

Popper, Churchland and eliminative materialism

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1. Nostradamus

“Promissory materialism is a peculiar theory. It consists, essentially, of a historical (or historicist) prophecy about the future results of brain research and of their impact”.

Karl Popper (1977: 97)

The intention of the present work is to make an evaluation of the most important thesis of whom –to our judgment- is the main driving force of eliminative materialism (from now on EM) in philosophy of mind, namely: the Canadian-American Paul Churchland. Our intention is to give a balanced and critical presentation.

Running the risk of moving forward, we believe that the “nickname” Karl Popper (1977) gave to this version of materialism, though quite merciless (a very typical form of the criticism of the Viennese philosopher), keeps on being precise –although three decades have already elapsed since that cruel popperian baptism. So, as we know, Popper –in *The self and its brain-* called the eliminative programme “promissory materialism”, since it would be more related to a dire prophecy than to science. Popper considered that, in a somehow dishonest way, facing the difficulties that the identity theory experienced in trying to reduce the folk psychology (from now on FP), materialism, we might say, was withdrawing because of its own limitations towards a variant that was content with an absolutely groundless prophecy.

One of the main criticisms that eliminative materialism has received is on its characterization of the FP as a theory. And as such, a radically false one (Churchland, 1981, 1984). Certainly there is no doubt that this type of criticism points at one of the central thesis of Churchland. Nevertheless, since there are very good works on this matter, we would rather ignore the above mentioned problem. So, we would not discuss with our author if the FP is a potentially false theory. It happens that although the FP was more

deceitful than a politician in election times and more mistaken than the Aristotelian physics, such a thing would not strengthen in a decisive way the futuristic thesis of Churchland.

This is because, to our understanding, there are two abysses¹ -intimately related to each other- in the thesis of Churchland and that could hardly be settled. One of them refers to the conceptual gap of EM, to its constant resource to the promise of a golden age of a future neuroscience. The other, which we have already mentioned, is the one that separates a possible destruction of the FP from its (hypothetical) substitution for a completed materialistic neuroscience.

2. *Noblesse oblige*

According to Churchland, apart from his EM, all the variants in philosophy of mind – except philosophical behaviourism, widely discredited and forsaken at present- are “conservative” (Churchland, 1981). This is like this because, for our philosopher, only EM proposes frankly and openly, a displacement of the concepts and notions of common sense. The other alternatives, from dualism and (materialistic) identity theory, going through functionalism, prove to be ready to wrestle and to coexist in one way or another with the FP.

More important, for our author, is that it is a scandal that the FP has begun to be treated as a theory for only approximately fifty years. In this way, “the structural features of folk psychology parallel perfectly those of mathematical physics; the only difference lies in the respective domain of abstract entities they exploit –numbers in the case of physics, and propositions in the case of psychology” (Churchland, 1981: 48).

Perhaps it is convenient here to indicate that this aspect of Churchland's ideas seems to us certainly praiseworthy. To examine in a critical way any aspect of reality is essential to tackle a disinterested search of the truth. It is true, as Jerry Fodor (Ramsey, 2003) points out, that if there should take place a destruction of our current notions, such a thing would represent one of the biggest intellectual catastrophes in the history of Humanity. Nevertheless, not even a hypothesis of such kind should prevent any critical examination.

¹ We use the word “abyss” metaphorically, since Churchland constantly makes us face outstanding theoretical gaps.

Besides, as John Stuart Mill (1859) has noticed, no opinion should be silenced, since if it is true we would miss the opportunity to realize some discovery or to correct an error; and if it is false, such mistaken opinion would activate the “defending device” of the truth through discussion.

Anyway, this appreciative excursus that we have just done, points mainly at Churchland’s encouraging attitude. That is to say, what we find it praiseworthy is the attempt at questioning notions that, almost for sure, can be catalogued as one of the most distinctive aspects of the human condition; and whose criticism defies to a great extent the fundamentals of civilization.

Now, as regards the arguments, which have been put forward to defend the elimination, our evaluation will move away from any praises.

3. *Folk psychology and its enemies*

“Beliefs and desires are of a piece with phlogiston, caloric, and alchemical essences”.

Paul Churchland (1992: 125)

Briefly, the EM problem is the following one: by no means there can be scientific categories that correspond to the letter to the habitual reference, to the desires and beliefs – since these are false and useless. Consequently, instead of trying to conciliate with the frame of the FP, it is necessary to proceed to its elimination.

Although at first sight eliminativism seems to be too extreme, Churchland (1984) tactfully shows that a great number of theories in the history of science have proved to be inadequate. Many of them, were based on “observable data” but they were still eliminated. It is true that, the sun “moving” as well as “evil spirits” acting in some people, become “visible”. Nevertheless, neither the present psychology nor the astronomy deal with these things. They rely on better theories that have displaced the above mentioned notions of “common sense” or traditional ones. In fact, if we want to come closer in time, a few serious economists wonder about the “surplus value”, the “capitalist exploitation” or the “objective value” of things. Actually, in this last case, the subjective value theory and the marginal utility have produced a big renewal in the economics, demonstrating greater fecundity and explanatory power than its predecessors. Summing up, to believe that things

should have an objective value constitutes, for the economists, a serious mistake that leads to catastrophic errors, and therefore, it is incompatible with a better explanation. Although this is a notion that has been in the history of the West for centuries, it has been abandoned due to its roughness and the poverty of its results.

Something like that would wait for FP concepts. If this one has a good reputation and high esteem, it is because of an over dimension of its “successes” and the omission of its notable failures and stagnation... of twenty-five centuries! (Churchland, 1981). Also, another additional problem is how to make the FP cohere with other well established theories in adjacent and superimposed fields (for example: evolution, biology and neuroscience). For Churchland, such compatibility turns out to be an illusion.

Of course, common sense notions will find their destiny in the “coffer of the memories”, *once neuroscience reaches certain development level* –much higher than the current, we presume. This will allow it to establish a new frame of reference, “truly suitable” Churchland hopes. With this one, not only will our way of introspection change completely, but we should also expect –thanks to the knowledge of the future- a great decrease in our misfortunes.

4. *Reasons to believe*

We can group the arguments in favor of EM in two possible ways: one of them is the *extrapolations* that can be made of the problems and disadvantages of FP; and the other is the *extrapolations* that can be made of certain advances in cognitive sciences and artificial intelligence. Both groups are far from being a conclusive support to the thesis of EM, and even Churchland states that the favorable arguments to EM “... *are diffuse and less than decisive*”, but they are stronger than is widely suppose” (Churchland, 1984: 79).

As for the first mentioned group, basically the arguments turn round the primitivism of FP (Churchland, 1984). Because of this the FP, as a theoretical structure, fails to predict, explain and manipulate, while a great deal of the topics that are close to us –like the one of the learning process- keep on being a big and unfathomable mystery³.

² The italics are ours.

³ Although we have anticipated not to argue about Churchland's criticism to the FP, we do not want to ignore that it is not ridiculous to suppose that good part of them are based on attributing lapidary failures to the FP in tasks that it never tackled (Martínez-Freire, 1995). In fact, in our opinion, the strategy to force monstrous

A second legitimating motive of the eliminative expectations is the “inductive lesson” that we can extract from our conceptual history. It happens that the traditional theories have been replaced properly. It would be miracle to believe that in the case of FP, which dates back to more than twenty centuries, we have been right. Much on the contrary, states Churchland, if it has survived so much it is due to the extreme difficulty of the problems that it tackles.

In this point perhaps there are more difficulties than the obvious. It turns out to be that the “inductive lessons” have little to teach us and that in any possible way they can be considered to be a valid form of reasoning. But also, neither of all the ancient theories have been absurd losses, nor all the traditional ideas have turned out to be necessarily refuted with the advances of the new theories and modern technologies. Allow us to present here three examples on this matter. The first one cannot be but the Greek atomism that it turned out to be a very beneficial metaphysical program for the modern science (Popper, 1963). A second case is the so-called hypothesis *Gaia*, whose roots and inspiration are in the myth of the Mother Earth or *pachamama* –as the natives of Latinamerica call it (Gray, 2002; Sorman, 2001). Finally, we would like to allude to how, in some cases, too, the most novel technologies serve to change our perception on traditional and ancient notions. For instance, the idea that God sees everything. Although it was attacked and many tried to discard it pointing at it as chimerical, childish and a “threatening device” of the Church, today with the progress of technology –satellites, for example– it truly becomes more *thinkable*⁴ than never (Ratzinger, 2000).

Anyway, we can find a third argument in favor of EM among the first grouping that we mentioned, which is related to a possible advantage “a priori” of it. The above mentioned advantage lies in the different bets that EM and its competitors make. Whereas functionalism and the identity theory consider there is a possible correspondence between the traditional notions of FP and a developed neuroscience, EM believes that such a thing will not be feasible. Considering the demanding requirements of a satisfactory reduction,

pictures to demolish them later is not unknown to Churchland. It is enough to refer to the paragraph devoted to the presentation of dualism in “Matter and consciousness”.

⁴ It is enough to visit *Google Maps* to have a complete idea of what we express.

the possibility a priori of EM would be substantially greater than that of the other alternatives⁵.

Probably Churchland was thinking about this last one when he characterized as “diffuse” the favorable arguments for EM. I remember that last year the Pope Benedict XVI spoke against the theory of evolution, since he considered it to be “irrational” because it states that everything in the universe is at random. *A priori*, could be a convincing argument, so –as Thomas Nagel (1997) states– it is difficult to explain without teleology why the natural order would make rational beings appear. But it is also true that the Pope’s argument is destined in the first instance to believers and that it would be “complemented” by such religious beliefs. Now, for a philosophy of mind of a scientific and materialistic approach, are the arguments that cannot otherwise nourish on hope and bet enough?

As for the second group of extrapolations, which stand for the favorable arguments to EM, they say the following.

In the first term, Churchland (1984) points towards a sort of demythologization of the mind. The evolutionary history of our species would indicate that there is no such a thing as a miracle of the mind. Through numerous examples –such as a submarine snail- he tries to demonstrate that big changes can be produced by fortuitous facts.

At the same time, neuropsychology, which tries to explain the psychological phenomena in terms of neurochemical, neurophysiological and neurofunctional activities, has made interesting advances –particularly in the comprehension of abnormalities. It is acceptable that a “functional map of the brain” could be put together.

As far as cognitive neurobiology is concerned, which owes its blooming to certain technological advances, to new theories and to computers, allows us to make out responses to the following questions: “how does the brain represent the world?” and, “how does it carry calculations out on these representations?” Churchland believes that “... there is a simple technique for representing, or *coding*, that is surprisingly effective” (1984: 212). In this way, in the case of the taste, for example, there would be “... a *unique* coding vector for every humanly possible taste” (Churchland, 1984: 212). Then, any taste sensation

⁵ John Searle (2004b) states that from the impossibility of type-type reduction of the FP to the neurobiology to infer the inexistence of beliefs and desires turns out to be ridiculous. For this author such a thing would be as ridiculous as, since it is not also possible to make a type-type reduction -for example- from tennis rackets to entities in atomic physics, to come to the conclusion that the tennis rackets do not exist.

would only be a pattern of undulating frequencies that are transmitted from the mouth to the brain.

But: what mill are we taking water to? Because although it is clear that a materialistic orientation can benefit from this perspective, it is quite doubtful that EM could profit from it. Or in our philosopher own words: "... here there is a definite encouragement for the identity theorist's suggestion... that any given sensation is simply identical with a set of spiking frequencies in the appropriate sensory pathway" (Churchland, 1984: 213).

Finally, EM attempts to find strength in the recent developments in artificial intelligence, particularly in what has to do with nervous networks and connectionism. The conclusion that is intended to come to is that the cognitive elements that are described with connectivist models have nothing to do with the notions of common sense (Churchland, 1984, 1992; Ramsey, 2003). Perhaps in this way, as Ramsey says "... the newer connectionst models may, for the first time, provide us with a plausible account of cognition that supports the denial of belief-like states" (2003).

Once again, we clash with arguments and scientific developments that we might qualify, generously, as promising. Not only because the conexionist eliminativism conclusions have been already criticized (Ramsey, 2003)⁶ but also because as Churchland himself admits, nothing has been concrete so far. We believe that the following passage provides some illustration on this point: "... I am willing to infer that folk psychology is false... We therefore need an entirely new kinematics and dynamics with which comprehend human cognitive activity, one drawn, *perhaps*, from computational neuroscience and connectionist AI. Folk psychology could *then* be put aside... Certainly, it *will be* put aside in the lab and in the clinic, and eventually, perhaps, in the marketplace as well"⁷ (1992: 125).

⁶ We refer to Forster and Saidel's criticism: "Ramsey, Stich and Garon's argument assumes that in highly distributed networks, it is impossible to specify the semantic content of elements of the network that are causally responsible for various cognitive episodes. Some have responded to their argument by suggesting that, with highly sophisticated forms of analysis, it actually is possible to pick out causally relevant pieces of stored information" (Ramsey, 2003).

⁷ The italics are ours.

5. Million dollar question

“... For eliminative materialism to get off the ground, we have to assume that scientific psychology is going to turn out a certain way. But why suppose that before scientific psychology gets there? What is the point of drawing such a drastic conclusion about the nature of mentality, when a central premise needed for that conclusion is a long ways from being known?”

William Ramsey (2003)

We began this work alluding to two abysses which EM faces, perhaps it would be now the opportunity to develop this idea.

In the first place we would like to refer to the gap that we believe to find between a possible refutation of FP and the emergence of a materialistic version in its substitution, as Churchland seems to perceive. In a more precise way: should something like that necessarily happen? Is it impossible to suppose that a displacement would imply (an) alternative take over(s) for the FP? Or even better: why do we have to exhaust the variants to the current notions exclusively in a materialistic development of neuroscience?

Often, as the Spanish philosopher José Ortega y Gasset usually pointed out, certain *caricatures* help to observe the essential features of a problem. In that sense, allow us to offer the following example as a hypothetical extreme situation: FP, as Churchland believes, is a radically false theory. Nevertheless, it is proposed to replace it by a version, scientifically accepted, of the Calvinist predestination doctrine –which, it is worth specifying, turns out to be compatible with a deterministic physics. Consequently, all our notions of common sense are revealed as mere illusions, but in a way very far from the materialistic ideas proposed by our philosopher⁸.

Of course we might allege –with good reason- that hypotheses of this style are very far from being probable. But with these extreme “alternative scenarios” we wanted to show that there is no necessary implication between the elimination of FP and its displacement

⁸ Another two parallel hyperbolic scenarios might be a causative-panteistic monism *à la* Spinoza or some kind of neo-hegelianism, by means of which all our own actions, that we consider to be autonomous and intentional, were no more than the development of the Idea towards self-knowledge.

towards the neuroscientific prophecy of Churchland. If the example that we have just given is not mistaken just **as a possible alternative**, then it might well be that our current notions be replaced, for instance, by a union between science and Protestant metaphysics. Certainly we do not say that this is going to happen once, but not because of remote the alternative becomes impossible, being able then to be a possible substitute to the notions of the FP. In fact, it would be necessary to ask ourselves if, as a last resort, what might separate eliminativism from this “Calvinist” variant is not a difference in nature or plausibility but, simply, a matter of taste and desires.

It is not our intention to discredit the naturalistic explanations, either, which have proved to be in many cases prolific. Simply, we want to point out, as Popper (1944) states, that we cannot predict in a scientific way today what we will know tomorrow. Then, the strength that a theory or a set of theories seem to show, or the trends that these generate, do not imply in any case that they are “true”⁹ and, even less, that they can allow us to foresee with “certainty” the future. As it has been magnificently said by Dario Antiseri (1994), **science reasons out but does not justify**.

Then, the prophetic character of EM becomes more pronounced, since not even a hypothetical collapse of FP befits inevitably the materialistic version of Churchland, and there is not any way of knowing today what we will know tomorrow.

The second abyss that we perceive in the EM is that of its conceptual emptiness. It remains clear that Churchland is a staunch enemy of FP, but after acknowledging such a fact, we only find a use (and abuse) of a voluntary extrapolation and the promise of a golden future in which some scientist “fills” the above mentioned conceptual emptiness¹⁰.

Since our philosopher is fully aware of the fact that it will be the completed neuroscience the one that will solve its theoretical deficiencies in the future, it becomes rather strange that he keeps on “preaching” for philosophers.

⁹ In fact, it would be very difficult to find a theory with more “verifications” than Newton's physics...

¹⁰ It turns out to be ironic that his EM shares the same vice that Churchland denounces with regards to dualism: that of being simply “... an empty space waiting for genuine theory of mind to be a put in it” (1984: 42).

We hope that the following digression would be allowed to us at this moment: at the end of 2004, *Bases* Foundation –that I belong to- organized the presentation of the book *Considerations of a liberal*, written by Alberto Benegas Lynch (son) in our city. During this presentation, Benegas, who is a great presenter, interesting, clear, precise, learned and pleasant, mentioned that in an opportunity he took part in a conference organized by the Episcopal Latin-American Council (CELAM) in a Central American Country. When he participated, the so-called *liberation theology* and *the choice for the poor* were enjoying great acceptance among many members of the clergy. That is why Benegas Lynch, who did not agree with those “ideas”, suggested the following course of action to third-world priests: if you consider that the poor are already saved, and if also, you believe that the salvation of the human souls is a task that the Catholic Church must deal with, then you would not have any other alternative than that of directing all your missionary and pastoral effort to the rich, since they are the ones who more urgently need it.

We should add that despite his impeccable argumentative logic, Benegas Lynch was surprisingly invited to go on tourist visits during the rest of the days, without being able to participate in further sessions.

This anecdote clearly illustrates the steps that Churchland should take. Instead of continuing with the tedious philosophical work, which includes the writing of articles and the participation in regular controversies, he should go out to “preach the word” among the members of the neuroscientific community. Such a behavior would be as coherent as possible, since Churchland himself has stated in numerous opportunities that it will be in the laboratory, and not in the philosophical study room, where the awaited “elimination” takes place.

Such a thing would suit the EM structure itself, which consists of the following four main characteristics:

- 1) Prophecy: the FP elimination and its replacement for a completed neuroscience.
- 2) Prophet: Paul Churchland himself.
- 3) Messiah: who is not still between us. S/he is still awaited but is known to come from the field of science.

4) Paradise: consisting in the acquisition of the neurobiological individual knowledge, which would put an end to our misfortunes considerably. It might even go so far as to produce a “new man” and a “new culture”.

If what we have been saying is correct, then the EM and all its domineering and scientific airs begin to be diluted. And for many more reasons that at first we might suppose. Beyond the problems of the “theory-theory”, there are other good reasons to raise objections against the eliminative promises.

Since its appearance, the EM has been no more than an empty and cracked shell. So far, we believe that Churchland's materialistic powerlessness facing “the old and the familiar”¹¹ can only try to escape forward. To this “faith” in what John Searle (2004b) considers to be the *materialistic religion* of our era, a constant tendentious extrapolation is added as basement of the eliminative prophecies. As Churchland himself has pointed out between lines: “... it is dangerous to try to obtain too many conclusions about the brain based on the neuronal networks, and perhaps I am incurring this error”¹².

¹¹ Churchland does not hesitate to use the political metaphor. In this way, for example, he accuses functionalism of "conservative" and "obscure" and "reactionary" (Churchland, 1981). From an attack to Daniel Dennett comes the expression that we have repeated above: “This impulse in Dennett continuous to strike me as arbitrary protectionism, as ill motivated special pleading on behalf of the old and the familiar” (Churchland, 1992: 125).

¹² In the interview that the newspaper "El País" from Madrid held on April 12, 2000 (link: http://www.elpais.com/articulo/futuro/CHURCHLAND/PAUL/FILOSOFO_Y_CIENTIFICO/PAUL/CHURCHLAND/Cientifico/conocimiento/cerebros/solo/parecen/lejos/igual/arboles/elpepusocfut/20000412elpepifut_1/Tes).

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