

Free Will as an Illusion: Ethical and Epistemological Consequences of an Alleged Revolutionary Truth

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Abstract

In this article we discuss the problem of how to present knowledge claims to the general public by looking at the way in which the data that come from neuroscience in regard to free will are presented in the academic world and by the mass media. These data, whose meaning is indeed still very controversial, are often taken as proving, or a least strongly suggesting, that our most cherished notions – including freedom, responsibility, agency, and rationality – are nothing more than illusions and, consequently, that the very foundations of the current conceptions of morality and the law are irreparably undermined.

The effect of this situation is that the messages to the general public are often oversimplified, if not distorted. We will argue that part of the reason of this is that, in order to get resources from public and private investors, research groups tend to emphasize their findings in simplified terms, stressing their novelty and their relevance in order to stir the attention of both the scientific community and the general public. At the same time, the media (including internet-based media) frequently looks for simple and sexy answers in fields in which we are still in the process of trying to formulate good questions.

Introduction

The problem of how to present knowledge claims to the general public can take many different forms. Today a very interesting example of this problem is offered by the impressive results coming from cognitive science, genetics, evolution theory, and neuroscience, which are extensively discussed by the mass media. Such results are often presented as proving, or a least strongly suggesting, that our most cherished notions – including freedom, responsibility, agency, and rationality – are nothing more than illusions and, consequently, that the very foundations of the current conceptions of morality and the law are irreparably undermined.

Two interpretations of the social and political implications of these results are generally offered, both within the scientific debate and by the general media. Some – let's call them *the optimists* – argue that, on the basis of those results, we have the opportunity to reshape morality and justice in a more human way. Others – let's call them *the pessimists* – maintain that those scientific findings are awful truths that could have very harmful

consequences for our lives; hence, the general public should be kept as unaware of them as possible.

In this article we will critically assess these claims. We will conclude that, correctly understood, the above-mentioned scientific results are far from proving the paligenetic claims made by many commentators. The corollary will be that the communication of those scientific results, which is frequently distorted and sensationalistic (both in the academic world and in the general public media), should be much more conscientious, since the meaning of these scientific results is much more nuanced and less spectacular than is commonly assumed.

1. Are Free Will, Moral Responsibility and Retributivist Punishment Mere Illusions?

In a recent comment published online in *The Chronicle of Higher Education*, the famous cognitive psychologist Paul Bloom (2012) [wrote](#),

Most scientists and philosophers agree that [free will] is an illusion. Our actions are in fact literally predestined, determined by the laws of physics, the state of the universe, long before we were born, and, perhaps, by random events at the quantum level. We chose none of this, and so free will does not exist.

Undoubtedly today most of the scientists who write on the issue – including D.M. Wegner, D.M. (2002), Michael Gazzaniga (2011), and Sam Harris (2012a) – claim that free will is illusory. Although it is less likely that this is similarly true for the majority of philosophers, a growing number of them have taken that stance, including Galen Strawson (1986/2010), Saul Smilansky (2000), and Derk Pereboom (2001 and 2014).

The idea that humans do not have free will, and consequently are not responsible for their deeds, has always found some defenders – and many concerned opponents. In fact, in the past a small but noisy minority of thinkers considered the lack of free will a liberating acknowledgment, while most of the others saw it as a terrible threat to human dignity and value. For example, in the sixth of his *Quaestiones Disputate De Malo* (“Disputed Questions on Evil”), Thomas Aquinas – the great master of scholastic philosophy – judged the negation of free will to be heretical since, were it true, all human actions would be performed out of necessity and, consequently, in performing them there would be no merit (or demerit). But also in the modern age the denial of free will had a few advocates and many enemies. Julien Offray de La Mettrie, one of the most radical philosophers of the Enlightenment, had to abandon the Netherlands (after having already escaped France) because of the publication of his *L’homme machine*, in which he portrayed human beings as merely material beings with no more freedom than a falling body. And Immanuel Kant, who thought that free will is impossible at the level of

phenomena, had to locate it at the (mysterious) level of noumena, since he thought it unconceivable that we completely lack freedom and, consequently, moral value.

Today the two sides of this dispute – defenders and opponents of free will – keep bellicosely facing each other. But the balance of forces has changed, as the deniers have grown remarkably both in number and influence. A good example of this attitude is offered by Sam Harris’ recent bestseller *Free will*, about which the celebrated San Diego neuroscientist V. S. Ramachandran writes in a blurb: “Sam Harris *demonstrates*—with great intellectual ferocity and panache—that free will is an inherently flawed and incoherent concept, even in subjective terms” [our italics]. Analogously, the two renowned scientists Jonathan Cohen, a Princeton neurobiologist, and Jonathan Greene, a Harvard psychologist (2004, 1783), a Princeton neuropsychologist, boldly write that, “Free will as we ordinarily understand it is an illusion generated by our cognitive architecture.”

What used to be a small and feared minority view has therefore grown very much in recent years. How has this been possible? Some anti-free will philosophers have been convinced by purely conceptual arguments, which conclude that all possible positive views of freedom are irremediably flawed. But, as is well known, philosophical arguments are always very controversial and tend not to convince non-philosophers very much. What has really prompted a turn in the dispute, instead, has been the huge amount of recent neurological, psychological, and genetic data concerning decisional processes, which many have interpreted as evidence that free will is illusory. The most relevant of those data belong to the experimental tradition started by the Stanford neurophysiologist Benjamin Libet, which we will discuss in the next paragraph. For now, however, it is important to notice that the anti-free will thinkers’ front is now torn over the political and social consequences that should be drawn from the realization that free will is illusory. More specifically, some authors argue, and other strongly deny, that abandoning the idea of free will has very positive consequences at the social and political level. What is at stake in this discussion is, in particular, the possibility that the radical reorganization of our punitive practices may have very beneficial social consequences.

Cohen and Greene belong to the optimist group (see also Sapolsky, 2004 and Cashmore, 2010) who see the abandonment of the idea of free will as a very positive outcome socially and politically. They base their reasoning on the common assumption that it makes no sense to punish individuals who could not have acted differently from how they in fact did act, since they were genetically and neurophysiologically determined. However, this is in their opinion a universal condition, since free will is an illusion. Consequently, they believe nobody ever deserves to be punished. In this light, the retributivist conception of justice should be abandoned and a purely utilitarian one (one that only considers the social consequences of punishment) should be embraced:

Retributivist notions of criminal responsibility ultimately depend on this illusion, and, if we are lucky, they will give way to consequentialist ones,

thus radically transforming our approach to criminal justice. At this time, the law deals firmly but mercifully with individuals whose behaviour is obviously the product of forces that are ultimately beyond their control. Someday, the law may treat all convicted criminals this way. That is, humanely. (Greene and Cohen, 2004, 1784).

Also Harris (2012b) is very optimistic about the consequences that the realization that free will is an illusion will eventually have at the social level:

In psychologically healthy adults, understanding the illusoriness of free will should make divisive feelings such as pride and hatred a little less compelling.... [O]n balance, it could only produce a more compassionate, equitable, and sane society.

In arguing how liberating the conviction that free will does not exist can be, Harris also appeals to his own personal experience:

Seeing through the illusion of free will has lessened my feelings of hatred for bad people. I'm still capable of feeling hatred, of course, but when I think about the actual causes of a person's behavior, the feeling falls away. It is a relief to put down this burden, and I think nothing would be lost if we all put it down together. On the contrary, much would be gained. We could forget about retribution and concentrate entirely on mitigating harm. (And if punishing people proved important for either deterrence or rehabilitation, we could make prison as unpleasant as required.).

An analogous, but more sophisticated defense of the idea that the denial of free will could have very beneficial consequences comes from the Cornell philosopher Derk Pereboom. In his opinion, since the lack of free will implies the falsification of the retributive intuitions concerning punishment, we should proceed to a radical reformation of our judiciary systems by adopting the so-called "quarantine model", a form of utilitarianism according to which the convicted should be treated analogously to carriers of diseases:

Just as society as a society has a duty to try to cure the diseased it quarantines, so it would have a duty to attempt to rehabilitate the criminals it detains. And when the rehabilitation is impossible, and if the protection of society were to demand indefinite confinement, there would no justification for taking measures that aim only to make the criminal's life miserable (Pereboom, 2002, 480-481).

However, not everybody is convinced that good consequences may follow from the denial of free will. For example, in an influential book titled *Free Will and Illusion* (2000), the philosopher Saul Smilansky claims that catastrophic personal and societal consequences would follow should the majority of people realize their beliefs concerning

free will are illusory. People would no longer find meaning and value in their lives and moral behavior would become rarer and rarer, since people would find no reason anymore to behave morally. As a consequence, it would be preferable that the philosophers and scientists who know the inconvenient truth about free will conceal it in order to avoid moral nihilism. In Smilansky's words, "Humanity is fortunately deceived on the free will issue, and this seems to be a condition of civilized morality and personal value" (2002, 500), since "there is no substitute for the paradigmatic ethical requirement for control and responsibility [whose reality depend on the existence of free will] as the central basis for moral life, a civilized social order, and self-respect" (2000, 505, n. 7). Consequently, the free will skeptic's perspective may be "extremely damaging to our view of ourselves, to our sense of achievement, worth, and self-respect," especially when it comes to achievement in the formation of one's own moral character (Smilansky 1997, 2000).

Another influential author who expresses his worries about the unwelcome consequences of the denial of free will and the consequent collapse of the retributivist conception of punishment (with which he agrees) is the famous neuroscientist Michael Gazzaniga (2008, 415). He in particular discusses the use of the neuroscientific data in the courts. Looking at the US system, he writes,

Federal judges (and many state judges applying similar standards) use several criteria to analyze whether expert testimony is, as Judge Rakoff noted, "grounded in the methods and procedures of science." The criteria that govern the admissibility of expert testimony shape the presentation of scientific information. Communicating the subtleties of scientific findings in the context of a courtroom adversarial proceeding (constrained by the rules of admissibility, discussed above) is indeed daunting.

When these discussions are voiced in the mass media, the pessimistic interpretation tends to win over the optimistic one: it is common, for example, to see them framed in scenarios like that of Huxley's *Brave New World*. Worrying questions, then, are raised: "Considering the shocking results offered by the neurosciences, how can morality and justice be justified?" Or, more generally, "How can our life have meaning and value if it has been proved that 'in a very real sense, we are puppets'", as Greene and Cohen (2004, 1780) provocatively put it?

Sometimes, however, the optimistic perspective is also presented by the mass media, and of course it becomes *very* optimistic in their hands: won't we all become much more tolerant and charitable toward wrongdoers if we become convinced they were not responsible at all for their deeds?

It is perhaps understandable that the mass media tend to present these issues in such extreme ways. But is this attitude justified? That is, is it true that by now the sciences

have showed that the old, dear ideas of free will, moral responsibility, and retributive justice should be abandoned?

2. Not Too Fast, Please!

The first thing that should be noted is that a sheer optimism about what would happen if free will were proved unreal does not seem justified. First of all, there is some evidence that when people are convinced that they do not enjoy free will, they tend to relax their moral standards. Vohs and Schooler (2008), for example, have studied the behavior of students who have to take a test: those convinced that free will is illusory cheated more than the others; and similar results have been obtained by Baumeister, Masicampo, and DeWall (2009).

More importantly, there are very good reasons to doubt Green and Cohen's and Pereboom's optimism about how humane justice would become if we abandoned the belief in free will. Their point is that after abandoning the idea of free will we should also abandon, or at least deeply reshape, other ideas that essentially depend on the idea of freedom – such as the ideas of responsibility, desert, merit, and guilt. But, without these notions, the retributive view of punishment disintegrates: there is no state of justice ever in need of restoration, no responsibility to be considered. In this perspective, one is left with a purely utilitarian theory of punishment, according to which punishment can be inflicted to somebody as long as the general social utility is increased (for example, by rehabilitating the wrongdoers, setting examples that could deter other potential wrongdoers, and protecting society from dangerous individuals).¹ This view may sound appealing, but it opens the way to an alarming scenario. If we gave up the retributive view of punishment – because it presupposes the reality of free will –, we would not only have to abandon the idea that *all* guilty people should be punished proportionally to their guilt (positive retribution); we would also have to abandon the idea that *only* guilty people should be punished (negative retribution). And in this way the hideous and primordial practice of scapegoating would become legitimate – that is, it would be right to punish innocent people very harshly when such a practice would increase the general utility.² Not good news if one cares about the humanity of punishment!

At this point one could think that the opposite, pessimist view (according to which the neuroscientific discoveries should worry us very much) is justified. That is not the case, however. First of all, if it is true that the realization of the illusoriness of free will would generate some relevant changes in our beliefs and in our practices, there is no reason to think that it would bring us in a Brave New World, as many fear. Moreover, and more importantly, by carefully analyzing the data that comes from science, one realizes that

¹ This is not the place to argue that the attempt to answer this kind of problem by so-called “rule-consequentialism” is not satisfying. In brief, however, the main problem is that the scapegoat counterexample can be reformulated so that it affects also this view. See Arneson (2005).

² Pereboom (2014) makes interesting but inconclusive attempts to answer this objection.

there are no grounds for concluding that free will is illusory. Let's look at these two points in turn.

First of all, one should be notice that, if put into effect, the utilitarian practices sponsored by the optimists might produce unwelcome results (such as the possibility of scapegoating), which one could easily find unjust, but they would not generate the general collapse of our judiciary system as argued by some of the pessimists. In fact, if we became aware of our lack of freedom, prisons would continue to exist (even though they would be justified only by utilitarian reasons, and not by appealing to notions like responsibility, desert, or retribution). Also the idea that, if we realized that free will is a chimera, then morality would entirely collapse, is unsupported by evidence, since, as noted earlier, the data we have only suggests that some moral relaxation follows when one is convinced that free will is an illusion, but not much more.

However, the most important point to notice is that the common assumption of both the optimists and the pessimists – that is, the idea that neuroscience has shown the illusoriness of freedom – is ungrounded, which a careful analysis of the experimental data and their epistemological presuppositions shows.

3. Are Our “Free Decisions” Not Free At All?

Since Benjamin Libet's pioneering research (Libet *et al.* 1983 and Libet 2004), much neurophilosophical research has been dedicated to the problem of free will. Not infrequently, however, this kind of research has been spoilt, both at the conceptual and at the methodological level, by false steps and sometimes real blunders. Among the most discussed works in these fields are those by J.-D. Haynes and his research team. In their article entitled “Unconscious Determinants of Free Decisions in the Human Brain” (Soon *et al.* 2008; see also Soon *et al.* 2013), this team describes an experiment in which the subjects were asked to relax and then, “when they felt the urge to do so, they were to freely decide between one of two buttons, operated by the left and right index fingers, and press it immediately.” In the meantime, the subjects were asked to fixate on the center of a computer screen where a stream of letters was running (in particular, they had to notice which letter was on the screen when they made their decisions). At the same time, the subjects' brain activity was measured through an fMRI. The subjects repeated this task 50 times.

In the abstract of the article, the authors write that,

There has been a long controversy as to whether subjectively “free” decisions are determined by brain activity ahead of time. We found that the outcome of a decision can be encoded in brain activity of prefrontal and parietal cortex up to 10's before it enters awareness (Soon *et al.* 2008, 543).

They then refer to the literature according to which “the subjective experience of freedom is no more than an illusion and that our actions are initiated by unconscious mental processes long before we become aware of our intention to act”. Summarizing, this article is supposed to contribute to that literature by showing that a prototypical case of a *subjectively* free decision and *objectively* has not correspondence with the world. But if this is so, the whole idea of free will would be compromised, since it obviously presupposes the possibility that we can sometimes freely decide what to do.

At a close reading, however, it becomes clear that the experiment presented in this article *does not* concern free decisions at all –not only objectively, but also subjectively. In order to see why those decisions are not “free”, even in the merely subjective sense, it is enough to look at the description of the instructions given to the subjects, as they are described in the article. In fact, the subjects, “when they *felt the urge to do so*” [our italics], were requested “to freely decide between one of two buttons”. However, feeling the urge to do something is neither a necessary nor a sufficient condition of a free decision.³ It is not a *necessary* condition, since in the vast majority cases in which we believe they have freely performed an action, we feel no urge to perform that action. (The reader has not felt the urge to read the phrase she has just read; but, at least subjectively, she would not consider her action unfree). Moreover, feeling the urge to perform an action is not a *sufficient* condition either, since when one does something after feeling the urge to do it, far from feeling that one has done it freely, one has been constrained (think of when one feels the urge to sneeze in front of an interlocutor). And this proves that the set of actions that are preceded by subjectively free decisions has (at most) little overlap with the set of actions that are preceded by felt-urges to perform them. Undoubtedly, then, the latter actions should not be taken as prototypical examples of the former, as is instead done in the article we are discussing here.

There is no reason, then, to think that the “free decisions” of Soon *et al.* are really free, even if only in the subjective sense. What is worse, however, is that the alleged “decisions” discussed in this article are not even genuine *decisions*. This is because – as uncontroversially assumed by both decision theory and common sense – one can talk of a decision only when, in choosing between alternatives in a situation of uncertainty, an agent considers her preferences. In the context of this experiment, however, the subjects are selected exactly because they do not have any preference between pressing the right or left button (and this lack of preference is confirmed by the fact that it would be considered extremely odd if someone asked the subject why, say, she pressed the left button at the fourteenth try). In cases like this one, in which by definition nothing relevant for the agents is at stake, it is extremely plausible that the subjects press either button thoughtlessly, paying no attention to which “decision” could be better for them—exactly because no genuine preference is at stake and there is no better or worse option at all. The upshot of this, then, is that the “free decisions” Soon *et al.* test, besides not being actually free, are not even genuine decisions.

³ Bennett - Hacker (2003, 228-231) raised this criticism against Libet’s experiment.

A final point. Many philosophers have argued, with good arguments, that free will is compatible with determinism: if this view is correct, the experiment would not prove the illusoriness of free will in any case. More surprisingly, even the view, defended by other philosophers, that free will requires indeterminism would be compatible with the results of this experiment, because the accuracy of the predictions by the experimenters about which button the subjects are going to press is in the order of 60%. Undoubtedly this is a statistically meaningful figure, and it certainly would be interesting to know why it holds. It leaves open, however the possibility for those philosophers to argue that the inaccurate 40% of predictions are not only due to our (perhaps contingent) epistemic limitations but a consequence of the objectively indeterministic causal structure of the world.

This is an instructive example of how the interpretations of some neuroscientific results, which could in themselves be interesting, may be pushed too far. Similar objections to the ones raised here can be moved against other attempts to use data from neurosciences to argue that free will is an illusion.⁴ What is incontestable is that these kinds of experiments require sophisticated analyses, which cannot be summarized as proving the illusoriness of free will.

Conclusions

In the context of the discussions on free will, the communication of knowledge claims to the general public is a problematic issue because often data and theories that are still tentative are presented as if they were well-grounded truths. A general reason for that is that today scientific communication is characterized by a global competition for attention. In order to get resources from public and private investors, research groups tend to emphasize their findings in simplified terms, stressing their novelty and their relevance in order to stir the attention of both the scientific community and the general public.

In this light, the press offices of the universities have to compete in an overcrowded media environment in which the only news that gets real attention are either the very surprising reports or those that potentially affect our lives: from this point of view, the logic of scientific communication resembles more and more the logic of infotainment. Consequently, there is not much room for the nuanced positions and for the provisional and non-conclusive interpretations of the data that would more accurately describe the small cumulative advances of science (as is well known, revolutionary theories and experiments are very rare phenomena in the history of science). The effect of this situation is that the messages to the general public are often oversimplified, if not distorted.

⁴ Enlightening analyses of what the explanatory potential of the neurosciences can be with regard to the free will issue are developed in Roskies (2006) and (2009) and Mele (2009). For a critical analysis of the reductionist and eliminationist claims based on neuroscientific data, see Lavazza and De Caro (2010).

The case of the scientific discussions on free will is, in this sense, very representative. Certainly, some progress has been made in the comprehension of the processes that ground decision-making, but many things remain obscure and controversial. Nevertheless, the (still ungrounded) perception of the illusoriness of free will is penetrating more and more in the common opinion, with repercussions on the views concerning morality and the justification of punishment. Also in this field, part of the responsibility lies with academics who often try to present their experiments in appealing and overly ambitious ways, claiming results that are still very contentious. But no less criticizable is the behavior of the media (including of course internet-based media), which frequently looks for simple and sexy answers even though we are still in the process of trying to formulate good questions.

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