CHAPTER 25

Moral significance of phenomenal consciousness

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Abstract: Recent work in neuroimaging suggests that some patients diagnosed as being in the persistent vegetative state are actually conscious. In this paper, we critically examine this new evidence. We argue that though it remains open to alternative interpretations, it strongly suggests the presence of consciousness in some patients. However, we argue that its ethical significance is less than many people seem to think. There are several different kinds of consciousness, and though all kinds of consciousness have some ethical significance, different kinds underwrite different kinds of moral value. Demonstrating that patients have phenomenal consciousness — conscious states with some kind of qualitative feel to them — shows that they are moral patients, whose welfare must be taken into consideration. But only if they are subjects of a sophisticated kind of access consciousness — where access consciousness entails global availability of information to cognitive systems — are they persons, in the technical sense of the word employed by philosophers. In this sense, being a person is having the full moral status of ordinary human beings. We call for further research which might settle whether patients who manifest signs of consciousness possess the sophisticated kind of access consciousness required for personhood.

Keywords: consciousness; persistent vegetative state; minimally conscious state; morality; right to life; access consciousness; phenomenal consciousness

Consciousness is notoriously difficult to study empirically. But unlike most other nearly intractable problems, consciousness matters. It matters practically to the quality of our lives, but also for significant ethical questions. Consider the vexed question concerning the withdrawal of the means of life (whether life support or nutrition and hydration) from patients in a persistent vegetative state (PVS). As we recently witnessed in the Terri Schiavo case, these cases are the focus of passionate debate, and this is a debate that turns, significantly, on the consciousness of the patient. Opponents of withdrawing life support often claim that PVS patients are conscious, citing spontaneous behavior by these patients as evidence; supporters of the right of family to withdraw life support maintain that PVS is incompatible with consciousness. Given this context, the recent claim by Owen et al. (2006) that they have strong evidence of consciousness in a PVS patient is extremely significant.

In this paper, we shall sound a note of caution. While the results reported are undoubtedly significant, and leave little room for doubt that some patients correctly diagnosed as PVS (i.e., who do not show the minimal behavioral responsiveness required for another diagnosis) have
some degree of consciousness, their ethical importance should not be exaggerated. We shall argue that given the current state of our knowledge—a state which is, we acknowledge, in flux—the research is unlikely to significantly alter the ethical debate. If PVS patients are conscious, then it is important to ensure that they do not experience aversive mental states. Accordingly, we have reason to give their analgesics and perhaps sedatives and antidepressants. But whether they are conscious or not, it can be argued that we have little reason to maintain them in existence (and perhaps even some reason to bring about the cessation of their lives), unless their mental states are at least as sophisticated as those exhibited by children, and, importantly, as connected across time. It is not merely consciousness that is required for what we shall call full moral status; it is self-consciousness, and we do not believe that we can (yet) attribute self-consciousness to any PVS patients.

**Concepts of consciousness**

In order to understand and properly appreciate the significance of the work of Owen and colleagues, it is necessary to recognize that consciousness is a complex phenomenon, or perhaps even a complex set of phenomena. Different thinkers denote different properties when they refer to “consciousness,” and different concepts of consciousness underlie different kinds of moral value. It is likely that the different concepts of consciousness refer to properties that co-occur in normal subjects under typical conditions, but given that they may dissociate, in normal and in pathological cases, we cannot assume co-occurrence without further evidence.

What do researchers like Owen mean when they say that a patient is conscious? Generically speaking, neuroscientists and clinicians implicitly work with a definition of consciousness that is vague, but which might best be summed as “wakefulness with awareness.” Wakefulness is relatively easily defined, at least behaviorally, and is rarely in dispute. Wakefulness is a defining feature of PVS: a patient is diagnosed as PVS when they transition out of a coma and begin a sleepwake cycle but remain unresponsive to external stimuli. “Awareness,” too, is defined behaviorally: a patient is aware if they make non-reflexive responses to external stimuli. The response need not be sophisticated: tracking a moving object or even fixated their gaze for long enough to rule out mere chance is enough to indicate awareness. If the response is inconsistent, the patient is said to be in a “minimally conscious state” (MCS), where to be minimally conscious is to have transitory conscious states (possibly sometimes of a lower quality than the conscious states of normal subjects). Now, people are free to use words however they like; if they want define “consciousness” as “wakefulness with awareness” they may do so. But we should be aware that consciousness is a word in everyday language. Accordingly, there is a risk that consciousness, as used by neuroscientists and clinicians, will be understood as denoting not, or not only, “wakefulness with awareness” but the other properties more usually associated with consciousness. Indeed, neuroscientists and clinicians themselves seem to assume that consciousness as they use it has these further qualities. But this assumption may be illegitimate.

What are these further properties? Ned Block has famously distinguished two concepts of consciousness, both of which, he asserts, have claims to being the folk concept: phenomenal consciousness and access consciousness (Block, 1995). Phenomenal consciousness refers to the qualitative character of experience. A state is phenomenally conscious inasmuch as there is something it is like to be in it. In contrast, information is access conscious if it is available for rational control, if it is simultaneously accessible to the decision making, planning, and volitional centers. Many neuroscientists seem committed to a global workspace model of consciousness (Baars, 1988, 1997; Dehaene and Naccache, 2001). On the global workspace account, information is conscious if it is in the global workspace, that is, simultaneously accessible to a variety of (so-called) consuming systems. Consuming systems are relatively modular and possess few links to one another; only through the conduit of the
global workspace does information became available for the rational control of thought and behavior.

Now, it is apparent that the participants in the debate over whether some patients diagnosed as PVS are conscious assume that consciousness, as they define it and test for it, has the properties that Block describes, that is, a patient who exhibits wakeful awareness is both phenomenally conscious and access conscious. For instance, they argue, on the basis of their evidence, that there is case for giving PVS patients analgesia (Whyte, 2008); since the function of analgesics is to mitigate the experience of pain, they clearly assume that wakeful awareness is evidence of phenomenality. Now, in general this is a warranted assumption: the three concepts of consciousness (wakeful awareness, phenomenality, and access) occur together with great regularity. But it may be that these different states can dissociate. Block has argued that sometimes the contents of the phenomenal consciousness of normal subjects are richer than the contents of their access consciousness; that is, they have phenomenal contents that are not available to the full range of consuming systems which have access to the global workspace of access consciousness. The opposite dissociation is also conceivable, that is, subjects may sometimes be access conscious of information of which they are not phenomenally conscious, perhaps, for instance, when engaging in overlearned behavior. This being so, we should not be too quick to assume that access and phenomenal consciousness co-occur in the patients tested. Thus, one challenge to researchers aiming to show that some PVS patients are conscious is to answer the question what kind of consciousness their tests reveal. As we shall see, different answers to this question have dramatically different moral implications.

A second (and more basic) challenge consists in showing that the evidence produced is of consciousness at all. The fact that a test shows that information presented to a subject is available to drive behavior is not evidence of consciousness, all by itself. The mind contains a number of what we might call “zombie systems,” modular systems capable of guiding behavior in response to environmental stimuli in the absence of consciousness. Classic examples include the modules involved in visual perception, which calculate distance and trajectory of objects and motivate reflexive avoidance behavior. The existence of these systems, which may account for a great deal of the behavior of normal awake subjects (Bargh and Chartrand, 1999), is a product of our evolutionary history, in which consciousness was almost certainly a relatively late arrival. We were behaving in adaptive ways for millennia before consciousness arrived, and evolution is a conservative process. Consciousness is a scarce resource, one that is apparently called on only when zombie systems do not suffice on their own; it is needed only for complex or novel behavior.

Showing that a patient is (relevantly) conscious, therefore, requires conceptual work as well as empirical results. We need to establish what behaviors require consciousness, and what kinds of consciousness are required. We also need to establish the precise relationship between access and phenomenal consciousness. It may be that once access consciousness is rich enough, its contents are ipso facto phenomenally conscious, but this remains to be demonstrated. We are not entirely ignorant here: at least we have good theories concerning the role of access consciousness, which may shed light on the relationship between the two concepts of consciousness. The function of access consciousness is likely to be the integration of information from diverse sources, making that information available to many systems (including zombie systems) in turn. Information of which a person is aware is access conscious if it is available to (enough of) the consuming systems which make up the mind. Information must achieve what Dennett (2001) calls “cerebral celebrity” in order to be access conscious. It may be that achieving this kind of celebrity is also necessary for phenomenal consciousness; perhaps, the richness or vividness of phenomenal consciousness is a function of the degree of global availability of information. The mark of access consciousness is flexibility of response; because a piece of information is globally available, it can drive different kinds of behavior, and behavior that is sensitive to many
different kinds of information, fed from different modules. Mere awareness, or mere response, is therefore not an indicator, by itself, of consciousness. Isolated zombie systems are perfectly capable of such responses, but isolated zombie systems are unlikely, by themselves, to give rise to any kind of consciousness.

If all this is correct, we have good reason to be suspicious of the standard behavioral tests for the detection of consciousness. At very least, their use requires validation; it must be shown that the behaviors in question are unlikely to be produced by zombie systems. One of the many reasons why the work of Owen and colleagues constitutes an advance on standard methodologies for the detection of consciousness is that they are sensitive to this kind of concern; the task they use is demanding enough to make the hypothesis that it is accomplished by zombie systems alone unlikely.

**Consciousness: new evidence**

Owen et al. (2006) represents a revolution in consciousness studies, not only in the results contained but also in the methodology employed. Previously, researchers who hoped to detect consciousness in patients who, for one reason or another, were unresponsive to external stimuli had used fMRI or EEG in an attempt to detect neural correlates of consciousness “the minimal set of neuronal events and mechanisms jointly sufficient for a specific conscious percept” (Koch, 2004, p. 16). This is a technique fraught with conceptual difficulties, inasmuch as it is disputed what neural processes constitute the correlates of consciousness. Owen et al. sidestep this debate brilliantly. We can reconstruct their reasoning as follows: we do not ordinarily look for the neural correlates of consciousness in other people, because we believe that the kinds of complex cognitive processes in which they manifestly engage — talking to one another paradigmatically, but also interacting flexibly with the environment in ways that outrun overlearned processes — are clear evidence of access consciousness, and almost certainly of phenomenal consciousness as well. It is therefore not necessary to look for the neural correlates of consciousness. Instead, neuroimaging techniques can be employed to look for neural correlates of less controversial processes; if the subject gives unequivocal evidence of engaging in complex processes, of the sort which we ordinarily take to be evidence of consciousness, we will have as good reason to attribute consciousness to them as to one another outside the clinical context.

The reasoning is, we think, unassailable. If there are any doubts about their results, these doubts must focus on the particular cognitive processes selected, and on whether these processes might be carried by zombie systems, and not on the general line of argument. Let us now turn to the processes and the evidence they have produced.

There were two kinds of probes utilized by Owen and colleagues. One tested for, and successfully demonstrated, appropriate processing of ambiguous words. This evidence is not especially informative, because semantic processing is clearly the kind of thing that can be carried out by zombie systems. A number of previous studies have shown task-specific brain activation in patients: Schoenle and Witzke (2004) measured event-related potentials in the brains of PVS patients, using sentences ending in congruent or incongruent words as stimuli. In normal controls, an N400 response is elicited by the incongruent endings. Twelve percent of VS patients and 77% of what the authors describe as near VS patients exhibited the response, reflecting preserved semantic processing in these patients. Unpublished data reported by Perrin showed a P300 response — correlated reliably with recognition — to the patient’s own name in PVS (Laureys et al., 2005). The evidence from Owen et al. of semantic processing in PVS is therefore unsurprising. Semantic processing is mental activity, but mental activity need not be conscious.

The second type of probe utilized produces far more impressive evidence, and attention has rightly been focused on it. The probes utilized were instruction probes, and came in two variants. One variant asked the patient to imagine playing tennis, while the other asked her to imagine
walking from room to room in her house. In each case, she was asked to engage in the task for 30 s at a time. During the tennis probe, significant activity was observed in the supplementary motor area (SMA); during the navigation task, activity was observed in the parahippocampal gyrus, the posterior parietal cortex, and the lateral premotor cortex. In both cases, the responses were comparable to those observed in healthy controls.

The tasks the patient was asked to perform matters relatively little; any task would do, so long as it satisfied two conditions: initiation of the task must be under voluntary control and it must give rise to unambiguous neural correlates. It is plausible to maintain that the instruction following probes both satisfy these conditions (though it is sufficient for their purposes if only one of them satisfies the conditions). Might the behavior have been carried out by zombie systems nevertheless? Some critics have worried that the behavior might be produced through priming (Greenberg, 2007), that is, the processes which, in normal subjects, lead later behavior to be responsive to unconsciously processed information. In response, Owen et al. (2007) point to the sustained nature of the activity. Priming, they argue, is typically transitory, not sustained for the full 30 s. But this reply is not decisive.

Owen and his critics seem to have the same view of the unconscious: it is the “dumb” unconscious of cognitive psychology, which engages in brief flickers of automatic behavior. But the view of the unconscious mind suggested by work in social psychology is of a set of flexible and complex systems, capable of driving intelligent behavior. Most of the actions of ordinary people — some researchers believe the overwhelming majority — are initiated and guided by unconscious systems. Consciousness is a limited resource and it is saved for difficult tasks. So there is another way to interpret the evidence: rather than inferring, with Owen et al., that the patient engaged in goal-directed and complex behavior, and thus must have been conscious, we can conclude that they have provided further evidence for the power of automatic systems.

Owen et al. argue that their study demonstrated that the patient was conscious because the activation in SMA and other regions persisted so long, whereas responses to primes last only a few seconds. But persisting activity by unconscious processes has been demonstrated: Bargh et al. (2001) primed subjects with stimuli related to high performance, put them to work on a word finding task, and then instructed them to stop after 2 min. Primed subjects were more likely to ignore the instruction, indicating the persistence of the unconsciously activated goal. In a variation of this study, primed subjects were interrupted at the task after 1 min and then made to wait 5 min before being given the choice of continuing the word finding task or instead performing a cartoon-rating task, which was rated as more enjoyable. Once again, subjects primed with stimuli related to high performance were more likely to return to the word finding task then controls, indicating the persistence of the unconsciously activated goal through a full 5 min of rest.

Of course, this study is in many ways disanalogous to Owen et al., most significantly in that it concerned fully conscious subjects, albeit with unconsciously primed attitudes. Nevertheless, it demonstrates that we cannot infer from the mere persistence of a mental state to the conclusion that it is conscious. There is also some evidence that instruction following can be performed in the absence of consciousness, this time by subjects who may be entirely unconscious. Automatism is characterized by complex goal-directed behavior, apparently in the absence of consciousness. Automatism can persist for long periods of time. Consider the case of Ken Parks, who in 1987 drove 23 km through the Ontario suburbs to the home of his parents-in-law, where he stabbed them both (Broughton et al., 1994). Parks was held to be acting automatistically. Behavior in automatism is less flexible and intelligent than conscious behavior; some researchers believe that the violence sometimes observed arises from an unexpected obstacle interrupting an overlearned script. But it is apparently compatible with instruction following, at least in an extended sense: Parks drove through the Ontario streets apparently safely. We do not know if he obeyed the instructions of traffic lights and stop signs, but at very least he was able to guide his actions by
the layout of the streets, all in the apparent absence of consciousness.

It should be noted that though the existence of automatism is not in doubt, there is little direct evidence of the absence of consciousness in subjects in this state. However, if the widely held theory according to which consciousness requires activation of higher-associative cortices is correct (Dehaene et al., 2006), subjects in a state of automatism are not conscious, since they do not exhibit such activation (Laureys, 2005).

Despite the reservations expressed above, we concede that the evidence presented by Owen et al. (2006) is impressive. It is indicative of a degree of complexity of behavior which is unexpected. It is evidence of instruction following, and there are grounds for regarding instruction following as evidence of consciousness. Though the objection from priming cannot be ruled out, it might be thought that on balance the evidence favors the view that their patient was consciousness. What kind of consciousness is in question? Instruction following is evidence of some degree of access consciousness, the kind of consciousness that makes possible verbal report in normal subjects. Indeed, the PVS patient is engaging in an unusual kind of verbal report. It is a further step from the claim that the subject is access conscious to the claim that she is phenomenally conscious. It remains possible, as we have seen, that zombie systems underlie the report, and further work which tests for this possibility is required (Block, 2005, 2007, suggests way in which the dissociation between access and phenomenal conscious may be empirically tractable). However, given our doubts about the actual dissociation of the kinds of consciousness, we think it is reasonable to conclude that the patient has some degree of phenomenal consciousness as well as access consciousness.

The moral significance of consciousness

Even though we think that Owen et al. have produced impressive evidence that patients correctly diagnosed as PVS (i.e., who do not show sufficient behavioral responsiveness to qualify as conscious on the standard tests) are sometimes conscious, we want to sound a note of caution over the moral significance of these findings. We think that the moral issues are hardly altered at all by the findings.

The distinction between the two concepts of consciousness is important for ethics as well as cognitive science and the philosophy of mind. Consciousness is closely linked to the moral status of those capable of experiencing it, but the different kinds of consciousness underlie different kinds of moral value. Phenomenal consciousness is sufficient to make its bearer a moral patient (though it may not be necessary — beings with interests, like plants, who lack phenomenal consciousness might be moral patients as well; if so, however, they are a very low-grade kind of moral patient). To be a moral patient is to be a being whose welfare matters, whose welfare must be taken into account when we decide what to do. To be phenomenally consciousness makes one a moral patient because a phenomenally conscious being can experience states that have qualities of aver-siveness (like pain or boredom) or of pleasantness (like joy); these are states that matter intrinsically. To undergo these states is to have experiences which matter morally, and therefore beings capable of such experiences are moral patients.

We cannot be indifferent to moral patients; we are required to take their morally relevant states into account when we decide how to act. If PVS patients are sentient, then it matters what we do to them. We can benefit them by giving pleasure and harm them by causing pain. To that extent, their moment-by-moment states are of potential value and disvalue to them: they can suffer on the assumption — contra Carruthers (2004) — that the badness of pain consists in its phenomenality. We are morally required to minimize the amount of pain suffered by any sentient being (to the extent to which this is compatible with our other moral obligations), where sentence is the ability to have phenomenally conscious states. One way in which the findings under discussion should affect the debate, therefore, is by indicating the use of analgesics for some PVS patients. They may suffer, and we ought to take steps to prevent or minimize their suffering.
In our view, being a moral patient *solely* on the grounds that one is capable of experiences that are aversive or pleasant is a relatively low grade of moral status. It is the status that we accord to nonhuman animals. It is widely, and in our view correctly, held that we ought to take the quality of the experiences of nonhuman animals into account in our decision making, such that, say, we cannot cause them pain unless we have a good justification for doing so. But it is also widely, and we think correctly, held that other things being equal we have little reason to maintain nonhuman animals in existence; we need little justification to (painlessly) kill them (that is not to say, of course, that there are no differences between nonhuman animals and human beings; in virtue of *having been* a person, a certain kind of respectful treatment might be due to a patient, for instance, most of us think people ought to be buried. Our claim, rather, is nonhuman animals and human beings who are merely moral patients are similar in lacking an interest in continuing to live).

According to the view we are urging, nonhuman animals, with the possible exception of the great apes and perhaps cetaceans, have a right to have their interests taken into consideration, but they do not have a right to life. By a right to life here we do not mean the full inviolability that deontologists mean by the phrase: we do not mean an inviolability that can only be defeated by nothing short of what Nozick calls “major moral catastrophe” (Nozick, 1974). We mean something less stringent: a right to inviolability that can be defeated only by a sufficient number of comparable goods. We do not have space to develop our conception of what it takes to defeat such a right here; suffice it to say that this is a right that cannot be defeated by any number of trivial interests, though it can be defeated by important goods. Nonhuman animals do not have any such right; they have no interest in continuing to live and therefore we can choose to kill them (once again, painlessly) for the satisfaction of trivial interests (other things being equal), normal adult human beings do have such a right. What is it about normal adult human beings that justifies this difference in their moral status?

The justification lies in the mental states of which they are capable, including, though not only, their conscious mental states. The life of a person typically matters much more than the life of a nonhuman animal because only the former is capable of very sophisticated mental states that have an ineliminably temporal component. A being acquires a full moral status, including the right to life, if its life matters to it; that is, if it is not only momentary experiences that matter — as for the being capable only of phenomenal consciousness — but also an ongoing series of experiences. A full right to life requires that it is not only experiences that matter to one, but also how one’s life actually goes; that is, that satisfaction of one’s interests matter to one, and this requires very sophisticated cognitive abilities, such as an ability to conceive of oneself as a being persisting through time, to recall one’s past, to plan, and to have preferences for how one’s life goes (Singer, 1993; McMahan, 2002). It is the connectedness and continuity of one’s mental states that underwrite *personhood*, in one central sense of the word: it is insofar as each of us is a single being across (relatively long) stretches of time that we count as moral persons.

But the abilities that underlie moral personhood and full moral status are abilities that require *access* consciousness, not phenomenal consciousness. Information must be sufficiently available for rational thought and deliberation in order for a being to be able to have future-oriented desires or to conceive of itself as persisting in time. So the demonstration that the PVS patient was phenomenally conscious — that is, that she was “consciously aware of herself and her surroundings” (Owen et al., 2006, p. 1402) — would not alter the debate significantly unless it was also evidence for sophisticated cognitive abilities, including a sophisticated kind of access consciousness that was not the subject of evaluation of the Owen tests.

In order to justifiably attribute to a being the right to life, in the sense sketched above, we must have good reason to attribute to them not phenomenal consciousness, but a sophisticated kind of access consciousness. It is not sufficient that information be in the global workspace; there is every reason to
think that this much is true of many nonhuman animals, including many who are not capable of the sophisticated mental states required for a right to life. In addition, as we have seen, the right kinds of information must be available to the right systems to enable the organism to have extended and self-referential mental states. The organism must be capable of future-oriented desires (desires that some future state of affairs be actual) and, of plans and projects. It must be capable of preferences regarding how its life goes. These capacities require that the organism be capable not merely of phenomenal and access consciousness, but also of self-consciousness, because only a self-conscious being can have preferences regarding how its life goes. This is one reason why most nonhuman animals do not have a right to life, but great apes and cetaceans might, because the latter pass tests for self-consciousness (like the mirror test; the ability to recognize that an image in a mirror is oneself is thought to require a conception of oneself as a separate being; see Keenan et al., 2003) and the former do not.

In addition, however, it is plausible to think that a full right to life requires not just access consciousness — which, as we noted above, we think that patients who pass the tests designed by Owen et al. demonstrate — but a sustained and sophisticated kind of access consciousness; that is, for a being to possess a right to life, the information in their global workspace must be available to consuming systems for a sustained period, to enable the being to link mental states across time. It may in fact be the case that what we shall call diachronic access consciousness is a necessary condition of self-consciousness that only a being who is able to maintain a thought about a desire can refer that desire to itself and therefore be self-conscious. There is, we note, evidence for some kind of diachronic access consciousness in the patient reported in Owen et al. (2006); the patient sustained the instruction following task for a full 30s. But before we can conclude that she is self-conscious, we need evidence that her diachronic access conscious had the right content: that it included self-referential contents. So far as we can tell, the study does not provide such evidence, and therefore does not establish that the patient has the right kinds of sophisticated mental states that underlie full moral status.

### Conclusion and future directions

Clearly, further research is needed. We do not rule out the possibility that some patients who pass the test are in a state akin to locked-in syndrome, in which, usually as a result of a brain stem stroke, a person is fully and normally unconscious but incapable of voluntary movement. Someone in this state has all the capacities which underlie a full right to life. But we do not take this claim to be established. We have expressed some doubt that the patient in the original study was conscious at all, but we concede that the room for doubt is limited. We do think that the evidence suggests strongly that some PVS patients are actually conscious. But we think that the degree of consciousness is likely to be closer to that seen in MCS, rather than in LIS. We have suggested that the transitory and fluctuating consciousness seen in some MCS patients does not underwrite full moral status because it is transitory; only in those cases in which the mental states of the person are appropriately connected to one another does she have full moral status.

If the patient is conscious, then she is a moral patient; it matters — morally — how we treat her. We cannot cause her pain unless there is good reason to do so. But we do not have a reason to maintain her in being. Indeed, given that decisions about patient treatment are made in contexts in which resources are scarce, evidence that the patient is neither self-conscious nor capable of self-consciousness might be seen to be evidence that we have a positive reason not to maintain her in being (we acknowledge, of course, that there is no direct evidence that any PVS patient is not conscious). But we utterly reject the view that we need evidence for the absence of consciousness before we can justifiably conclude that consciousness is lacking. Sometimes absence of evidence is evidence of absence; were that not the case induction, a fundamental part of the scientific method in which one concludes on the basis of the
fact that past experiences have had a certain feature that future experiences will too would be impossible (for a defence of this claim, see Sober, 1981). Given the current state of consciousness studies, we believe that we can — fairly — reliably conclude from the absence of certain kinds of neural responses to the absence of states of consciousness.

We conclude with some reflections on the moral importance of the research examined here, as well as related work. We have argued that if the research shows that the patient is phenomenally conscious but not self-conscious, we have reason to take her experiences into consideration but not to keep her alive. But we have not ruled out the possibility that some PVS patients will be shown to have more sophisticated cognitive capacities, which would allow us justifiably to attribute full moral status to them. Moreover, it may be that evidence of consciousness in PVS is not evidence of full moral status at the time of the test, but predictive of later recovery, perhaps even recovery of full moral status. Obviously, we have good reason to maintain a person in life if they have good prospects of such a recovery. Given, however, that MCS (unless it is a transition stage) is not a state that gives a patient moral personhood, it is no benefit to them to be in it.

Obviously, a great deal of further research is necessary. In particular, we hope to see research aimed at demonstrating the sophisticated kind of access consciousness that underlies full moral personhood. Such tests would demonstrate the availability of self-referential information to the patient across time; they would therefore probe for desires which are about how the patient’s life goes, and not merely for immediate experiences, for hopes or fears regarding future times. We see no way to test for these capacities without the development of a communication paradigm that would enable the probing of self-consciousness and temporally persisting information. Unfortunately, we believe that this is a case in which failure to elicit the information would not be absence of evidence that is evidence of absence: there are many reasons why someone who is conscious might fail to be capable of sophisticated communication. But success at eliciting such information would put the moral status of PVS patients beyond any doubt.

References


