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BIOLOGY, JUSTICE AND HUME'S GUILLOTINE

abstract

Biology and Neuroscience are addressing issues related to moral sentiments, but this does not mean that Philosophy has lost its importance in the debate. Paradoxically, the discovery that moral sentiments have evolutionary origins does not overcome the problem of "Hume's Guillotine". There are human characteristics which can be explained by natural selection and that are nonetheless culturally reproved. In order to choose or select which "natural" characteristics are to be promoted and which are to be discouraged, it is necessary to use a criterion that is not given by nature, although human capacities to discuss these criteria have been naturally shaped.

keywords

moral sentiments, evolutionary origins, moral philosophy

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How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness to him, though he derives nothing from it except the pleasure of seeing it (Smith, 1790, p. 4).

1. Introduction

In the last decades, some branches of scientific knowledge have turned their attention to the origins and foundations of moral sentiments (*e.g.,* Ruse, 1986; Waal, 1996; Changeux *et. al.*, 2005; Waal *et. al.*, 2014), a topic that for many centuries was addressed almost exclusively by philosophers. The conclusions of these scientific approaches are surprising. To a great extent, in the end, they converge with what was already considered to be known about the topic, but the fact that these new studies are grounded in empirical experimentation, not in philosophical reflection, seems to provide more solid clues about the origins of such sentiments.

One question then arises: is philosophy still necessary to address this topic? As scientific knowledge regarding human beings and their brain advances, topics such as ethics, aesthetics and epistemology would have more solid or objective answers than those given by philosophy, whose relevance would be dwindling.

This text intends to readdress this question, especially dealing with "Hume's Guillotine" and its possible overcoming from such scientific studies. Its aim is to contribute in determining the role of moral philosophy in present days, addressing the following question: if science explains that *values* have biological origins, is it possible to say that the "is-ought" distinction is now losing its importance, because values (*ought*) derive directly from our biological constitution (*is*)? In this case, is philosophy – that in the past was undoubtedly more capable than science to deal with values – still relevant in this field?

2. Game Theory, Biology, Neuroscience and The Research About Moral and Ethics

Game theory deals with the mathematics of interactions. The study of game theory shows that there are different kinds of interactions, and that there are many variables or factors interfering in these interactions.

If two or more "players" – human beings, wolves, bacteria or even computer programs – are seeking for some result (related to food, money, sex partners, points, clients, or any other scarce resource) in an environment that allows one to gain without others having necessarily to suffer losses in the same proportion, cooperative strategies will naturally arise. That's what game theorists call *non zero-sum game*. But, of course, if most players adopt cooperative behavior, it may be interesting for one to take advantage of others by refraining

from cooperating. This also gives rise to mechanisms that are able to protect cooperative individuals (and their group) from such "free riders", so *cooperation* is often followed by *retaliation* when a free rider is identified (Axelrod, 2010; Joyce, 2006).

The struggle for survival is a "non zero-sum game". It is not necessary for one living being to kill all the others to stay alive. On the contrary, many times cooperation is a good strategy, frequently observed among living beings. That's why cooperative behavior has been naturally selected, including mechanisms to identify and deal with free riders. Nature, indeed, has many examples of cooperation, and even of altruistic behavior (Darwin, 1871; Waal, 1996), since altruism may be seen as one of nature's ways of implementing cooperation (Joyce, 2006, p. 17). This may be the reason why social animals, like apes, dolphins, whales and wolves, have more developed and complex brains, which permit high level cooperation. And, for the same reason, moral sentiments were also naturally selected in these animals, especially because they act as a mechanism to prevent and punish free rider behavior (Greene, 2013; Waal, 1996).

In other words, game theory, evolutionary biology and the study of other animals' behavior, all these approaches work like Susan Haack's crossword puzzle (Haack, 1993): different studies of the same reality confirm each other's hypothesis. It also happens with neuroscience, which proposes that human brain is endowed with structures that make us experience unpleasant sensations when observing behaviors or situations harmful to our organism or to the social group we belong to. Disgust is common when someone is in front of blood, wounds, feces, vomit, or other substance that may be harmful if ingested, but also if one sees, *e.g.*, an innocent child being tortured. Languages have even the same words to designate both situations (Kelly, 2011; Joyce, 2006). Not surprisingly, persons with brain damages in some specific areas loose the capability of making moral judgments (Damasio, 2005; Joyce, 2006).

In the same vein, Antonio Damasio points out that values are linked, in their origin, to the *homeostatic equilibrium* necessary for the preservation of life (Damasio, 2005, p. 47). This equilibrium is related to temperature, food satiety, hydration, the normal functioning of the digestive system, and so on, situations invariably linked to feelings of pleasure or pain/discomfort. Thus, of course, situations are seen as something "good" or something "bad", and the mechanism of natural selection, as pointed out earlier, has extended these sensations also to other situations, especially to those related to the homeostasis of the social group, regarding social animals like humans, apes, dolphins etc., giving rise to moral sentiments (Greene, 2013). The same can be said of values such as 'beautiful' and 'ugly'. Not only altruistic behavior and moral sentiments would therefore have a natural origin, but values in general, including those related to aesthetics (Ramachandran, 2011).

3. Hume's Guillotine and The Paradoxical Origin of Morals

One could argue whether a philosophical approach to such questions would still be relevant, given the fact that human values and moral sentiments seem to be biological in their origin. After all, one could defend the necessity of studying such questions from a scientific perspective only, supposedly capable of endowing them with greater objectivity and certainty. However, even if moral values and moral sentiments have biological origins, as they probably do, this does not in itself provide a reason for obeying or promoting them. In other words, the fact that the "sense of justice" is natural from the biological point of view is not sufficient – alone – to justify the "obligatoriness" of the resulting moral duties.

The study of other animals' behavior suggests that they also have, in some way, the awareness of the difference between *is* and *ought*. Primates know that there are social rules they must follow, but they nonetheless eventually disregard them, and are aware of this. Frans de Waal relates, for example, the case of chimpanzees that have sexual intercourse with female partners of the alpha male of their group, expressing concern that the alpha might discover the infringement they committed (Waal *et al.*, 2014). Even so, in human societies, the

difference between *is* and *ought* can be placed in a much clearer and striking way. Humans have more complex and developed brains, which permit, to an extent incomparably greater, to imagine different realities and scenarios, futures and possibilities, in order to create a deeper distinction between actual realities (is) and possible ones (ought), in order to make *moral judgements* possible (Joyce, 2006).

On the other hand, the study of biology, neuroscience, and the behavior of other animals, reveals that there are also natural foundations for *e.g.*, preconceptions, xenophobia and racism (Kelly, 2011; Greene, 2013), but, of course, this is not a reason to defend or promote these negative emotions. Feelings, emotions or sentiments associated with empathy and solidarity are usually manifested when the individual relates to those who are considered by them as members of the same group (seen as "equal"); however, in relation to individuals considered as members of other groups (seen as "different") opposite feelings usually emerge (Greene, 2013). If all these emotions or sentiments have, in some way, natural explanation, why some should be promoted, while others should be fought or avoided? In addition, sexual intercourse is naturally pleasurable for reproductive purposes, but nowadays, perhaps, the overwhelming majority of sexual relations are undertaken without this purpose. On the contrary, couples massively use contraceptive methods. This shows that the "natural" purpose of a behavior or sensation can be ignored, and, when acknowledged, it can be culturally modified.

David Hume's warning, according to which it is not possible, from an "is" statement, to extract an "ought" judgment (Hume, 1978) seems to remain current. This does not mean, of course, that one cannot make value judgments considering facts. Indeed, ought judgements cannot be based *only* on "is" statements. Or, in other words, "experience teaches us, to be sure, that something is constituted thus and so, but not that it could not be otherwise" (Kant, 1998, p. 137).

There is, then, a paradox. The human capacity to formulate value judgments has its origins explained by biological facts (an "is"), but the binding of such judgments cannot be justified or grounded only in these facts. This shows that there is still enough space for philosophical considerations on such questions, and philosophy should not be seen as an adversary of science, and vice versa. It is pointless to discuss if science has replaced philosophy, or to argue which of them is "more important". On the contrary, they are different and complementary ways of approaching the same realities, and both should dialogue with each other (Garson, 2015). Better knowledge of facts, for example, allows the formulation of more appropriate ought judgments, reinforcing them. For example, the judgement according to which a person should not smoke is based on the metaphysical assumption that smokers' and other people's lives should be preserved (an "ought"). Even without any change specifically in this "ought" statement, the judgement could be reinforced if one verifies that tobacco is even more harmful to health than science used to consider (a fact, or an "is"). Or, by the same reason, the judgement would shift to its opposite if science surprisingly discovered that smoking is, in fact, not unhealthy. In other words, although ought judgments cannot be based on facts *alone*, they are made considering facts, so the best knowledge of these is undoubtedly important to such valuations.

It is also possible to raise a provocative question, analogous to what Plato proposes, through the character Socrates, when he inquires, in *Euthyphro*: "is the pious (τὸ ὅσιον) loved by the gods because it is pious, or is it pious because it is loved by the gods?" (10a.). In analogous terms, one might propose: do certain behaviors seem fair to us due to our naturally selected ability to consider them as such, or was the ability to regard such behaviors as fair selected because they are fair, and fairness favors survival? To put it another way: did natural selection and game theory create the notion of "fair behavior", or do they merely provide a means for humans to discover fairness? Science is not able to answer this question alone, without any philosophical help.

4. The Importance of Philosophy in Contemporary Debate

Although it contributes greatly to the clarification of the biological origins of moral sentiments, the scientific approach, as we can see, is incapable of solving a series of questions that remain. This is, basically, due to "Hume's Guillotine", which is not overcome just because our capacity of making moral judgements has evolutionary origins, or because some other animals are also capable of making the distinction between is and ought.

In this context, it is up to philosophical speculation to investigate, for example, the grounds on which feelings of empathy and solidarity must be nurtured, while those of aggression, racism and prejudice must be suppressed. Clarification on the origins of such sentiments in the evolutionary sphere undoubtedly helps this speculation, but they are not to be confused with it.

As we have said, xenophobia, racism and prejudice regarding "different" people may also have biological origins, since, in a very distant past, strangers indeed were often a threat. Our remote ancestors who had curiosity or sympathy for strangers, "outsiders" to their group, may not have lived long enough to leave offspring with the same genes. The contact between distinct human groups, in turn, was much rarer. Therefore, as Greene (2013) explains, our intuitive or even instinctive sentiments lead us to cooperate with people we see as equals, part of our same group (us), but to see as enemies or adversaries people considered as "different" (them).

No longer making a purely factual analysis – although starting from it – one could ask whether such premises, which led to the natural emerging of racist or xenophobic sentiments, are often present nowadays. And the answer is no, so these sentiments are no longer justified, even from a merely biological point of view. Comparatively, it is known that humans have a special preference for sugar and fat, because in a very remote past, in which our digestive system and our food preferences were shaped, such nutrients were decisive for survival. In an environment where food was not always available, and in which much energy was expended to obtain nutriment, the individual satiated with as many high-calorie foods as possible would have a much greater chance of survival, a reality that is no longer present in contemporary societies.

This means that in today's world the ease of obtaining high-calorie foods and the sedentary lifestyle provided by automobiles, elevators and related devices have turned obesity and diabetes into major problems, leading people to restrain their natural appetite for such nutrients.

As for xenophobia, racism and other kinds of prejudice towards different people, it could be said something similar. Also, in the contemporary world, human groups are no longer separated and isolated, and they are not dangerous to each other because of this. This also allows exploring ways of circumventing or departing those natural tendencies of hostility towards people seen as members of "another group".

In the contemporary world, in fact, people are highly interconnected, and their individuality is defined by such a varied range of characteristics that it is impossible to identify them as belonging only to a single social group. One can see another as "different" because of the color of their skin, but as "equal" if considering their religious or ideological beliefs, or their sport preferences. As Amartya Sen (2006) points out, the same person can be

> without any contradiction, an American citizen, of Caribbean origin, with African ancestry, a Christian, a liberal, a woman, a vegetarian, a long-distance runner, a historian, a schoolteacher, a novelist, a feminist, a heterosexual, a believer in gay and lesbian rights, a theater lover, an environmental activist, a tennis fan, a jazz musician, and someone who is deeply committed to the view that there are intelligent beings in outer space with whom it is urgent to talk (preferably in English). Each of these collectives, to all of which this person simultaneously belongs, gives her a particular identity (p. xii).

These are the innumerable "groups" to which this person belongs in contemporary world, and whenever they are developing aggressive feelings against others due to being part of a diverse group, they can remember that, considering different aspect of their individuality, they can be regarded as members of the same group. This is a way to deal with instincts, sentiments, emotions or feelings considered negative, once their causes are known, in order to neutralize their effects. That is another example of the richness provided by the dialogue between science and philosophy on this topic.

As Lukes (2008, p. 252) points out, there is an innate or biological morality, and another perfected by society, and in this social or cultural improvement philosophy has the important role of directing how and in which terms improvements should occur. In similar terms, it is possible to say that natural selection (and perhaps also cultural and sexual selections) gave to human beings the capacity of making moral judgments, and a common and universal core to the content of a few of them, leaving open, however, a wide range of possibilities for determining the content of the others, according to the environment and cultural variances. In R. Joyce's words (2006), no one "would deny that cultural learning plays a central role in determining *the content* of the moral judgments that an individual ends up making; the claim is that there is a specialized innate mechanism (or series of mechanisms) designed to enable this type of learning" (p. 137).

It is also possible to inquire, as pointed out – and this paper is not intended to answer this question, but only to introduce it –, if natural selection created moral sentiments from nothing, or if it merely gave to some animals, and more specifically to humans, mechanisms to allow them to access or to know this supra-sensitive reality that would exist anyway.

To clarify the argument, it may be useful to remember Karl Popper's theory of three worlds (Popper, 1999). According to this theory, reality would be divided into three distinct and related worlds. "World 1" would be that composed of physical particles, or, in other words, by matter. This is the case of a stone, the sun shining, a river running. "World 2", on the other side, would be composed by the result of the brain processes in someone's head, considering not the brain, as a physical organ (part of "World 1"), but the mind, as the result or the effect of brain functioning. A vase of flowers on a table is part of "World 1". The image of this vase, formed in the mind of the one who observes it, integrates "World 2". Finally, there is "World 3", integrated by thoughts and ideas, once detached from the mind of those who formulated them. Hamlet, for example, was one day only part of "World 2" of Shakespeare's consciousness. After being written and divulged, it became part of "World 3", and today, even if this or that book (made of paper and ink, part of "World 1") is destroyed, and even after the death of Shakespeare, such work continues to exist in "World 3", so much that you, dear reader, know who Hamlet is.

There are "World 3" realities which, if all humans died, would disappear as well. This is the case of languages, for example. But in relation to other parts of "World 3", it may be possible to cogitate about their complete autonomy. Even if all people disappeared from the face of the earth, prime numbers will continue to exist, and to be divisible only by one and by themselves, just as the sum of the square of the legs of a straight triangle will remain equal to the square of its hypotenuse.

In this vein, it is possible to ask whether morality cannot be equated with mathematics regarding this specific topic. Natural selection has given human beings, and perhaps some other animals (although to a lesser extent), mechanisms and structures which make them capable of knowing or accessing these parts of "World 3", while not being part of them. In the same way, natural selection gave human beings a brain capable of abstractions, making it possible to know prime numbers and geometrical theorems, whilst not creating or instituting such realities. This is defended by Dworkin (2011), who believes not only in the objectivity of

values, but in the fact that they integrate, like mathematics, a diverse – not physical – level of reality, remaining, in this level, *real*. According to Dworkin (2011),

> Hume's principle, properly understood, supports not skepticism about moral truth but rather the independence of morality as a separate department of knowledge with its own standards of inquiry and justification. It requires us to reject the Enlightenment's epistemological code for the moral domain (p. 17).

Regarding to the topic of this paper, Dworkin (2011) also writes that

> Neo-Darwinian theories about the development of moral beliefs and institutions, for instance, are external but no way skeptical. There is no inconsistency in holding the following set of opinions: (1) that a wired-in condemnation of murder had survival value in the ancestral savannahs, (2) that this fact figures in the best explanation why moral condemnation of murder is so widespread across history and cultures, and (3) that it is objectively true that murder is morally wrong. The first two of these claims are anthropological and the third is moral; there can be no conflict in combining the moral with the anthropology or any other biological or social science (p. 35).

There are those who affirm, however, that morality is different from mathematics, because the latter is objective, and the first is not (Joyce, 2006). In the same order of ideas, Ruse (1986) claims that "our morality is a function of our actual human nature and that it cannot be divorced from the contingencies of our evolution. Morality, as we know it, cannot have the necessity or objectivity sought by the Kantian and Rawlsian" (p. 110). And there are even those who claim that not only morality, but even mathematical realities do not exist "in themselves", but only as creations of the human mind, due to natural selection (Dehaene, 2005, p. 145). This last statement can be questioned, nevertheless, at least as far as mathematics is concerned, with the consideration that relations between numbers, and between geometric forms, are independent of the human mind. They are even independent of the existence of an observer, and they are true also in machinery, for example. The fact that reality fits mathematics, which can be argued from the observation of facts, does not mean that human brains created mathematical entities like prime numbers. Indeed, it is also possible to affirm that humans understand or access supra-sensitive mathematical realities from the observation of empirical reality, but the former exist independently of the latter.[1] The same, perhaps, can also be said regarding Justice and morality, and even if we do not go into this subject here, this discussion is sufficient to ground the claim according to which philosophy still has a wide field on which it can contribute to the analysis of many questions related to the topic.
Moreover, it cannot be said that only things that exist independently of all human beings are "objective". One must differentiate, as John Searle does (2004), ontological objectivity, and epistemic objectivity. In the first meaning, we identify as "objective" entities that exist independently of subjects able to observe them. This is the case of stars, rocks, rivers, lions etc. In the second meaning, we can say that something is "objective" because of the possibility of making statements about it, which are independent of the personal preferences of those who

1 To think that entities as numbers or equations only exist "inside" the brain seems, paradoxically, to incur in a revisited version of idealism. That is to say, in order to dismiss philosophy for a more objective and scientific analysis of reality, one returns to the philosophical conception according to which reality is entirely constituted by the human mind itself.

make them. That is the case of the claim 'Velázquez is a Spanish painter'. Spain, as a national state, is an *institutional reality*, created as a human convention. If all human beings disappeared, 'Spain' would no longer exist, but this does not remove the objectivity of the statement. In this meaning, objective statements can be made about literature, law, money, games, and an infinity of other institutional realities. The same could be said about the objectivity of morality, even if considered as a human creation (or an "illusion") based on evolutionarily foundations. Again, this shows that Philosophy – not just biology – has a broad spectrum of research in the field, especially because it is possible to discuss about realities from "World 3" independently from the correspondence of these realities in "World 1". Therefore, one can discuss the notion of 'progress' in ethics, as a criterion to "salvage the notion of 'objectively better than' that occurs in these claims and counterclaims" about the topic (Kitcher, 2011, p. 210). And even if one accepts that ethical values are indeed emotional and subjective, it is also possible to debate the conclusions that could be drawn from this premise, as does Kelsen, who bases the very necessity of democracy on the axiological relativism in which he believed (Kelsen, 2013).

In a way or another, scientific findings about morality and values have the great merit of showing that Justice has no necessary relation to religion, nor it is a pure and abstract construction of reason, or a mere product of culture, since it is a consequence of moral sentiments that are prior to all of them.

5. Concluding Remarks

The scientific study of values, moral sentiments, and the sense of justice, in the fields of biology, neuroscience and game theory, should not be seen as an opponent of philosophical speculation, which would have been overcome by it. On the contrary, such visions complement each other, providing mutual contributions for a better understanding of the same realities.

It is still not possible to base value judgments on factual or descriptive statements. But it is indispensable to know the facts, their origin and the reason why they emerged, in order to judge them better. That is why the identification of the motives behind moral sentiments, as well as the biological origin of prejudice and xenophobia, helps in the justification – which is philosophical – of the motives why some of them must be unfolded and enlarged, and others suppressed and combated, and provides clues on how to avoid or minimize human tendencies that, while natural, are nevertheless seen as undesirable.

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