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Intentionality and Intentional Action

Abstract

Those who argue that free will is an illusion are wrong. They base their argument on scientific evidence that tests the wrong level of description for intentional action. Free will is not about subpersonal neuronal processes, muscular activation, or basic bodily movements, but about contextualized actions in a system that is larger than many contemporary philosophers of mind, psychologists, and neuroscientists consider. In this paper, I describe the kind of intentionality that goes with the exercise of free will.

Consider the following scenario. I am walking along a road and as I round a bend I see that a car went off the road, down a small hill, and hit a tree. I also see that this has just recently happened because the driver is still inside the car. Two other cars have stopped and two people from these cars are on their way down to help the accident victim. I hesitate, stopping at the side of the road. Should I also go down and offer some help? Perhaps I would be only redundant and get in the way of helping the person; but I have a cell phone and could call an ambulance – should I stay here and call or should I call from down there, and perhaps they will need three people to get the victim out, and, as I start moving down the hill, I think perhaps I may be able to comfort the victim.

This is a description that involves considerations about my intentional action – the action of going to the aid of an accident victim. It is a rough account of the 10 seconds of *intentionality* that goes into making this an intentional action – leaving out a number of other things that may be going through my mind, or anything about how I feel about this scene. I might, at the same time, be thinking that this is ruining my walk, or preventing me from getting to where I'm going. There may be some aspects in this intentionality for action about which I am deceiving myself – e.g., am I being altruistic, or do I want to feel important, or be a hero? Perhaps I am motivated by what I failed to do in a previous incident. These are parts of my intentional experience that remain in the background.

I want to do two things with reference to this kind of description. First, I want to look closely at the *intentionality* involved, understanding the term 'intentionality' in the way that Husserl and the phenomenologists understand it, i.e., as involving contents of consciousness. Second, I want to argue that in this kind of circumstance, I exercise my free will.

There are, of course, scientists and philosophers who argue that free will is an illusion. Frith (2002), for example, states, in apparent sympathy with Wegner (2002),

»... in a sense our experience of controlling our own actions is illusory. ... All we can actually experience is the contingency between thought and action (p. 483; also see Claxton 1999; Wegner and Wheatley 1999).

I will suggest that these thinkers fail to find free will because they are looking in the wrong place, or at the wrong level of explanation. Indeed, even those who try to work out arguments against these »illusionneers« try to construct arguments that appeal to the wrong level of explanation, and as such, miss the intentionality of the free act. In effect, the question I will address is the following: What do we experience (what is our intentionality) when we are engaged in intentional action? Does this intentionality in any way contribute to making the intentional action a free action – or is it beside the point – epiphenomenal?

In general terms, the notion of free will that I will be arguing for is closer to a compatibilist concept than to a libertarian concept. Further, the concept of free will that I will defend is no more »Libetarian« than libertarian. Benjamin Libet, whose experiments are close to the center of the recent debates, offers an anti-illusionneer account of free will that is framed at the same (wrong) level of explanation as the illusionneer account.

Libetarian Problems

The experiments conducted by Libet (1985; 1992; 1996; Libet *et al.* 1983) have motivated much of the current discussion. These experiments suggest that motor action itself, and the sense of agency that comes along with it, depend on brain events that we do not control, and that happen before our conscious decision to act. In Libet's experiments an array of surface electrodes are attached to subjects in order to monitor brain activity. The subjects are then asked to place their hands on a table top and to flick their wrists whenever they want to. The brain activity leading up to the movement lasts between 500–1000 msec (0.5 to 1 second). Just before the subject flicks their wrist, there is 50 msec of activity in the motor nerves descending from motor cortex to the wrist. This is preceded by several hundred (up to 800) msec of brain activity known as the readiness potential (RP). To ascertain when subjects were first aware of their decision to move their wrists, Libet designed a large clock that allowed subjects to report fractions of a second. Using the clock, subjects were asked to indicate the precise time at which they decided to move their wrist, or were first aware of the urge to do so. The results indicated that on average, 350 msec before subjects are conscious of deciding (or having an urge) to move, their brains are already working on the motor processes that will result in the movement. Before they know it, the readiness potential is already underway, and they are preparing to move. Thus, so-called voluntary acts are 'initiated by unconscious cerebral processes before conscious intention appears' (Libet 1985). What we call »decisions« are made by the brain, which then enacts its decisions in a nonconscious fashion, on a subpersonal level. But the brain also inventively tricks us into thinking that we consciously decide matters and that our actions are personal events.

This kind of evidence clearly raises the question of whether free will is simply an epiphenomenal illusion.

»The initiation of the freely voluntary act appears to begin in the brain unconsciously, well before the person consciously knows he wants to act. Is there, then, any role for conscious will in the performance of a voluntary act?« (Libet 1999: 51).

Thus, for example, Wegner and others argue that these experiments provide evidence that free will is an illusion. Libet himself, however, thinks that we can save free will – because there is still approximately 150 msec of brain activity left after we become conscious of our decision, and before we move. So, he suggests, we have time to consciously veto the movement (1985, 2003).

I will outline two reasons why I think that both the illusioneer and the Libertarian arguments are misguided because they frame the question on the wrong level of analysis. First, free will cannot be squeezed into timeframes of 150 – 350 msec; free will is a longer-term phenomenon that depends on consciousness, and in this respect the sense of agency is more than just an accessory. Second, the notion of free will does not apply primarily to abstract motor processes that make up intentional actions – rather it applies to intentional, purposive actions themselves, described at the highest pragmatic level of intentionality.

First, in regard to timeframe, we must consider that decisions are not confined to the spur of the moment — and specifically, they are not momentary. To the extent that decisions are momentary or fully spontaneous, they may not be as free as we think. More obviously, there is a distinction between fast, automatic reflex action and slower voluntary action. Let's take an example. As I walk down to the accident scene, at time *T* something moves in the grass next to my feet.

- 1 T+150 msec. Before I realize what is happening, the *amygdala* in my brain is activated.
- 2 T+200 msec. Without a sense of agency — I jump and quickly move several yards away.

Here, the entire set of movements can be explained purely in terms of neurons firing and muscles contracting, etc. Once I become aware of what is happening (e.g., at T+1000 msec.), my next move is not of the same sort.

- 1 T+2000 msec. I recognize the movement in the grass as caused by a harmless snake.
- 2 T+3000 msec. I decide to ignore it and continue down to the accident scene.

In some sense we might say that my choice to continue to the accident happens in a moment, since at some point in time (T+2900 msec) I had not decided to continue and some 100 msec later I had decided. Still, what goes into this decision involves awareness of what has just happened plus recognition of the snake as harmless, and all of this in the larger context of what I set out to do. We could take Libet's approach to this movement and say that at T+2650 msec, without my awareness, processes in my brain were already underway to prepare for the movement involved in my continuing to the accident, before I had even decided to continue. So, what seemed to be my decision was actually predetermined by my brain. But this ignores the context defined by the larger timeframe — which involves the fuller intentionality that concerns helping the accident victim, and my recognition of the snake as harmless. Voluntary acts have a context that is normally spread out over a larger timeframe than experimental milliseconds.

I have argued elsewhere (Gallagher 2005; Gazzaniga and Gallagher 2000) that reflex movements and voluntary actions depend on a very basic biological function found in all living organisms: the feedback loop. In nature,

even feedback loops that are purely automatic require time. Feedback loops that involve conscious deliberation require an extended duration, that is, one stretched out over at least several seconds, and the intentionality of action is experienced as such.

The issue of extended timeframe suggests a second reason why Libet's analysis misses the proper level of description relevant to free will. Despite a long tradition of discussing free will by appealing to examples of bodily movements, e.g., »Look how I can freely raise my hand« (see, for instance, Chisholm 1964; Searle 1984) free will is primarily about contextualized and complex intentional actions, and not about the simple bodily movements that subtend intentional actions. In other words, the kinds of actions that we freely decide are not the sort of bodily movements described by Libet's experiments. Indeed, in cases of intentional actions, because we ordinarily pay no attention to the details of our bodily movements, and rarely make any explicit decisions about them, directing attention to such movements in experimental situations is an involuted form of action. One way to put this is to say that we normally characterize our intentional actions on the highest pragmatic level possible. If I am walking toward the accident scene and you stop and ask what I'm doing, which one of the following descriptions is the most appropriate?

I am activating my neurons.

I am flexing my muscles.

I am moving my legs.

I am walking across a field.

I am going to offer some help.

My decision, and so my free will, is directly tied to the last description listed, not to the other descriptions. In some sense, of course, as I go to offer help, I am doing all of the above. But my free will is not exercised for the sake of neurons, muscles, arm movements, or graspings. It is, in this case, exercised with the intention of offering help. A discussion of motor control mechanisms is not equivalent to a discussion of free will.

Voluntary actions and the exercise of free will are not about neurons, muscles, body parts, or even movement — all of which play some part in what is happening, and for the most part, are nonconsciously carried along by (and are intentional because of) my decision to catch the snake (or to participate in an experiment, etc.). I don't choose to take a drink and then, in addition, choose to extend my arm and shape my grasp ... nor *vice versa*. Free will is best described at the personal level in regard to intentional action. To look for it amongst neurons and bodily movements is to look for it in the wrong place; to characterize it as »a mediating executive mental process, which somehow puts the bodily parts into action« (Zhu 2003: 64), is to misconstrue the phenomenon. Bodily movements are simply not the »prototype« (ibid.) of free action.

This does not mean that brain events and body-schematic processes that work on a subpersonal level are simply irrelevant to free will. Such processes, including the kind of neurological events described by Libet, are important insofar as they support intentional action and are structured and regulated by relevant intentional goals. In addition, as studies of deaf-ferented subjects suggest, precisely to the degree that we are not required to consciously deliberate about bodily movement or such things as auto-

onomic processes, our deliberation can be more easily directed at the more meaningful level of intentional action. In some limited ways, the loss of a body schema and the disruption of automatic processes, rob a person of a degree of freedom (see, e.g., Gallagher and Cole 1995).

Free Will is not About Motor Control

What we call free will, I maintain, cannot be conceived as something *purely* subpersonal, or as some first-person instantaneous feeling, an event that takes place in a knife-edge moment located between being undecided and being decided. If that were the case it would completely dissipate in the milliseconds between brain events and our conscious awareness. If by free will we mean the ability to choose and control our actions, and to act otherwise than we do, then free will involves at least the temporally extended processing involved in the feedback of perceptual consciousness, the »looping effects« (Hacking 1995) that can be transformed and enhanced by the introduction of deliberative consciousness. This means that the conscious sense of agency, even if it starts out as an accessory experience generated by the brain, is itself a real force that counts in the formation of our future action. It contributes to the freedom of action, and bestows responsibility on the agent.

There is an intentionality to intentional action? It is not involuted proprioception. Nor is it perceptual consciousness guiding movement (Eilan 2003; Proust 2003), which is part of motor control. But neither is it abstract, introspective reflection (Davidsonian belief-desire cognition — Davidson 1980; Goldman 1970). Rather, the intentionality of intentional action, the kind of intentionality that involves free will is an embedded or situated reflection (Gallagher and Marcel 1999). Precisely the kinds of things, for example, that run through my mind as I decide, just there in the pragmatic and intersubjective situation, to help the accident victim.

Daniel Dennett (2003) has addressed these issues in his recent work *Freedom Evolves*. On his view, the processes that constitute free will may be purely subpersonal, distributed brain processes, and need not be conscious or depend on conscious decision. He does insist, however, that free will requires an extended timeframe.

»Once you distribute the work done... in both space and time in the brain, you have to distribute the moral agency around as well. You are not out of the loop, you *are* the loop. You are that large. You are not an extensionless point. What you do and what you are *incorporates* all these things that happen and is not something separate from them.« (Dennett 2003: 242)

In this regard, Dennett thinks I have part (but only part) of it right.

One commentator on Libet who gets close is Sean [sic] Gallagher:

»I think that this problem can be solved as long as we do not think of free will as a momentary act. Once we understand that deliberation and decision are processes that are spread out over time, even, in some cases, very short amounts of time, then there is plenty of room for conscious components that are more than accessories after the fact.« ([Gazzaniga and] Gallagher 1998).

But, then he [Gallagher] goes on to say that if the feedback is all unconscious, it will be 'deterministic' but if it is conscious, it won't be. Cartesian thinking dies hard. (Dennett 2003: 242n3)

I think that Dennett is right to enlarge the system, and I don't disagree with Dennett concerning the role played by nonconscious elements (and of course I reject the charge of Cartesianism). But I think we are even larger than Dennett thinks – we are not just what happens in our brains, and/or the pure results of such happenings. The 'loop' that we *are* extends through and is limited by our bodily capabilities, into the surrounding environment, which is social as well as physical; and it is a loop that feeds back through our conscious experience into the decisions we make.

The neurological processes described by Libet, Dennett, and others, are, as I have indicated, essential to the exercise of free will. As much as these processes enable and limit my action, however, they are also structured and regulated by my intentional goals. When I decide to help the accident victim, all of the appropriate neurological events line up, and my physical movements fall into place. In carrying out my action, no conscious deliberation about bodily movement is normally required. I have to keep my eye on where I'm going; I don't have to keep my eye on my walking body. Underlying sub-personal body schematic processes – readiness potentials, motor signals, proprioceptive feedback – allow for this transparency of the body-in-action, and they are part of what it means to carry out the deliberated action (Eilan 2003; Gallagher 2005).

If, however, we think of intentional action as *solely* the product of these sub-intentional events, based on feedback that is *all* unconscious, made possible by a committee of »mindless robots« (Dennett 2003, p. 2), or possible for a system only as large as a brain in a vat, we fail to recognize the true size of the system that we are. The temporal framework for the exercise of free will is, at a minimum, the temporal framework that allows for the system to be informed by consciousness – complex perceptual consciousness that allows me, for example, to recognize that a person needs help or that a snake is non-poisonous; and further, deliberative awareness about what I should do. Once events of conscious deliberation are included in the behavioral feedback loop certain things in the environment begin to matter to the agent; meaning comes into the picture; and conscious interpretation processes introduce temporally extended looping effects. Conscious deliberations of the agent, which likely involve memory and knowledge – cognitive schemas (e.g., about accident victims and snakes) – rather than being epiphenomenal, have real effects on behavior. To the extent that consciousness enters into the ongoing production of action, and contributes to the production of further action, *even if significant aspects of this production takes place nonconsciously*, it can shift the system and determine future responses. It is only in these contexts that the issue of free will is at stake. The discourse of free will is not tailored to issues that pertain to basic bodily movements or aspects of motor control, despite the attempt of many philosophers to frame the question in these terms. Indeed, to talk about free will in such mechanical terms is to frame things in a Cartesian way: How does the mind move my body? Rather, the issue of free will is an issue only in the realm of action, and action is never reducible to mechanical bodily movement.

Free will is neither magical nor absolute. It is not magical because it is possible to give an explanation of it in terms of a physical system that includes brain, body, environment, and the experiences generated in their interaction. It is not absolute because it is limited by the physical conditions of

the system, including current brain processes (and physical brain structures) that have been shaped by prior experience, by genetically guided development, as well as by affordances that are neither arbitrary nor purely objective facts, since they are defined only relative to the possibilities of the system. These things shape our experiences and our decisions, which then feed back into the system to shape or modify our actions. Free will is exercised within this larger system where meaningful actions can develop.

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Shaun Gallagher

Intentionalität und intentionales Handeln

Diejenigen, die behaupten, der freie Wille sei Illusion, sind im Unrecht. Sie begründen ihre Behauptung auf einem wissenschaftlichen Beweis, der die falsche Ebene der Deskription des intentionalen Handelns testet. Der freie Wille bezieht sich nicht auf subpersonale neuronale Prozesse, Muskelaktivierung oder grundlegende Körperbewegungen, sondern auf kontextualisierte Handlungen in einem System, das größer ist als viele zeitgenössische Geistesphilosophen, Psychologen und Neurowissenschaftler annehmen. In diesem Artikel beschreibe ich die Art von Intentionalität, die mit der Ausübung des freien Willens einhergeht.

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L’intentionnalité et l’activité intentionnelle

Ceux qui affirment que le libre arbitre est une illusion n’ont pas raison. Ils fondent leur affirmation sur une preuve scientifique établie à un niveau impropre de description de l’activité intentionnelle. Le libre arbitre ne s’exerce pas sur les processus neuronaux sub-personnels, l’activation musculaire ou les mouvements élémentaires du corps, mais sur des activités contextualisées au sein d’un système qui est nettement plus grand que ne le pensent bon nombre de philosophes de l’esprit, de psychologues et de neuroscientifiques contemporains. Dans cet article, je décris ce genre d’intentionnalité qui va avec l’exercice du libre arbitre.