

Reply to Melissa Moschella

E. Christian Brugger

PROFESSOR MOSCHELLA BEGINS by discussing confusions in the brain-death debate surrounding the use of the concepts of “integration” and “wholeness.” Some scholars, she says, such as Alan Shewmon, take the presence of biological integration as an indication of ontological wholeness. Others, such as the members of the President’s Council for Bioethics, think that some bodily integration can persist in the body of a brain-dead individual; but that the subject in which it persists is not a whole.

Moschella concedes that brain-dead bodies can express biological integration. She argues, however, that the presence of integration *per se* does not settle whether the body is a corpse or of a living human individual. Only what she calls “higher level” or “substantial biological integration” (as opposed to “lower level” or “non- substantial” integration”) makes the parts of a body into an ontological whole. Only an ontologically whole human body is the body of a living human being. So, the point of her paper, as I understand it, is to help us answer the question of whether brain-dead bodies – with whatever integration they express – are ontological wholes. Moschella argues that they are not and that therefore we can confidently deny that the integration expressed in them is “higher level, substantial biological integration.”

Her argument runs like this. “*Organismal unity*,” she says, consists in the interrelationship among the natural functions of an organism’s parts.¹ This *interrelatedness* is the organism’s “principle” of organization. This principle is essentially the “functional unity” of the *parts* of an organism. Now, not all parts are equally important. Some parts, she says, are “vital parts.” A “vital part” performs functions necessary to sustain the life of the organism (e.g., organs and organ systems). Nor are all vital parts equally important. Some vital parts are “regulative” – meaning that they control the functions of other vital parts.

¹ Moschella draws on the ideas of Hoffman and Rosenkrantz to formulate this part of her argument. Joshua Hoffman & Gary S. Rosenkrantz, *Substance: Its Nature and Existence* (New York NY: Routledge, 1997).

At the top of the hierarchy of regulative vital parts is what she calls the “master vital part.” She defines the master vital part as that which “controls” all other parts of the body. Following Hoffman and Rozenkrantz, she says:

It appears to be the case that all known organisms have such a master part, although the master part need not be centralized. In plants, for instance, it is plausible that the master part is the system comprised by the roots, stem, and leaves (but excluding the sap). In adult vertebrates, the master part seems to be centralized, consisting of the central nervous system (brain and spinal cord).²

She claims that in humans the “brain and spinal cord” constitute the master vital part.

At first it looks as if she is going to resurrect the account of the 1981 President’s Commission (formulated by James Bernat and others) of the brain as master regulator of the holistic unity of the body. In a sense she does that, but with this twist. Whereas the *Bernat-President’s Commission* account argued that total brain-death results in the collapse of all of the body’s integrative unity – something that Dr. Shewmon’s research later refuted – Moschella says that the brain-dead body can express some integrative somatic unity, but not to an “optimal degree.” In other words, the “control” exercised by the *master part* – absent in brain-dead bodies – is not over the existence of integrative functioning, but over *optimal* functioning.

In reply, Moschella offers no strong reasons to believe that her account of the “master part” is true. She says:

The claim that a master part, so defined, is required for organismal unity is not an *a priori* truth (though it may still be a necessary one), but is based on the observation that in all known cases, the regulation or control of the life-processes of the parts of an organism is accomplished by means of the activities of a system of biological parts that jointly have a natural function, and this system is referred to as the master part.

This is problematic for two reasons. The first is empirical. She uses the phrase “in all known cases.” Does this mean that a master part, as she defines it, is demonstrably present in all the millions of known organisms? Has this really been verified? She references Hoffman & Rosenkrantz, but they are philosophers, not biologists. When they refer to examples of master parts (see the

² Moschella, p. 3.

passage reproduced in Moschella's note 21) they refer to the examples as "apparent." Similarly, Moschella herself says that the universality of a master part "*appears* to be the case" and that in adult vertebrates the part "*seems* to be centralized" – hardly conclusive language. Moschella's account of the "master vital part" is a hypothesis. Given the evidence, it may be plausible, but mere plausibility is not an adequate ground for moral certitude in this question upon which the lives of countless innocent human beings depend. After all, Aristotelian embryology and Ptolemaic astronomy were plausible, but flatly wrong.

The second reason is philosophical. *Pace* Moschella, the proposition that a master part *as she defines it* is necessary for ontological wholeness acts in her account as an *a priori*. It excludes at the outset at least three other possibilities: (1) that the living body's integration may not be governed by any master part; (2) that the master part may not be centralized or that it may have both a centralized and a diffuse dimension; and (3) that the vital functions of a centralized master part may be compensated for by other organs in physiologically stable brain-dead individuals.

Although a brain-dead body's organs and organ systems do not function to an optimal degree, they can function, function together, and function in extraordinarily complex ways. The brain-dead body can grow proportionately, maintain homeostasis, recover from cardiac arrest, heal wounds, gestate babies, contract fevers, and manifest hypertension, flushing, and immune responses. These functions appear to be carried out by a whole. Each of the several trillion cells, the dozens of organs, and several organ systems from the tip of the toe to the top of the thoracic cavity seem to be functioning for the good of the whole.

Moschella gives no reason for concluding that when the brain is dead the individual is dead except that when the brain-master-part is dead, the body cannot operate to an optimal degree. And my reply is that her account is plausible, but it is not obvious that it is the right account in all cases, and so it leaves room for reasonable doubt.

The whole idea of a master part rests on what "seems" to be the case. She has not established that what seems to be the case is the case. Why must a whole be governed by a master part? Because, she argues, in all known instances a body without a functioning master part seems not to be a whole, and the brain-dead body has no functional master part. I reply that it *seems* to be the case that the physiologically stable brain-dead body is in fact carrying

out its own somatic functioning.

Even conceding that there is a master part, why must it be *centralized*? Moschella replies in this way: because it *seems* to be the case that in higher vertebrates the master part is always centralized. I reply that from the evidence gathered from brain-dead bodies it *seems* as likely that holistic integration is carried out by the whole body (especially the spinal cord and nervous system), and not by any centralized organ.

If we concede even further that the brain is a centralized regulator of holistic integration, why can't the minimally-necessary vital integrating functions be compensated for by the remaining spinal cord and nervous system when the brain is destroyed? A metaphor might explain this better. The body has a capacity that acts as a kind of back-up-generator. When the main power goes out (i.e., when brain-mediated integration ceases), the back-up capacity kicks in such that the rest of the body provides the minimally necessary integrative functioning needed to live. Moschella's *a priori* account excludes this possibility. But she gives no reason whatsoever why it should be excluded. Merely asserting that the brain is the master part and that the master part is necessary for life, and then dealing with the complex expressions of somatic functioning of some brain-dead bodies by saying "they're not optimized, therefore not truly human functioning" will not do.

It seems to be the case that vital functioning carries on in brain-dead individuals and that what is lost is merely optimization. To Moschella, optimization is a pre-condition for wholeness. But all disability involves by definition non-optimal functioning. So, to define *this* disability (i.e., the non-optimal functioning as arising from brain death) as expressive of human death is arbitrary.

Consequently, her account leaves room for reasonable doubt that what appears to be the operations of a disabled human being are just that.

In fact, Shewmon agrees with Moschella that the brain plays a necessary role in the modulation and enhancing of the functions of the body. He thinks, however, that the brain is not necessary for a body to be whole. His claim is manifestly not *a priori*. It is based upon the observation of rightly diagnosed brain-dead individuals, which led him to claim that true human somatic integration is not brain dependent.

In conclusion, Moschella arbitrarily defines the master part as one that is both necessary for life and centralized. In so doing she excludes the possibilities (1) that the vital integration of the human body may not be exclusively

controlled by a master part, (2) that the master part may not be centralized but may be diffused throughout the whole body, and (3) that the vital integrating functions of the master part may be compensated for by the remaining spinal cord and nervous system in the case that the brain is destroyed.

Because of the plausibility of these alternatives, her account effectively asserts only one empirically demonstrable conclusion, namely, that when the brain is destroyed the body's integrating capacity is not optimal. But nobody contests this.

