About the Extended Mind

by *Astro Calisi*

Among all the proposals made in recent years in an attempt to explain the peculiar characteristics of mental phenomena, a gradually increasing importance gained the so-called *extended mind model*. Previous proposals, although with significant differences, converged on the idea that mind is a brain activity product. It doesn't matter if this activity was considered in strictly neurological (*neurosciences*), or treated as a process of information processing (*cognitivism*): it was given anyway for granted that the origin of all phenomena and properties related to the "mental" should be sought only within the brain.

The proponents of the extended mind model argue the need to expand the investigation beyond the boundaries delimited by the skull. They start from the premise that in the performance of many operations, defined as *cognitive*, men use material supports - paper and pen, charts, block diagrams, maps of various types, calculators and computers - without which not only those transactions would require a much longer time, but often, because of the limits of representation capabilities of the human mind, they could not even be completed. In these cases, human organism is to be connected to an external entity in a so tight manner as to create a single system in which all components contribute actively to achieving the end result. If we removed the external components would be compromised behavioral capabilities of the whole system, as if it had been removed a part of the brain (1). For this reason we may say that mind is not confined only to brain processes but extends itself to include also some objects of the external world.

According to this view, the extension of mind in the world is not limited to material objects, but it also concerns the objects of the social world and the one of culture, at first place *language*. Since the essay by Andy Clark and David Chalmers, *The Extended Mind* (2), which can be considered a sort of manifesto of this new perspective of mind, the authors emphasized the unique role played by language in the construction of an environment conducive to growth of cognitive abilities. Language, like other conceptual constructions, are in fact seen as crucial cognitive scaffolding able to modify the characteristics of our intelligence. (3)

The essential concept involved here is *co-evolution*, that is bi-directional influence in the development of new capabilities: from mind to the cultural milieu, from the latter to mind. This applies to most of the cognitive prosthesis used by humans to enhance their

mental abilities, including products made available by technological advances. Many objects of external world are the result of mental activity, but once made, they can act as a support for mind, so as to enable the latter to improve their performance.

It is important to note that the view of extended mind tends to present itself not as a description of how some external objects can enhance mind's ability. Much more. This perspective proposes itself rather as an *explanation* of mind, in the sense it assumes that the particular properties of mind can't be fully understood without a sufficient attention to external supports it uses.

These, in brief, are the main ideas that lie at the basis of extended mind model. This model, according to its supporters, could bring significant contributions to understanding of mental phenomena. As far as I'm concerned, I'm pretty skeptical that such a model is equipped with real explanatory power, and this not only because it seems much more influenced by the need to comply with current scientific ideals than the one to consider with due attention the most defining property of mind, but also because some criticisms that we can turn to it.

The first objection is rather elementary, though not at all trivial. The proponents of extended mind model insist on the fact that objects in the physical world, especially those arising from technological progress, make possible cognitive operations that would otherwise be out of our reach. Their close interaction with the basic mental, intracranial, capacity, their trigger in perfect synergy with them, should be regarded as an expansion of the boundaries traditionally assigned to mind, so as to cancel any functional difference between internal and external brain processes. For this reason it would be safe to assume all parties involved, by working together as a highly integrated single, represent elements of mind with equal dignity.

In my opinion, similar arguments can be refuted simply by applying them, with the necessary translations, to other body functions, such as perception and motor skills, going to see what plausibility they still have in these new contexts.

With regard to perception, we can say that, when studying the operation of visual system, we don't consider it necessary to include in the survey instruments such as microscopes and telescopes, which are undoubtedly able to enhance our visual skills. We think even less appropriate to consider these tools as part of our visual system, although we know they enable us to see details of world otherwise inaccessible.

Similarly, to explain our motor skills, both in terms of developed force and precision in the execution of a large number of operations, it would seem completely out of place to call into question external environment, referring to tools used by us as true extensions of our manipulative ability. We would say that it is unreasonable to assume that muscular strength is in the lever too, for it allows to lift very heavy objects, or that our hands ability is also located in a screwdriver, pliers or hammer, since they allow us operations that, by our bare hands, we could never accomplish.

We must also consider that, in most cases, the proper use of tools to increase our perceptual or motor abilities requires a specific training which involves the acquisition of new skills by the individual. Skills that can be transferred to other areas and are subject to

future developments. Just like with the objects our mind uses to enhance its cognitive skills.

If these arguments appear to be entirely insufficient to bring us to conclusion that the instruments used are part of, ie they are *constitutive* of a given motor or perceptual apparatus, why should they be valid when applied to mental skills? (4)

Another objection, not less important than the first one, relates specifically to the objects of the social and cultural world.

One of the mind features which seems to defy the established concepts of scientific worldview (and which disturbs many philosophers' sleeps) is the ability to evolve indefinitely, passing through successive stages of increasing complexity and using the previous acquisitions as a starting point for new goals. No phenomena of the physical inanimate world, no machine built by man shows such a capacity.

The great appeal of the extended model of mind can be explained, at least for a significant part, with the possibility that it promises to finally offer an answer to this problem in a completely naturalistic (5). Calling into question society and culture as irreplaceable support for the development of new cognitive abilities, it seems that the rigid determinism which binds mind to the nervous processes of brain can be overcome. Society and culture show an evolutionary trend, just as mind. So that their plot, in many ways inextricable, tends to present itself as an acceptable explanation of the relative emancipation of mind from the common physical laws.

What's wrong in this way to account for the evolving capacities that distinguish our mind? What's wrong with the concept of co-evolution, which occupies such an important place in the extended model of mind? Which is, ultimately, the basic misunderstanding that befall the supporters face of this model?

When it is stated that social and cultural phenomena, as well as certain products of technology are constitutive of mind, we pass over in silence the fundamental question that, *without a mind*, *we cannot have any mind or society, or culture, or technology products*. We don't realize that social institutions, cultural and technology products are, always and inevitably, the result of men's mental activity, even if the results are not always intentional, that is they don't take place in the exact shapes desired and designed by men. It's true that, once produced, many objects can act as supports to expand and enhance mental abilities, but it is also true that the identification of the possibilities and modalities for the effective use of these objects strictly depends on the ability of minds to recognize them as tools by which to improve their performance. Do not simply the availability of generic means to enhance cognitive abilities, we must have got the ability to use them in an appropriate manner too. Pets, while being immersed in the same cultural and technological world in which man lives, in fact, do not gain any advantage, because their minds are not sufficiently developed to use available objects such as cognitive prostheses.

These observations lead us to the heart of the error that - I think - the supporters of extended mind model systematically commit. They interpret the fact that mind uses the objects it created earlier as supports to enhance its skills and move to higher cognitive goals as a clear indicator of their intrinsic attitude, ie *independent* from mind, to increase mental performance and to contribute to evolution. They don't consider that such an

attitude is the punctual result of previous interventions of mind and therefore it can't be considered under any circumstances independent of mind.

When we speak about *co-evolution*, we refer to a burst of evolution that is exercised in two ways: from mind to the world objects, from the latter to mind. But in all man-made objects, we can't find anything else than what previously placed into them by a mind. If any of these objects will serve as support for future cognitive activities, if we will find something new in them so as to enable the achievement of new goals, this can't in any case happen outside of some kind of mental activity.

Social or cultural objects, once made, do not possess any inherent ability of development. They are static, inert, totally devoid of the ability to evolve further. A literary or philosophical work, or a painting, or a symphonic composition need of material support to establish itself as such in the world. From the moment in which they are fixed to their respective supports, however, they become simple objects, to be placed next to other objects of the inanimate world. The same happens for technology achievements.

It is said that a picture is "something more" than a canvas with oil paints on it and that a symphony is "something more" than a set of sounds; what one forgets to add is that a picture or a symphony are such, and so they have a *meaning*, only from the point of view of a human being, the bearer of a certain culture. In a world without men, a picture or a symphony back to being physical objects or events whose characteristics (or whose behavior) respond fully to the necessity of natural laws. Even language, considered an irreplaceable element for the social and cultural progress of man, is a creation of men's minds. This is a creation in which every individual can contribute in varying degrees to the growth and transformation over time. However, language, when disconnected from the existence of men, for example stored on a magnetic tape, on optical media or converted to a written text, loses any evolutionary drive, any inherent capacity to change, unless it doesn't come back into contact with a mind.

The arguments of the proponents of the extended mind model are revealed, ultimately, flawed at their base by a *circularity* that nobody seems to realize. It cannot be assumed that mind can enhance its performance in using material or social objects, at the same time ignoring the fact that these ones are never independent from previous interventions of mind.

There is no two-way exchange between mind and the objects of world. This exchange is fictitious: it is a figurative way of saying that does not correspond to anything real. In fact, in those objects we can't find anything different, anything more than what it had been placed in them by the activity of men, driven from their minds.

What is, therefore, the circularity that makes highly problematic the extended mind model?

It is the attempt to give an account of certain characteristics of mind, in particular the capacity to evolve over time, calling into question the objects and phenomena belonging to the sphere of society and culture, which are undoubtedly contaminated by the same mental they would like to explain.

So it happens that, in an improper mixture of factors belonging to the physical world, socio-cultural factors and mental factors, assembled together as if they were homogeneous categories, they end up losing sight of the essential question, namely, that

the only subject active in this process is mind. Everything else – the achievements in the field of culture and society, as well as technology products – haven't got any independent source from mind, for they are derived entirely from this one, in all their aspects.

Extending mind to the outside world, placing ideally equate the characteristics of the processes that take place in the brain and the features belonging to objects placed outside the brain, is revealed in this perspective functional to dissolve, or at least to hide, the problems traditionally associated with the relationship of mind with its material base. These issues seem somewhat overcome, as it becomes particularly difficult to recognize substantial differences between mind and the other objects or phenomena of world.

Supporting this pseudo-naturalistic view, based on a substantial ambiguity, or better on a really serious conceptual error, the supporters of extended mind model think they can take important steps in knowledge of mental phenomena. In reality, they are merely deceiving themselves and all those who are seduced by their thesis.

I think it is time to strongly denounce such attempts, in the hope that at least the most critical thinkers are able to catch them in their real dimension of *conceptual gimmicks*, with no explanatory value, so that a gradual decreasing number of people waste their time and energy in dealing with them.

NOTES

(1) Michele Di Francesco – Giulia Piredda*, La mente estesa. Dove finisce la mente e dove comincia il mondo?*, Mondadori, Milano, 2012, pp. 91.

(2) Andy Clark – David Chalmers, *The Extended Mind*, in "Analysis", 58, 1, pp. 7-19.

(3) Michele Di Francesco – Giulia Piredda, *Cited work*, pag. 133. See also pp. 192-4.

(4) For a more extensive discussion of these issues, see Astro Calisi, *Oltre gli orizzonti del conosciuto. La sfida cruciale della mente alla scienza del XXI secolo*, Uni Service, Trento, 2011, pp. 175-184.

(5) Michele Di Francesco – Giulia Piredda, *Cited work*, p. 7.