

The Silver Bullet Question

(Part 2)

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In an article published in FREE INQUIRY a few years ago (“The Silver Bullet Question that Kills the Immortal Soul, *FI*, April/May 2004), I argued that souls cannot be infused into humans in today’s world, because there is no point in human or prehuman history where a putative “first ensoulment” can be ethically justified.¹ In that essay, The Silver Bullet Question was: “Who first had a soul whose parents did not?” But The Question can be formulated even more pointedly, providing a better basis for the following discussion.

Imagine a timeline stretching from the present back to the origin of *Homo sapiens*, perhaps two hundred thousand years ago, or even all the way to Olduvai Gorge, more than three million years BP, with billions of dots representing, in exact chronological order, each baby born throughout that period. The concept of a “first infusion” means that there must exist on that line a point where it is *morally* acceptable to insert “The Magic Tick of the Clock,” creating a literal *infinity* of difference between “Baby N” and “Baby N+1,” a *consecutive* pair who would otherwise be indistinguishable both genetically and anatomically.

I note parenthetically that if we define the points on the timeline as *conceptions* not *births*, reflecting the view of some theologians that the soul or personhood is conferred at conception, it could easily happen within the transitional “cross-over generation” that “Baby N” (or N-1, N-2), conceived *before* the “Magic Tick,” might take longer in gestation and thus be born *later* than “Baby N+1” (or N+2). So some “pre-soul” children would be *younger* than others that were conceived on the “good side” of the dividing line, and they would grow up side by side—but with a maximum disparity of destinies.

Either way, the whole concept seems obviously untenable *no matter where* we place that Magic Tick; the injustice of denying to Baby N, who dies and becomes dust, the eternal existence granted to Baby N+1 is immediately evident. This kind of argument, which originated in ancient Greece, is called *sorites*, from the Greek word *sôros* (heap), referring to the impossibility of determining, when one takes one grain of sand at a time from a pile, just when it stops being a pile. It is worth noting that Ted Sider, a full professor of philosophy at New York University, has recently applied a *sorites* argument to a very similar issue, the absolute division between heaven and hell as opposed to the inevitably “fuzzy” continuum of human moral character and behavior, and two other professional philosophers have used it to argue against the notion of fetal personhood.²

In fact, there has been a striking resurgence of interest in *sorites* problems and the general issue of “vagueness”: a search in February 2008 of the online *Philosopher’s Index*, covering more than sixty years of publication, yielded 337 entries involv-

ing the term *sorites* and 778 for *vagueness*, with fully half of each set coming from the last decade. This shows clearly that using this ancient argument form is no mere antiquarianism; it remains as disturbingly potent as ever and cannot be dismissed just because its implications may be unwelcome.

As applied here, the crux of the argument is the contradiction between the scientific insistence on gradualism and continuity in evolutionary development, acknowledged in the late Pope John Paul II's well-known 1996 *Address to the Pontifical Academy of Sciences*, and the unbridgeable gap created by the absolute presence or absence of immortality.³ Proponents of eternal existence thus have to choose whether to abandon science or morality—a rather awkward dilemma, to put it mildly. Of course, if they choose to grant immortality to the creatures of Olduvai, then the locus of the argument simply recedes deeper into the past, with its deadly force still intact. Yet the farther back one goes, the more ridiculous it seems for creatures we would regard as mere beasts to receive “eternal life.” Whether primitive humans or hominids could *understand* their status and *how* divine instructions might be communicated to them are also questions fraught with difficulty for the traditional view, since most paleoanthropologists think that conceptual thought and language came rather late to our species.

Considering this longer time period, we may reframe The Question in a different but equally intractable format as three simple but incompatible propositions:

1. All humans today have immortality as an intrinsic property from birth (or conception).
2. No animal has such an intrinsic property (a central tenet of Christian theology).

But: 3. Humans are derived from animals (a basic claim of evolutionary theory). Thus, there has to be a threshold, yet such a dividing line cannot be morally tolerable.

It's hard to see how those who support the concept of eternity for humans can evade this dilemma. Many classical-period arguments based on the *sorites* paradox involve comparatively trivial issues, such as the exact defining point for a heap or baldness; but the presence or absence of eternal life is of vital importance, and it surely must be an all-or-nothing situation. No one would be inclined to accept partial or fractional immortality, and, mathematically speaking, infinity cannot be subdivided; thus the *sorites* argument is actually better suited to this idea than it is to the traditional topics.

The focus on the long-range history of our species invokes the phylogeny aspect of The Silver Bullet Question, and, just as there is a parallel between individual and species in the biological cliché, “Ontogeny recapitulates phylogeny,” so there is a parallel type of argument in which The Question is applied to the realm of ontogeny. By “ontogeny” I mean the prenatal embryological development of the individual from the so-called moment of conception to the birth of a full-term baby.⁴ Most people probably regard this process as, on the whole, pretty reliable, since in the modern world the incidence of serious birth defects and stillbirths is fairly low, about two or three per hundred births.

Here's a “reality check”: suppose we could identify one hundred American women with access to good medical care who became pregnant within the last twenty-four hours. If we come back nine months later (and ignore the possibility of multiple births), how many full-term babies, healthy or otherwise, will have been born? The average person might guess ninety or more, imagining a very high success rate for human

pregnancies once fertilization has occurred. But one of the most striking conclusions reached by embryologists in the last few decades is that the correct number would be no more than fifty—and maybe as low as twenty!

A few quotes⁵ from expert sources will show an emerging consensus:

1. “The total loss of conceptuses from fertilization to birth is believed to be considerable, perhaps even as high as 50% to nearly 80%.”

2. “The fate of the fertilized ova can be quite grim within the embryonic period . . . [adding up to] a total loss rate of 70–80%.”

3. “At minimum, two-thirds of all human eggs fertilized during normal conception either fail to implant at the end of the first week or later spontaneously abort.”

4. “Estimates [of pre-implantation loss] range all the way from 60 percent to 80 percent.”

5. Harold Kalter, a noteworthy expert, asks plaintively, “Is it all part of a plan that the great majority of human products of fertilization should perish during the course of pregnancy?” On the same page, Kalter estimates that by the time of birth, 80 percent of “defective conceptions” are “mercifully sifted out,” and “a mere (!) 3 percent of newborns are congenitally malformed” (Kalter’s exclamation mark).

In general, then, about *three-fourths* of all fertilized eggs—which “right-to-life” groups sometimes refer to as “babies”—are rejected by the maternal womb in a process known as “spontaneous abortion” or “pregnancy wastage.” We are not the only species to use such an erratic method of reproduction; studies of various mammals early in the twentieth century indicated similarly high embryonic failure rates for pigs, sheep, and cows. For example, several studies published in the 1950s (using half-century-old technology) showed 40–50 percent embryonic mortality in normally fertile pigs and sheep. Higher percentages are attested: the plains viscacha (a South American rodent) ovulates about eight hundred eggs, of which seven may end up being fertilized and only two actually delivered, a 71.4 percent failure rate.⁶

In many cases, the lost human embryo has gross genetic abnormalities, meaning that it would be profoundly malformed if carried to term and probably could not survive on its own. But about half of rejected fetuses appear to be genetically normal, and the reason for their failure remains unknown—except, perhaps, to the traditional divinity that does not intervene to prevent their deaths. These sobering statistics invite an inference which seems unavoidable but which I have not seen in the literature: if we combine the disquietingly high rates of pregnancy wastage and infant mortality over the last two hundred thousand years of the existence of *Homo sapiens*, it seems plausible to say that at least *95 percent* and perhaps as much as *98 percent* of all fertilized human eggs, each one a wondrously complex potential member of our species, have died without achieving meaningful maturity or contributing to the “gene pool.” Some embryology texts speak of human reproduction as highly efficient—but that can only be true if they are comparing it with plant seeds or fish in the sea.

A 2004 satirical essay in FREE INQUIRY by Richard Taylor, taking the 80 percent pregnancy wastage figure as valid, proposed a crash government program to do what God is apparently unwilling to do: save the sixteen million “babies” that are presently lost every year in the United States alone.⁷ A simple extrapolation from that figure suggests an annual worldwide

total of about three hundred million “babies” who die without a chance to develop, which constitutes a staggering if unacknowledged number of “persons” whose “right to life” is being violated. Flippancy aside, there is a serious issue here; several philosophers, including Leonard M. Fleck, have asked what we should *think* and what we are obligated to *do*, focusing on the moral problems created by the fact of high pre-natal mortality and the possibility that in the near future it might be technically feasible—but perhaps otherwise undesirable—to prevent some or all spontaneous abortions by means of an (at present imaginary) “Omega Pill.”⁸

Kalter’s phrase quoted above, “mercifully sifted out,” may seem callous, but anyone who peruses textbooks on teratology, the study of monstrous birth defects, can see what ghastly things emerge when nature’s screening process is not sufficiently vigilant. Many religious parents might prefer to regard a child with “special” qualities as a gift from God (rather than as a curse or punishment), but it would take extraordinary forbearance to deal with the challenges presented by a truly deformed baby, and one wonders whether society could handle the sudden tidal wave of *terata* that would undoubtedly result from widespread use of Fleck’s pill. That particular technology does not exist now, but there is reportedly another source of abnormal births and spontaneous abortion, which, by a strange irony, comes from religious authority itself—the “rhythm method.” Studies done in the 1960s and ’70s strongly suggest that this Church-endorsed approach to birth control may actually increase the chances of a disastrous outcome.⁹

If we turn from that unhappy subject to the aforementioned issue of “ontogeny” paralleling “phylogeny,” it should be obvious by now that the “infusion” or appearance of a soul in each individual human will be as much a target of The Question as the first appearance of a soul in the history of the species. In fact, matters may be even worse, since there can be some extraordinary twists and turns in the development from unicellular fertilized egg to full-term delivered baby, and the complex facts of embryology, revealed only within the last century (and becoming more complex as research proceeds), make it difficult if not impossible to establish any specific point in the process that would be either physiologically or morally appropriate for the insertion or emergence of the immortal element said to be present in all humans.

Almost any introductory text in embryology will demonstrate these problems. If souls are infused at “the moment of conception,” when there is only one cell, what happens in the case of twins or other multiple births? Even if there is no twinning, for about two weeks the embryo is totipotent, which means that *each* of its cells can develop into a complete individual; are extra souls created later for them? If souls are added after that two-week period, what happens in the (rare) case of chimeras, which result when two genetically independent embryos grow together and have mixed DNA from three parents? Does one soul vanish (thus implying mortality)? Another complication is that a fertilized egg or zygote cannot be considered a fully-formed and independent *person* just because all the genetic information of the new DNA is present; it still must have various kinds of input from sources outside itself. And no matter how one answers those questions, there remains the issue of “pregnancy wastage,” which will also mean “soul wastage”; if 80 percent of embryos die long before birth, then either most infused souls are being lost or fetuses



don't acquire their souls until after the period of highest mortality has passed—which might suggest that they are not entitled to protection before that point and also does little to help pinpoint the proper moment for infusion.¹⁰

There have in fact been other, very different opinions in Western thought, both secular and Christian, regarding the timing of fetal “animation” (entry of the *anima*, soul); some prominent early Christian theologians argued, following Aristotle, that ensoulment takes place in successive animations, with the fetus acquiring first a “vegetative,” then, by a mysterious double replacement process, a “sensitive,” and finally, as the distinctive mark of humanity, a “rational” soul, seemingly anticipating the (now abandoned) “ontogeny recapitulates phylogeny” concept. Clement of Alexandria (c. 150–c. 215) attempted to offer a general timetable for this process, proposing that a fetus did not become a true member of the human species until some forty days after conception; other theologians have offered varying estimates of the timing—all with the underlying common theme that, as St. Anselm (1033–1109) asserted, it cannot be possible for the “rational [i.e., properly human] soul” to be present from the “moment of conception.”

But the notion of a tripartite soul, regardless of how its connection to or development within the body is explained, seems obviously more implausible than a unitary essence. One also has to wonder whether the supervising divinity is required to implant or infuse “animal” and “sensitive” souls into all other living things according to their nature and stage of development—a task which would require an inordinate amount of its time, given the stupendously large number of living creatures on earth. In any case, modern biology long ago abandoned the idea that a “life principle” must be superadded to an organism to make it become alive.¹¹

Theologians and moral philosophers have wrestled with these new discoveries with little unanimity in their arguments and conclusions; FREE INQUIRY readers may be surprised to find that both Catholic and non-Catholic authors have presented quite controversial and unconventional ideas in recent decades. The items mentioned in notes 10 and 12 represent only a tiny fraction of the enormous bibliography in these highly contentious areas, but they may serve as starting points. Especially worthwhile is Protestant minister Geoffrey Drutchas's *Is Life Sacred?*, a well-researched, well-written, but highly contrarian survey of Christian ideas, which received only one extended professional-journal review and no notice at all in the national media—probably because he argues that the modern “absolute sanctity of life” principle did not become part of mainstream Christian thinking until the late nineteenth century. He states at the outset (p. x), “a belief in the sacredness of human life does not *cohere* with biblical teaching, church tradition, or even current belief and practice among many, perhaps a majority of, Christian theologians and laypeople” (emphasis his). Instead, Drutchas advocates a “respect for life” principle as being both truer to historical Christian tradition and more in conformity with scientific and social realities.¹²

The foregoing discussion has sought to show that many familiar ideas about human development—the soul, animation, the “moment of conception,” personhood, “sanctity of life”—are vulnerable to the power of the *sorites*, and, as we have seen, there is no easy escape. If one accepts the basic picture presented by modern science—in this case, the *continuous* unfolding of human life in both individual and species—

then The Silver Bullet Question cannot be ignored or dismissed. As I like to say, The Question, taken together with other science-based arguments, *causes* “The Death of the Afterlife” and falsifies pie-in-the-sky promises of heaven and terroristic threats of hell. In the present atmosphere of resurgent religiosity, secularists need to make the strongest possible case against cherishing untenable fantasies and in favor of accepting the sobering facts of human mortality; as part of this campaign, The Silver Bullet Question can have an effect disproportionate to its apparent simplicity.  

Notes

1. “The Silver Bullet Question that Kills the Immortal Soul.” FREE INQUIRY, 24(3) (April/May 2004): 47–49.

2. Theodore Sider, “Hell and Vagueness,” *Faith and Philosophy* 19 (2002): 58–68. Cf. also Lee F. Kerckhove and Sara Waller, “Fetal Personhood and the Sorites Paradox,” *Journal of Value Inquiry* 32 (1998): 175–189. On paradoxes in general, cf. Nicholas Rescher, *Paradoxes: Their Roots, Range, and Resolution* (Chicago: Open Court, 2001), esp. pp. 77–82 on *sorites* problems. For a response to Sider’s article, cf. Trent Dougherty and Ted Poston, “Hell, Vagueness, and Justice: A Reply to Sider,” *Faith and Philosophy* (forthcoming). Professors Kerckhove and Waller have informed me via e-mail that they are unaware of any published rejoinders to their essay.

3. “Message to Pontifical Academy of Sciences on Evolution,” *Origins* (Washington: National Catholic News Service) 26, no. 25 (December 5, 1996): 415–16; this statement was dismissed as “vague and unimportant” by Christoph Cardinal Schönborn in a *New York Times* op-ed (July 13, 2005). Corliss Lamont, *The Illusion of Immortality* (New York: Continuum, 1990), pp. 116–17, discusses the idea of extending immortality backward in time through hominid prehistory and even to animals, but he does not apply the *sorites* argument to the idea.

4. Ronan O’Rahilly and Fabiola Müller, *Human Embryology and Teratology*, 3rd ed. (New York: Wiley-Liss, 2001), p. 7, make an explicit parenthetical comment with a forthrightness rare in textbooks: “. . . fertilization (which, incidentally, is not a ‘moment’).” For early and characteristically trenchant comments on this issue (in the course of a book review, without raising the *sorites* aspect), cf. H. L. Mencken, “Science and Theology,” *American Mercury* (Sept. 1932): 123–26 (excerpted as “The Immortality of the Soul” in *A Mencken Chrestomathy* [New York: Knopf, 1949], pp. 86–88): “When does it [the soul] appear, at the moment of conception or somewhat later? If the former, then what happens to the soul of a zygote cast out, say, an hour after fertilization?” (p. 126; p. 87). The rest of his discussion is more theological than embryological; I am much indebted to multitalented author Bob Byrne for this reference.

5. (1) O’Rahilly and Müller, op. cit., p. 93; (2) Enid Gilbert-Barnes and Diane Debich-Spicer, *Embryo and Fetal Pathology* (Cambridge: Cambridge Univ. Press, 2004), p. 14; (3) Stephen S. Hall, “The Egg,” *Discover* 25 (May 2004): 30–39, esp. 34; (4) the distinguished embryologist John Opitz of the University of Utah, in testimony before the President’s Council on Bioethics in September 2003, as quoted by Hall, *ibid.*; (5) Harold Kalter, *Teratology in the Twentieth Century: Congenital Malformations in Humans and how their Environmental Causes were Established* (Amsterdam: Elsevier, 2003), *Neurology and Teratology* 25 (2003): 131–282, esp. 134. One noteworthy and early theological response to this issue is a comment in Karl Rahner’s “The Problem of Genetic Manipulation,” in *Theological Investigations, Vol. IX: Writings of 1965–67 1* (London: Darton, Longman & Todd, 1972), pp. 225–52, esp. p. 226, n. 2; he takes a 50 percent mortality rate as established.

6. Cf. John D. Biggers, “In Vitro Fertilization, Embryo Culture and Embryo Transfer in the Human,” in *Appendix: HEW Support of Research Involving Human in Vitro Fertilization and Embryo Transfer* (Washington: Dept. of HEW, Ethics Advisory Board, 1979), pp. 8–9.

7. Richard Taylor, “The Tragedy of Our Time,” FREE INQUIRY, 24(1) (December 2003/January 2004): 20.

8. Leonard M. Fleck, “Abortion, Deformed Fetuses, and the Omega Pill,” *Philosophical Studies* 36 (1979): 271–83. There was a response by James A. Montmarquet, “Messing with Mother Nature: Fleck and

the Omega Pill," *Philosophical Studies* 41 (1982): 407–19, and a further reply by Fleck, "Mending Mother Nature: Alpha, Beta and Omega Pills," *Philosophical Studies* 46 (1984): 381–93. A less provocative but equally challenging argument, without mention of Fleck's and Montmarquet's articles, may be found in Timothy F. Murphy, "The Moral Significance of Spontaneous Abortion," *Journal of Medical Ethics* 11 (1985): 79–83.

9. On the rhythm method, see Bernard Häring, "New Dimensions of Responsible Parenthood," *Theological Studies* 37 (1976): 120–132. For some highly controversial arguments on the general issue, see Helga Kuhse and Peter Singer, *Should the Baby Live? The Problem of Handicapped Infants* (Oxford: Oxford University Press, 1985).

10. For a nontechnical introduction, see Ronald M. Green, *The Human Embryo Research Debates: Bioethics in the Vortex of Controversy* (New York: Oxford, 2001), pp. 1–54, esp. 25–32. For extensive, clear, and forthright discussions of many biological and moral-philosophical issues, see *Conceiving the Embryo: Ethics, Law and Practice in Human Embryology*, ed. Donald Evans (The Hague: Martinus Nijhoff, 1996). On the nonindependence of the early fetus, see Carlos A. Bedate, S. J., and Robert C. Cefalo, "The Zygote: To Be or Not Be a Person," *Journal of Medicine and Philosophy* 14 (1989): 641–45.

11. The classic statement is Jacques Loeb, *The Mechanistic Conception of Life* (Chicago: University of Chicago, 1912), pp. 3–31; almost a century later, science has not yet fulfilled—or even come close to—his futuristic vision of explaining everything about life through biochemistry.

12. Geoffrey G. Drutchas, *Is Life Sacred?* (Cleveland: Pilgrim Press, 1998), esp. pp. 9–86. For the one review, see Thomas A. Shannon, *Theology Today* 57 (2000-01): 148–49. A liberal Catholic view comes from Joseph F. Donceel, S. J., "Immediate Animation and Delayed Hominization," *Theological Studies* 31 (1970): 76–105, which provides a detailed summary of Western thought from Aristotle to the present, with conclusions that are both unconventional and yet literally traditional. Thomas A. Shannon and Allan B. Wolter, "Reflections on the Moral Status of the Pre-Embryo," *Theological Studies* 51 (1990): 603–26, take up and expand, on the basis of modern embryology, Donceel's call for a return to the older theological approach of "mediate animation" (i.e., a post-fertilization development) vs. the current predilection for "immediate animation." Another important discussion, arguing against the Catholic Church's current position on early abortion by citing the Church's own traditions, is Carol A. Tauer, "The Tradition of Probabilism and the Moral Status of the Early Embryo," *Theological Studies* 45 (1984): 3–33.

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