Journal of Medicine and Philosophy, 31:97–105, 2006

ISSN: 0360-5310 print/1744-5019 online
DOI: 10.1080/03605310600588640

Routledge
Taylor & Francis Group

Metaphysics and Morality at the Boundaries of Life

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I. INTRODUCTION

This issue of *The Journal of Medicine and Philosophy* contains articles that are unified in their focus on issues related to the beginning and end of human life. Historically, a large measure of the bioethics literature is comprised of attempts to deal with ethical issues that arise only at life's boundaries—this includes all discussions of the moral propriety of abortion, embryonic stem cell research, and euthanasia. Another major emphasis in bioethics is comprised of attempts to establish what might be called life's boundary conditions—this includes all discussions of what human life is exactly and when it begins and ends. Whereas writing of the former type is squarely normative in character, it often depends on conclusions reached in writings of the latter type, which are largely metaphysical in character. For example, absent a justified account of what the boundaries of life are, it can be difficult, if not impossible, to know how we should treat moral patients who are in the vicinity of the boundaries. For each of life's boundaries—beginning and end—this issue contains articles of each major type—normative and metaphysical. This fortunate combination affords the reader an opportunity to explore the various ways in which these distinct approaches relate to each other.

The first two articles are focused on end of life issues. David Hershenov (pp. 107–120) explores the implications a certain theory of personal identity within the context of one standard definition of death. Jukka Varelius (pp. 121–137) is concerned with the morality of voluntary euthanasia and physician assisted suicide and the hopes of seeking guidance on this question by reference to the goals of medicine. The next three articles are focused on issues that are related to the beginning of life. Rose Koch-Hershenov (pp. 139–164) examines the prospects of a theory of ensoulment at fertilization

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within the context of current biological science, specifically some recent findings on totipotency and twinning. Gregor Damschen, Alfonso Gomez-Lobo, and Dieter Schönecker (pp. 165–175) issue a reply to a recent article in this journal wherein it is argued that human individuals begin to exist sixteen days after conception. In this issue's last offering, Francis Beckwith (pp. 177–203) offers a penetrating review of David Boonin's recent and important book *A Defense of Abortion*.

II. DEFINITIONS OF DEATH AND THE MORALITY OF KILLING

David Hershenov's main concern is recent discussions on the definition of death, and in particular, two attempts to distinguish biological death from personal death. James Bernat has influentially argued for a univocal conception of death according to which persons are essentially living organisms whose death is coincident with the termination of our vital organismal processes (1999). In contrast, both Robert Veatch and Jeff McMahan think that humans are essentially thinking beings and it's on this basis that they argue for a non-univocal conception of death, according to which biological death is very different from the death of the person who might be spatially coincident with the organism (Veatch, 1993; McMahan, 2002). This allows them to say of a patient in PVS that the person has died, though the body continues to live. In Veatch's view, personal death involves "the irreversible loss of the capacity for experience" (Veatch, p. 94). This clearly leaves open the possibility that personal death can precede biological death. In McMahan's view, persons are merely "parts" of biological organisms. It also follows from this view that the concept of personal death (and life) will differ from the organismal concept. Hershenov argues that both Veatch's and McMahan's accounts are problematic and that it is possible to revive a sophisticated univocal concept of death.

Hershenov wants to simplify things and argue instead that there is a conception of personal identity for which a single concept of death will suffice. He draws from Lynne Baker's account of constituted persons, according to which people are constituted by organisms, but not identical to them in the same way that a statue is constituted by a lump of clay, but not identical to it. Hershenov argues that since persons are constituted by biological organisms, they derive properties from biological organisms, including the property of being alive. This allows Hershenov to argue that there is a univocal concept of death that applies to both organismal and personal death (p. 110). It follows from this view that one couldn't say of a PVS patient that the organism is surviving the person's death, contrary to the views of Veatch and McMahan. Hershenov accepts this implication and mounts several arguments in its defense. He utilizes a thought experiment involving a cerebrum transplant wherein

we are to imagine that a cerebrum has been attached to a machine that carries on the vital bodily functions. Hershenov maintains that the person still exists and is spatially coincident with the cerebrum, but it is no longer alive, since it no longer derives the properties of the once living organism that constituted her (p. 114). Hershenov thinks that in this case the person has died, though she continues to exist in the cerebrum (p. 114). It follows from this that "the destruction of cerebral brain cells should not be part of the definition or criterion of the person's death" (p. 115). Hershenov also explores the implication that this view has for the possibility of a person's persisting organismal death and argues that on his view there is reason to believe in the possibility of successful total inorganic part replacement (p. 118).

Jukka Varelius takes a novel approach to the debate over the ethics of physician assisted suicide (PAS) and voluntary euthanasia (VE). He argues that appeals to purported goals of medicine will not resolve questions about the moral propriety of most cases of either physician assisted suicide or voluntary euthanasia. Varelius helpfully distinguishes between two ways of defining the goals of medicine. On a subjective characterization, the goals of medicine are determined by patients' autonomous decisions, while on an objective characterization, the goals of medicine are understood to be things such as the (1) avoidance of premature death, (2) preservation of life, (3) prevention of disease and injury, (4) promotion and maintenance of health, (5) relief of pain and suffering, (6) avoidance of harm, and (7) promotion of well being (pp. 125–126). After recognizing this important distinction Varelius carefully considers the prospects of each characterization for guidance on the question of the moral permissibility of physician assisted suicide and voluntary euthanasia.

In Varelius's treatment of the subjective characterization of the goals of medicine, he believes that it is important to understand the reasons why autonomy is valued. He considers the moral status of PAS and VE under the assumption that autonomy is valuable independently of its role in the promotion of the patient's well being. He then makes several arguments to the conclusion that there is, in fact, no reason to maintain the view that the value of autonomy goes beyond its role in promoting the patient's well being (pp. 124–125). It seems to follow, he argues, that if autonomy's value is derived from the value of well being, then the morality of PAS and VE will be determined by reference only to what benefits or harms the patient; the value of autonomy itself will do none of the work in determining the acceptability of the practices in question (p. 125).

Varelius then turns to the objective characterization of the goals of medicine and finds a similar result in most cases. He examines the seven medical goals listed above and argues that each goal is either consistent with many cases of PAS and VE or indeterminate as to the moral permissibility of PAS and VE. He concludes by arguing that in the indeterminate

cases, the moral question actually turns on what is the most plausible theory of prudential value (pp. 126–133).

III. ENSOULMENT AND THE GENESIS OF LIFE

Rose Koch-Hershenov's article shifts the focus to the other boundary of life, namely the question of when human beings begin to exist. Koch-Hershenov examines this question against the background of the latest findings in human embryology, specifically the findings concerning totipotency and the capacity for monozygotic twinning. In her article, Koch-Hershenov first details the problems that totipotency and monozygotic twinning pose for ensoulment-at-fertilization theories. She goes on to offer a reinterpretation of relevant biological data that squares the scientific findings with the theory of ensoulment at fertilization. Last, she argues that beyond exhibiting mere consistency with the biological data, ensoulment theory provides an explanation for occurrences of monozygotic twinning.

Totipotency, in the sense that Koch-Hershenov explores, is "the capacity a cell has, if separated from the embryo, to become a complete separate embryo" (p. 141). Monozygotic twinning refers to the capacity of a human embryo to divide into at least two genetically identical embryos. While the former can only be said of the cells that comprise the zygotes at the earliest stages of their development (~4 days), the latter is a capacity that embryos possess until approximately the 16^{th} day of development. Koch-Hershenov suggests that both of these capacities pose a problem for proponents of the view that ensoulment occurs at fertilization because of the potential for a spontaneous post-ensoulment increase in the number of human beings. Focusing first on totipotency, Koch-Hershenov points out that there are several options available to the ensoulment theorist, among them the idea, borrowed from reflections on amoeba division, that upon division the original ensouled single-celled zygote actually "fissions out of existence," resulting in two daughter cells, each with different "new" souls. Another option Koch-Hershenov explores is delayed ensoulment theory under which ensoulment takes place after fertilization, at a point when the capacity to divide into twins no longer exists (p. 143). Finding each option problematic, she turns to defend the theory of ensoulment at fertilization by challenging the justification for the claim that human embryonic cells are totipotent.

Upon scrutinizing the latest biological data on the totipotency of cells in the very early human embryo, Koch-Hershenov argues that the conventional view on totipotency is insufficiently supported by evidence. She raises a number of problems, starting with what she argues is an unjustified use of embryological findings in other mammals to support theories of human embryological development (pp. 145–146). She also contests the studies which purport indirectly to show that human zygotes are totipotent. The

bulk of these experiments examine the effects of specific types of *in vitro* fertilization which are thought to contribute causally to the observed increased rate of monozygotic twinning (pp. 146–149). Koch-Hershenov raises a number of problems for each, points to countervailing studies, and concludes that "a review of studies on artificially induced twinning affords more plausibility to ensoulment at fertilization than is offered in philosophical literature on our origins" (p. 150). Having raised these doubts, Koch-Hershenov proceeds to her discussion of human nature, from which she draws heavily on Aquinas' hylomorphism. Koch-Hershenov maintains, following Aquinas, that humans have a rational soul whose functional nature transcends matter (p. 151). She ably defends the consistency of a hylomorphic metaphysic with ensoulment-at-fertilization theory by arguing that the undeveloped unicellular zygote, even with its relatively non-complex structure, is an appropriate receptacle for the human form because it has the potential to develop into an entity with a brain and nervous system (pp. 152–154).[1]

Koch-Hershenov concludes by extolling the virtues of the hylomorphic account of human beings when confronted with the problems of totipotency and natural monozygotic twinning. She argues that if a totipotent cell is removed from an already ensouled early zygote, then the removed cell, which at that point is essentially another fertilized egg, would be infused with a distinct, "younger" soul at the instant of removal (p. 155). She goes on suggest that in cases of natural monozygotic twinning, "two human beings . . . each composites of a soul and body . . . came into existence at fertilization when two souls were infused into the unicellular body" (p. 158). In the twinning event, these spatially co-located yet distinct souls separate, resulting in two ensouled beings that have identical ages.

In another article that focuses on the beginning of human life, Gregor Damschen, Alfonso Gómez-Lobo, and Dieter Schönecker offer a response to a recently published article by Barry Smith and Berit Brogaard wherein an attempt is made to place the beginning of human existence at 16 days post fertilization (2003). Smith and Brogaard argue that there are four necessary conditions that a human individual must satisfy, where "human individual" is construed as a substance that is also a "unified causal system that is relatively isolated from its surroundings" (p. 49). On the basis of these criteria and recent scientific findings in human embryology, Smith and Brogaard submit that human individuals do not come into existence before gastrulation which occurs around day 16 of development (p. 62). Damschen et al. dispute this and suggest that by Smith and Brogaard's own lights, the human individual begins in the single-celled zygote.

Damschen et al. argue that two of the central reasons Smith and Brogaard give for ruling out the human individuality of the pre-gastrulic early embryo are false. First, Smith and Brogaard argue that in the very early embryo the membrane that surrounds the cell(s)—the zona pellucida—fails

to count as a robust boundary membrane in the sense that is necessary for the very early embryo to be considered a human individual (2003, p. 55). Damschen et al. raise several problems for this view, among them recent findings that the zona pellucida plays an active role in molecular "communications" between the mother and zygote (p. 170). These findings run counter to the claim by Smith and Brogaard that the zona pellucida is merely a sack that holds cells of the embryo together spatially. The second of Smith and Brogaard's challenged claims is that in the very early stages there is no causal interaction within the zygote. Damschen et al. argue that the weight of the scientific evidence tells against this claim and in favor of the view that the early embryo from the unicellular zygote on qualifies as a unified causal system (pp. 170–171).

Damschen et al. conclude by disputing Smith and Brogaard's assertion that it must be impossible for the zygote to divide in such a way that it goes out of existence and is replaced by two or more entities which themselves satisfy the conditions necessary to be a human individual (Smith & Brogaard, 2003). Damschen et al. argue against the inference from the possibility for a single embryo to twin into two or more embryos to the belief that the adult humans are not transtemporally identical with the single early embryo from which they developed (p. 173). Damschen et al. then take a close look at what instances of *actual* twinning might look like (pp. 173–174). The upshot of this examination is that although twinning entails a slightly later than normal beginning for at least one of the embryos, one of the twins is identical with the pre-gastrular early embryo, contrary to the conclusions reached by Smith and Brogaard.

IV. THE MORALITY OF ABORTION

In the last article of this volume, Francis Beckwith provides a review of David Boonin's recent and important book, *A Defense of Abortion* (2004). In his overview, Beckwith describes Boonin's central goal of criticizing the arguments of abortion opponents on grounds that, according to Boonin, they accept (p. 178). Beckwith reveals that Boonin's methodology is essentially Rawlsian reflective equilibrium, wherein the philosopher takes prima facie correct moral values and beliefs and attempts to square them with considered moral judgements about specific cases (p. 179). Beckwith wraps up his brief overview by sketching Boonin's basic argumentative approach. Boonin suggests that the case for the impermissibility of abortion, when it is based on a fetus having a right to life, depends on the truth of the following two claims:

1. "The claim that the fetus (at least in typical circumstances) has a right to life."

2. "[T]he claim that if the fetus has a right to life, then abortion (at least in typical circumstances) is impermissible (Boonin, p. 282).

Beckwith discloses Boonin's burden as showing that either (1) or (2) is false. Indeed, Boonin takes this up for the overwhelming majority of the book, although there are other "non-rights-based" arguments that he critiques in the last chapter. Beckwith notes that his review focuses only on Boonin's objections to the central claims of the rights-based arguments (Beckwith, p. 180).

Having presented the general framework of the book, Beckwith sets off to explore Boonin's critiques in significantly more detail, beginning with Boonin's objections to the position that the right to life is present at conception. Beckwith disputes Boonin's contention that the lack of scientific consensus as to what is the precise moment of fertilization counts as a reason to doubt that human life begins at conception (Boonin, 2002, pp. 37–40). Beckwith argues that this epistemological conundrum should not prevent us from saying that the post-fertilization zygote *is* a new human being, with the capacity of possessing a right to life. Beckwith then suggests that Boonin fails to consider an important type of rights-based argument based on the substance view of the human person (p. 182), according to which a human being possesses the right to life "because of the sort of thing that it is" (p. 183). Beckwith argues that this presents Boonin with a dilemma.

With the help of a thought experiment involving an adult comatose human who suffers total and irreversible memory loss, Beckwith contends that this adult and a fetus are in exactly the same position with respect to the possession of only the capacity to have conscious experiences, a fact which would seem to force Boonin to accept that it would also be prima facie morally permissible to kill the comatose adult. Beckwith argues that the premise from which this argument is made is a controversial one and that Boonin would be begging the question if he simply helps himself to it (p. 185).

Beckwith then considers Boonin's claim that the right to life depends on a fetus' acquiring "organized cortical brain activity" (pp. 185–188). Boonin's argument is (1) that this type of brain activity is a necessary condition for having any conscious experience, (2) that having conscious experience is a necessary condition for having desires, and (3) that having desires is a necessary condition for possessing a right to life (p. 185). Beckwith objects to the last premise in this argument and presents two counterexamples, the first of which involves an indoctrinated slave who lacks the desire for and interest in a right to life, and the second involves a purposely created brainless human being who lacks the necessary physical structures to have desires. Beckwith contends that Boonin's desire-based account gets each of these cases wrong, and that it follows from this that "organized cortical brain activity fails as a condition that imparts to a human being a right to life" (p. 189).

The next section of Beckwith's review addresses Boonin's critique of the claim that if the fetus has a right to life, then abortion is impermissible (premise 2 above). The bulk of the literature on this topic is comprised of responses to Judith Jarvis Thomson's famous violinist argument (1984). This is an argument by analogy which states roughly that if it is permissible to disconnect yourself from a person whose life depends, for some reason, on sharing your organ functions for a period of nine months, then it is permissible to abort a fetus, even if one concedes that both have a right to life. Beckwith focuses on Boonin's critique of the parental obligation objection to Thomson which states that since the pregnant woman engaged in behavior which is "naturally ordered" to be a procreative act and since this result of her behavior is foreseeable, she is in some sense parentally obligated in the same way that a father is obligated to provide child support (p. 191).

Boonin's critique is centered on a distinction between being responsible for the neediness of the dependent offspring, and being responsible for the needy offspring's existence. Boonin maintains that only the former requires that one provide some assistance—merely bringing it about that a needy person comes to exist doesn't generate an obligation to help that person. This claim is supported by a story wherein the violinist's doctor saves the violinist from certain death with a procedure that eventually results in the violinist's dependence on the doctor's own organ function. This is intended to elicit the intuition that the doctor is responsible for the violinist's continued existence, but not for his neediness. Beckwith argues that there is an important distinction between this violinist case and pregnancy. He points out that in the violinist case, the physician is not bringing the violinist into existence in the way that parents of an unborn child have; rather, the physician is merely extending the life of an already existing being. Beckwith argues that this distinction discloses important asymmetries between the two cases, from which he draws the conclusion that parents, through their procreative act, bring into existence a being that is needy by nature. They are, therefore, responsible for the fetus' existence *and* neediness (pp. 193–196).

Having challenged the fundamental basis of Boonin's critique of the parental obligation objection to Thomson, Beckwith offers the following objection to Boonin's argument that the difference between the burden a pregnancy presents to women is sufficiently large that it would be wrong to require that she continue the pregnancy, given the fact that we would not require a man to take on similar physical burdens if they were found to be necessary to bring the child to term. Beckwith objects to this line of Boonin's by arguing that it relies on the premise that "it is *not rational* to believe that a woman's physical design is ordered toward the caring, sheltering, and nurturing of unborn children" (p. 198). Beckwith contends that this flies in the face of reason and that the mother's body "is designed for pregnancy and child bearing" (p. 198).

Furthermore, Beckwith suggests that it is wrongheaded to think that the justification of abortion is to be decided by comparing the differences in the burdens that pregnancy presents women and men. The proper comparison, he holds, is between the harm of pregnancy shouldered by women and the harm of death shouldered by the fetus, should it be aborted (p. 198). In closing, Beckwith submits that contrary to Boonin's stated objective, the arguments in *A Defense of Abortion* do not grant abortion opponents their conception of personhood, while still concluding that abortion is morally permissible. Instead, Beckwith claims that "Thomson and Boonin smuggle into their cases a philosophical anthropology—a metaphysical view of the human person—that is no less controversial than the fetus's personhood they are *apparently* conceding for the sake of argument" (p. 199).

NOTE

1. This is entirely consistent with the contours of arguments presented in a recent article by Jason T. Eberl recently published in this journal (2005, pp. 379–394).

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