

CHAPTER 4. TOWARD A NEW THEORY OF CONSCIOUSNESS: THE JONAH MIND

I suggest a solution to the Mind/Body problem through three proposals:

Proposal 1: *Consciousness comes in a broad spectrum, from very simple to very complex.*

Proposal 2: *All areas of the brain are conscious.*

Proposal 3: *Consciousness is information.*

Proposal 1: *Consciousness comes in a broad spectrum, from very simple to very complex.* Thus, even a cockroach, as it flees from a threat, has some measure of consciousness. This does not mean that the roach is thinking “I better get away from that person before I get stepped on.” It may have a much simpler form of consciousness that is too elementary for us to appreciate, because higher elements of consciousness (e.g., consciousness of self) are such a staple part of our own consciousness whenever we think of something.

I propose that consciousness comes in even very simple forms, because if we assume that consciousness requires a certain degree of complexity before it arises, we then have great difficulty explaining why consciousness should suddenly arise at a particular point of complexity. That is, why would consciousness not exist when 1 billion neurons fire but suddenly arise when 1 billion and one neurons fire? The nature of consciousness differs so radically from the physical nature of neurons that it is difficult to explain why it should suddenly arise at a certain level of complexity. If a fetus only becomes conscious at a certain stage of development, what was its status one minute before that time?

We can see, for instance, how a home, which differs from a brick, can arise from a pattern of bricks. Both the home and bricks are in the same category, that of the physical. But it is difficult to see how consciousness per se can suddenly arise from a particular complex pattern of nerve cell firing, but not exist with a pattern of lesser complexity. Why should consciousness, a category so different from matter, arise with just a higher degree of complexity? There may be different degrees of consciousness associated with different levels of complexity, but why should consciousness per se be totally absent at one level of complexity and suddenly pop into being at a higher level? It is more reasonable to consider consciousness as a

continuum, becoming more complex as the complexity of its underlying physical substrate increases. I propose, therefore, that consciousness exists all the way down to the very simplest of levels.

Scholars often claim that consciousness did not arise in evolution until the nervous system achieved a certain level of complexity, as if there were no consciousness at all below that level of complexity, none for the initial billions of years of cosmic evolution. In part, this claim is an example of ambiguity in the definition of consciousness. If by consciousness, one means the human variety of consciousness with the full gamut of self-consciousness and consciousness of self and higher order thoughts, then of course consciousness as so defined would require a certain high level of complexity to exist. Consciousness would not exist in other animals if the bar of complexity is raised high enough. It would not have existed at an early stage of evolution but would have had to wait until the development of an advanced type of primate. The problem with this reasoning is its all-or-none claim that there should be a sudden ushering in of consciousness per se when complexity reached a certain level, and that there is no consciousness at all before that level is reached. Why should consciousness suddenly arise at a certain stage of complexity?

As another way of looking at this problem, imagine someone saying that the concept of “city” emerges from the idea of a number of houses or other buildings clustered together, but then states that the idea of “house” has no subdivisions from which the concept of “house” emerges. That would be preposterous, because “house” consists of subdivisions (of walls, roof, windows, etc.). The concept of “walls” emerges from still lower subdivisions, of wood planks, plaster, and so on to lower and lower levels of molecular organization. How could one say that there is emergence of city from houses, but there is no emergence of “house” from anything? Yet there are theories that propose that there was no consciousness at all in evolution until a certain level of complexity was achieved. One would have to explain why a certain level of complexity arrived at through evolution should be accompanied by consciousness, but not lower levels of complexity. It makes more sense to think of consciousness as a continuum from elementary to complex.

Proposal 2: *All areas of the brain are conscious.* There are no unconscious areas of the brain. This proposal at first may seem absurd. It seems so “obvious” that certain areas of the brain are associated with consciousness, while others are not. For instance, if one stimulates certain areas of the cerebral cortex (the layer of neurons on the surface of the main bulk of the brain, the *cerebrum*), the subject will report a variety of conscious experiences, e.g., visual or auditory hallucinations, depending on the area stimulated. But stimulating the *cerebellum*, a smaller structure which lies below the cerebrum, does not give rise to the report of a conscious experience. This has led to the assumption that the cerebellum is not a conscious area of the brain. Such logic is flawed, however, for the following reason:

Imagine that there is a very advanced whale that is not only conscious but also able to describe to others what it is conscious of. The whale swallows *Jonah*, who is also a conscious being. Despite the fact that Jonah resides inside the whale, the

whale is not aware of Jonah's thoughts. If one asked the whale whether or not it was conscious of Jonah's thoughts, the whale would say "No." Should one then conclude that Jonah was not conscious? Of course not! Just because the whale was unaware of Jonah's thoughts does not mean that Jonah is not conscious. Jonah is just unable to communicate his thoughts to the whale, but he is still a fully conscious entity, and a rather complex one as well.

Now let us return to considering the cerebrum and cerebellum of the brain. When the cerebellum, the so-called unconscious area of the brain, is stimulated, the person does not report any conscious experience. Does this mean the cerebellum is an unconscious area of the brain? It is unjustified to conclude this, just as it is unjustified to conclude that Jonah in the whale is unconscious. The cerebellum may be perfectly conscious, like a Jonah-in-the-whale (perhaps to a more elementary extent) but just unable to communicate this to the person, so the person cannot report being conscious of the cerebellar stimulation, just as a person is unaware of another person's thoughts. We hastily conclude that the cerebellum is unconscious, whereas it may well be a "Jonah-in-the-whale." *I refer to the latter type of hidden, but real, consciousness as a "Jonah-mind," as distinguished from our "customary" consciousness, the latter being the kind we customarily experience and can report on in our daily lives.*

Both the Jonah-mind type of consciousness and our customary consciousness could be similar except for the nonreportability of the Jonah-mind. Jonah cannot report his consciousness to the whale. The reason the whale cannot report its consciousness of Jonah's thoughts has nothing to do with any lack of memory or with complexity of the thought process. Jonah has no difficulty with his memory and his thoughts may be quite complex. The problem is one of communicating his thoughts to the whale. He could have a mind just as complex and just as capable of memory storage as the whale, but this would not suffice to enable the whale to be aware of his thoughts.

A Jonah-mind does not have to be as complex as our customary consciousness. It need not have consciousness of self, or consciousness of consciousness, or other features of higher levels of customary consciousness. But even if it did, the person still could not report to others about the Jonah-mind's experience (any more than the person could report on what someone else was thinking), so it remains inaccessible to customary consciousness, while nonetheless remaining conscious in its own right. In principle, a Jonah-mind could be quite complex or quite simple. I use the term Jonah-mind to affix in the reader's mind the idea of a *hidden consciousness*, rather than our customary consciousness that we can readily report to others. Just because the name "Jonah" is used, this should not lead the reader to think that it necessarily refers to a little person, or homunculus, in the brain with the consciousness of self or other higher aspects of consciousness. A Jonah-mind may be quite elementary, referring conceivably even to the information inherent in just two neurons that are in association. A Jonah-mind may be simple or complex.

Disney's Epcot Center contains an exhibit called "Cranium Command," in which a person takes control inside the brain of a 12-year-old boy. The stom-

ach, cardiac, and endocrine systems are presented humorously as separate people, who have their own thought processes and report them to the pilot in the control system in the brain. I do not have this in mind in describing Jonah-mind type consciousness in so-called “nonconscious” brain areas. In Cranium Command, the pilot (the brain) is conscious of the thoughts of the other people (the organ systems), who report to him. In contrast, a Jonah-mind does not communicate its thought processes to the person (except perhaps for the final results of the thought process, e.g., nausea, as opposed to the underlying physiologic events that give rise to nausea). A normal person will state that he is not conscious of the detailed thoughts stemming from such a purported Jonah-mind. Moreover, the organ systems in Cranium Command are portrayed as individual complex people, but a Jonah-mind does not require complex customary consciousness. It does not necessarily have a concept of self, and the qualia that it experiences do not have to be complex.

Why postulate the existence of the Jonah-mind? Without this assumption, we are left with the dilemma as to why one area of the brain should appear to be conscious and another not. All areas of the brain are complex. Why should consciousness be associated with one area and not another? Some researchers have proposed that there are physical differences between one brain area and another that may account for their being “conscious” or “nonconscious,” such as 40 cycle/sec neuronal electrical activity confined to the “conscious” areas (Crick, '94; Blakeslee, '92, '95), or complex thalamocortical neuronal circuitry associated with consciousness (Edelman et al., '00). However, these proposals do not explain why a physical difference of any kind should result in one brain area being conscious and another not. This difficulty disappears with the Jonah-mind, where it is proposed that all brain areas are conscious. It may simply be that some areas can report to the outside world on their consciousness while others cannot. The difference between the conscious and so-called “nonconscious” areas is the same difference that accounts for why the whale is not aware of Jonah’s thoughts. It has nothing to do with complexity. A Jonah-mind can be highly complex (like Jonah-in-the-whale) or simple, with no advanced features like consciousness of consciousness, or consciousness of self. The difference may have to do with reportability, not complexity. The problem of understanding why one area of the brain and not another should be conscious then disappears. All areas of the brain would be conscious, but some would be conscious in the customary sense, others in the Jonah sense. I find the term “Jonah-mind” preferable to the term “unconscious mind” since the latter presumes that the “unconscious mind” is intrinsically not conscious. The term “Jonah-mind,” though, allows for the possibility that the so-called “unconscious mind” really is conscious, like Jonah-in-the-whale, but is just unable to report the experience to the person or anyone else.

Proposal 3: *Consciousness is information.* Equating our consciousness with the information in our brains provides a ready approach to the Mind/Body problem. This is a dualistic formulation that does not require a mystical supernatural Mind.

However, proposing that our consciousness is the information in our brains leads to three immediate questions:

- If consciousness is information, and information can be complex or simple, does this mean that consciousness can be ascribed to even simple levels of information processing? This is answered in the affirmative in proposal 1.
- There are many areas of the nervous system that engage in complex information processing, but are not believed to be conscious. If consciousness is information, how would one then account for the (supposed) unconsciousness of these areas? Proposal 2 resolves this by suggesting that all areas of the brain are conscious.
- What is “information”? This is the subject of much of the book.

The proposals in this book, then are:

- *Consciousness may range from simple to complex.*
- *All brain areas are conscious—the Jonah-mind.*
- *Consciousness is information.*

These proposals will be used to develop an approach to resolving the “hard” problem of consciousness, namely how consciousness actually arises in the brain. That will lead us to the question of the “soul” and afterlife.

It will first be necessary to define “information.”