacity to act on the biological matter. They are perfectly materialistic dualists. The mental stuff of these authors is subtle, almost imperceptible, gas, air, extending throughout the universe and penetrating inside organisms via respiration. Clearly it is something associated to air or it is the air itself. It is the natural and universal element which enters the body via respiration and diffuses into the blood circulation, and disperses by all tissues and organic material. This air is the soul, giving life to bodies, affecting them in their vital processes, including, prominently, mental activity. So fluctuations, variations or physical processes of air over time concurrently manifest in fluctuations and variations of organic and mental processes of breathing beings. The air gives life to organisms every breathe and every heartbeat, not only gives life and energy at the time point of birth, on the contrary, does it along its whole existence, in a continuum.

Literally, mental activity does not occur in vacuum. In the classical materialist argument that we are seeing, the body is not able to generate itself, autonomously, mental states or different forms of consciousness over time, it is necessary to involve an external 'logos', a consistent process of some form of variation or fluctuation of 'air'. The 'bodily subject' itself does not possess the ability to feel or motivate or drive if not involving air flow, breath or '*pneuma*'. Without this flow there is no proper subject, just a robot body, a body privated of soul. The highest of man (soul) and even the highest of soul (mind and intellect) curiously do not derive exclusively from the human body, but become in part from the external material element, invisible and universal, that continuously acts on it.

This materialist conception of a physical soul that extends throughout the universe is associated with panpsychism, with the consideration that all things, somehow, have 'souls'. Aristotle (*De Anima*, 411a7, cf. Plato, *Laws* 899b) reports that Tales taught that "*everything is full of gods*", which is a way of saying, Aristotle suggests, that "*the soul is mixed with all things around the universe*". Indeed, in the materialist argument, if the air that supplies the entire universe is a soul, that soul is omnipresent as air.

The concept of non corporeality of the soul, the distinction between body and matter so, is controversial. Aristotle used so ambiguous, and his ambiguity could result in a fundamental error in subsequent philosophical thought, it seems. Aristotle said of his materialist predecessors (*De anima* 405b11): "*Almost all of them characterized the soul by three attributes: by motion, by sensory and by non corporeality*". But is a serious mistake to deduce from this statement that these predecessors of Aristotle defended the immateriality of the soul. Not so. We have seen, however, as these thinkers embraced the Homeric idea of the soul as air, as breath or fire, ie as a very fine material substance. What these philosophers argued (and it seems that Aristotle did too) was that the soul was not corporeal in the sense that it was a part of the human body. So, they made a serious mistake those who interpreted, in this statement of Aristotle, the term 'corporeality' as the generic quality relative to the world of physical matter, and not specifically, in the original sense of the author, referring to the quality of the human body. It is wrong to say, therefore, that Aristotle and his predecessors defended the immateriality of the soul. What remained was the non corporeality of the soul, as it is not a part of the human body and cannot be explained as an exclusive function of the body, which is very different. With this positioning, they also maintained the immortality of the soul, not because it was anything immaterial, but precisely because it was material and the elementary matter itself is immortal and eternal, unlike the human body.⁶

This confusion, probably fed by subtle and imperceptible nature of air, resulted in the chance to understand the soul as immaterial. It was established the existence of two radically different worlds: the 'material' world, of body, and the 'immaterial' world, of soul. The difficulty to capture the physical element of mind, which was considered the finest and most subtle, and totally invisible, was solved by moving the soul to metaphysics. It was argued, by a misreading of Aristotle, that the soul is not physical. But this flight to metaphysics, however, not only does not solve the problem but create new ones and irresolvable.^{7,8}

If you raise, from the metaphysical dualism, as did Descartes, the doctrine of the interaction of body and soul, immediately arises the question of how an immaterial soul can act on physical that is the human body. The answer to this question is that it simply cannot. It is not conceivable such action. If you really want to understand human behavior in all its forms, including those that refer to soul or mind, you cannot stop studying to the level of physical, simply.

Descartes defined material as everything spatially extensive. The extension was the essence of materiality. In the cosmology of Descartes, as in that of the atomists, the world was a huge clockwork with gears: vortices (a kind of generators of movement that filled the entire three-dimensional space) were engaged with each other's and pushing each others. All animals were part of this huge clockwork. Every animal was a physical subsystem. The human body was not an exception. The 'animal spirits', a kind of very rarefied (aerial or ethereal) fluids, performed in animals and in man the 'mechanical' work of brain connecting it with the sense organs and the muscles. But man thus conceived was purely a soulless automaton. Descartes was forced to introduce, then, a non natural soul or mind in his scheme. He had to explain, at least, the ability we have to be aware of our body, that is, the ability to be aware of both muscle movements and sensations that provide sensory organs. Interestingly, the human mind (theoretically immaterial) would cause voluntary movements in a human body composed exclusively of material mechanisms, and immaterial mind also should be able to be aware of the purely physical impressions produced by light, sound and touch on the human body.

The Descartes one was an immaterial soul that was not part of the human body nor dependent of it, although continually interacted with it, curiously. It was endowed with self-awareness and could drive the body as an instrument to achieve goals consciously. To this immaterial and non extended soul, Descartes, paradoxically, gives it a location, at a point of the extension of the brain, in the 'pineal gland'. This was, he said, the element of the body immediately 'moved' by the soul, which in turn acted on the 'animal spirits' and directed their movements and, through them, the movement of the body. Thus, the 'animal spirits', which were extensive, moved the body, and yet they were moved by the soul.

But, how could non extensive soul exercise something like a physical force on an extensive body? It's impossible. This is an inconsistency. You have to appeal to the idea of an almighty metaphysical god to 'explain' the inexplicable. Descartes' universe consists exclusively of mechanical lifeless devices. All animals and plants are such devices, and man is the only one that would really be 'animated', that would have real soul. As noted by Popper (1977) this view produces inconsistent doubts about the sincerity of Descartes, as meaning he was perhaps a camouflaged materialist introducing the immaterial soul (almighty god) in the system simply because he feared the Roman Church. In fact, the universe he exposes is not so different from the ancient materialistic: a vast world filled with physical objects of different nature (solid, liquid, gas...) that interact with each other

by producing forces and movements and that, in some cases, they are able to act on the also material 'animal spirit', something similar to 'animal air' or 'pneuma'.

Conclusion

Unlike the Greek materialists, the world of Descartes is lacking true consciousness, will and reason. It is a world of pure automatism. The Descartes one is reductionist materialism. He was forced to introduce the idea of a metaphysical soul to try to explain the existence of the most specifically human reason and conscience. But, paradoxically, being metaphysical, we must necessarily renounce to reason and knowledge to conceive the soul. No longer is the invisible air, almost impossible to perceive, but the soul is nothing noticeable because it is not material. Such an approach should be acceptable to the Church, but not to reason and scientific knowledge. People renounced to seek the soul in the real world outside the human body and placed it, at least in the empirical and accessible to human knowledge aspects, within the body, in the brain. So it became from a physical and not organic soul, of ancient materialists, to a metaphysical and organic soul (?). And this approach, in the general, it is still the topical. A metaphysical and organic soul, what inconsistency! Isn't it?

According to the Cartesian universe, there are two orders of things, two logos: the physical and organic world, subject to the scientific study, and higher mental processes that are metaphysical and without any possibility of being subjected to scientific knowledge. The soul disappears so of the field of science. You cannot study something that is metaphysical and organic yet. Probably because something like this does not exist and cannot exist. Such an approach can only generate, at best, two irreconcilable positions: the metaphysical one and the neuroscientific one. Each one studies a different vein and, by definition, they can never arrive to coincide. To those who have not given up the will to understand the mind yet, they have had no choice but to focus their efforts on studying 'indirectly' the soul, that bodily and material that the soul would 'act on' first, that is the brain. Thus we have located the soul (or that of the soul we have access to) in the brain. Science necessarily has had to find the soul in the brain, and has had to reduce mind to it inevitably, because there was no other place to look. But at the same time, being immaterial and metaphysical, we had to give up to completely understanding it by the scientific method... It seems a bit absurd, but this is the state of the question that defines the research paradigm of mind and consciousness. And that could explain the poor results and the difficulties to advance in scientific knowledge of the human mind.

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