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The Difference Between Form and Shape: Why Human Appearance Is Morally Irrelevant

Craig Payne

ABSTRACT: The groups of people broadly characterized as “pro-life” and “pro-choice” seem to operate under remarkably different conceptual frameworks regarding the development of the unborn child. This disagreement over hominization and the status of the conceptus is profoundly rooted or “embedded” (in the words of Teresa Iglesias) in “different *conceptualizations* of the reality of the embryo.” Richard Stith describes these different conceptual frameworks as primarily two in number, “development” and “construction.” This article argues that the “construction” view of embryonic growth makes the common error of confusing something’s “shape” with its “substance” or “form” (using Thomistic terminology), while the “development” view does not make this mistake. One may therefore conclude from both philosophical and scientific stances—from the Thomistic metaphysics of “form” and from advances in embryology—that Stith’s “development” model clearly seems superior to the “construction” model.

ROBERT PASNAU EXPRESSES explicitly the implicit thought of many when he writes, “It is surely absurd to think that a few unformed cells count as a human being.”¹ The reader will note the language used here. The “ontological” position on the question about the immediate hominization of the zygote, that the zygote is a human being

¹ Robert Pasnau, *Thomas Aquinas on Human Nature: A Philosophical Study of Summa Theologiae 1a 75-89* (Cambridge UK: Cambridge Univ. Press, 2002), p. 120.

from conception, is not even to be considered a viable option in bioethical discussions. It is regarded not only as an “absurd” view, but as “surely absurd”—as if any rational audience must find its absurdity to be self-evident. Notice also the loaded adjective “unformed.” Another writer points out for a more popular audience that the three-day-old blastocyst is composed of only about 150 cells, while the brain of a fly contains over 100,000 cells: “The human embryos that are destroyed in stem-cell research do not have brains, or even neurons.”² Again, the implication is that anyone thinking of the zygote as possessing an “intellectual nature” or “form” of any sort is not to be taken seriously.

Likewise, Daniel Dombrowski and Robert Deltete think of the position of immediate hominization of “a microscopic speck of matter” as “ridiculous.”³ As quoted by Anne Gardiner, they think of the abortion of embryos (up to the thirty-second week of their existence⁴) as not relevantly different from mowing one’s lawn or pruning bushes:

The authors inform us that performing an abortion on a “nonsentient” child (which, as we have just seen, can be up to the eighth month) is like mowing the lawn. Here are their very words: “It is unclear to us, however, why killing a nonsentient being is rash or precipitous. We do it all the time with equanimity when we mow the grass.” Elsewhere they say that an abortion is “like pruning one’s rose bush.” These are chilling analogies. But do they actually work as analogies? No. For when one prunes a rosebush, it is to make it bloom more abundantly; when one mows the grass, it is to make it grow thicker and stronger. But when one aborts a child, does that child’s capacity to grow improve?⁵

² Sam Harris, *Letter to a Christian Nation* (New York NY: Knopf, 2007), p. 29.

³ Daniel A. Dombrowski and Robert Deltete, *A Brief, Liberal, Catholic Defense of Abortion* (Champaign IL: Univ. of Illinois, 2000), pp. 33 and 129.

⁴ “The fetus becomes morally considerable between twenty-four and thirty-two weeks when sentience, and then the cerebral cortex, starts to function” (ibid., p. 56).

⁵ Anne Barbeau Gardiner, “For Catholic Dissenters, Abortion Is Like Mowing Grass” —review of *A Brief, Liberal, Catholic Defense of Abortion* in *New Oxford Review* 71/9 (October 2004), <http://www.newoxfordreview.org>, n.p, accessed 12 July 2006.

The quotations are taken from pages 36 and 44 of the work by Dombrowski and Deltete. To consider their position more fully, the quotation from page 44 might be completed: “It is unclear to us, however, why killing a nonsentient being is rash or precipitous. We do it all the time with equanimity when we mow the grass *or cut out cancerous tumors*” (emphasis added). The fact that Dombrowski and Deltete can thus equate a developing, unitary being with the parasitic growth of diseased cells exemplifies a profound lack of understanding of the Thomistic notion of the human hypostasis, the unitary being made up of its “form and matter.”

Even though the analogies of the pruned rosebush and the mown grass, as Gardiner points out in this passage, do not really work as analogies since the obvious intent of pruning and mowing (as opposed to abortion) is to allow the recipients of the operations to flourish and grow, it is still striking that such analogies suggest themselves as appropriate to the intelligent, educated, cultured authors of the pro-choice work here under discussion. Why is it that these analogies seem wholly appropriate to one set of persons and completely bizarre and far-fetched to another? It would seem that these different groups operate under remarkably different conceptual frameworks regarding the development of the unborn child.

STITH’S “CONSTRUCTION AND DEVELOPMENT”

Disagreements over hominization and the status of the conceptus are profoundly rooted (or “embedded,” in the words of Teresa Iglesias) “in different *conceptualizations* of the reality of the embryo, i.e., of the ‘same facts’ about the embryo (or, for that matter, of the human being as such) that are taken to be ‘different’ by the so-called ‘conservatives’ and ‘liberals,’ and are manifested in what they say and do with them.”⁶

⁶ Teresa Iglesias, Review of *Conceiving the Embryo: Ethics, Law and Practice in Human Embryology*, and *Creating the Child: Ethics, Law and Practice of Assisted Procreation*, ed. Donald Evans, in *Studies in Christian Ethics* 11 (1998): 83-90, here at p. 84, emphasis in original.

Richard Stith, professor of law at Valparaiso University School of Law, describes these different conceptual frameworks as primarily two in number, “development” and “construction.” In response to his own question, “Why do many pro-choice people find our arguments against early abortion not just unconvincing but absurd?” he responds: “I submit that pro-life arguments seem absurd to any listener who has in the back of the mind a sense that the embryo or fetus is being *constructed* in the womb.” He goes on to explain his terminology:

Here’s an analogy: At what point in the automobile assembly-line process can a “car” be said to exist? I suppose most of us would point to some measure of minimum functionality (viability), like having wheels and/or a motor, but some might insist on the need for windshield wipers or say it’s not fully a car until it rolls out onto the street (is born). We would all understand, however, that there’s no clearly “right” answer as to when a car is there. And we would also agree that someone who claimed the car to be present from the insertion of the first screw at the very beginning of the assembly line would be taking an utterly absurd position. To someone who conceives of gestation as intrauterine construction, pro-life people sound just this ridiculous. For a thing being constructed is truly not there until it is nearly complete. (Moving from ordinary language to metaphysics, we would say that a constructed thing does not have its essential form until it is complete or nearly complete. And it can’t be that thing without having the form of that thing.)⁷

In Stith’s account, this distinction between “development” and “construction” is not merely “an accident of language” and can be seen in several commonplace daily examples.

For instance, perhaps a friend has taken a once-in-a-lifetime photograph that cannot be duplicated, even under similar circumstances. (In a paper given in 2007, Stith offers the example of a photograph of a jaguar that has now darted back into the cover of the jungle foliage.⁸) If

⁷ Richard Stith, “Arguing with Pro-Choicers.” Firstthings.com (30 October 2006), n.p., accessed 5 January 2007, emphasis in original.

⁸ Richard Stith. “Construction, Development, and Revelopment,” *Life and Learning XVII: Proceedings of the Seventeenth University Faculty for Life Conference*, ed. Joseph W. Koterski, S.J. (Washington, D.C.: University Faculty for Life, 2008), pp. 243-55; here see pp. 249-52. Stith uses the term

the camera were of the type that uses non-digital Polaroid film, this film would begin to “develop.” If at that point one were to rip off the protective film cover from the snapshot, the photograph would be ruined and irreplaceable. The friend who had taken the photograph would be likely to protest vehemently and would not be solaced by the comment, “But the photograph was still in the brown-smudge stage. Why should you care about a blotch of brown smudges?” Stith points out: “Just so for pro-lifers, who find dignity in every human individual. To say that killing such a prized being doesn’t count if he or she is still developing in the womb strikes them as outrageously absurd.”⁹ In this view, even if the entity under discussion only had a few cells or were only a zygote, it would still be a *developing human*, and so it ought to be treated just like other developing humans—newborn babies, for example—ought to be treated. “Development, unlike making,” as Stith writes in a different article, “implies continuity in being.”¹⁰

On the other hand, if the protective film cover had been ripped off from a blank piece of unexposed film, the photographer would be much less upset. In that instance the photographer would not have lost anything of great value, since the unexposed film had nothing developing on it. It would have had “passive potential” in that it *could have* developed into the image of something only if it had been exposed to that something. But, since it in fact had not been so exposed, it would retain only passive potential and not “developing potential.” As Stith writes, “Only developing potential already contains its own form (essence, identity), is already the *what* that it is in the process of manifesting.”¹¹ The photograph, for example, is already a photograph from the time of its exposure, even if its image is neither apparent nor even visible. There seems no real

“revelopment” to describe the process by which the zygote’s ongoing development as a human being is “re-veiled” or “reveloped” in one’s understanding by the constructionist’s presuppositions.

⁹ Stith, “Arguing with Pro-Choicers,” n.p.

¹⁰ Richard Stith. “The Priority of Respect: How Our Common Humanity Can Ground Our Individual Dignity.” *International Philosophical Quarterly* 44/2 (2004): 165-84, here at p. 180.

¹¹ Stith, “Arguing with Pro-Choicers,” n.p.

difference between ending the development of the exposed Polaroid photograph, on the one hand, and on the other, destroying the same photograph once it has been completely developed and thus has manifestly become “a photograph.” The same entity is being destroyed in both cases, simply at different levels of development.

From the “constructionist” point of view, even if this view is held only latently or unconsciously in the mind, the concept of the embryo or zygote as “under construction” in the womb would lead one to reject Stith’s “developing film” analogy. In this opposing view, the embryo progressively “becomes” human as it has more and more functions or capacities added to it. A Benthamite utilitarian, for instance, might hold the “construction” view and argue that aborting the embryo is not wrong until the embryo develops enough of a nervous system to feel pain. (Of course, even at that point a Benthamite utilitarian would not assert that the embryo’s pain makes it “wrong” to abort the embryo, for the embryo’s pain would be only one factor in the utilitarian calculus and other factors might well lead one to support the abortion.)

Likewise one might argue that the essence of “humanness” is the ability to reason and so support abortion (and probably euthanasia) on the grounds that the embryo has not yet developed a brain, a cerebral cortex, reasoning abilities, etc. In the case of euthanasia, one could argue in some cases that the patient in losing these abilities has also lost humanness. In both of these arguments, the ethical dilemma is seemingly resolved by thinking of the embryo as being under “construction” and hence not yet human until it gains enough functions or capacities or “parts” in the construction process. In the case of euthanasia, the adult human is seen as losing humanness by losing functions or “parts,” by being “deconstructed.”

In popular parlance, this “construction” image is expressed in such sentences as these: “It [the zygote] is only a few cells” – “It is so tiny, merely the head of a pin” – “It does not have a brain, nor even a cerebral cortex” – “It does not have any viable human organs” – “It looks nothing like a human” – and so on. In just this manner Udo Schüklenk, co-editor of the journal *Bioethics*, connects the issue of the small size of the

embryo with its personhood:

Embryos ten-fourteen days after conception really are nothing more than accumulations of a few hundred cells. They do not possess a central nervous system, a brain, or any capacity to suffer. So, while one might wish to discuss the question of whether or not such embryos are human beings, one cannot reasonably disagree about whether they have any of the characteristics that define persons. They do not. There is an important distinction between membership of our species, on the one hand, and personhood on the other.... [One should not] buy into the argument that we should treat a few hundred cells as if they were people, because these cells were so evidently not people to begin with. Why should one treat something as if it were something else that patently it is not?¹²

Note that the personhood of the embryo is directly linked in this view with its “parts” or the “characteristics that define persons.” Of course, one could point out in response that if embryos really were “nothing more than accumulations of a few hundred cells,” as Schüklenk puts it, then any accumulation of a few hundred cells should work just as well for the purposes of medical research. Since this is obviously not the case, one should at least admit that there is something quite different about the particular collection of cells that makes up a living embryo.

Some philosophers have taken this position further to its logical conclusion, even though this conclusion is (so far) unacceptable to most people. This conclusion simply applies the logic of “construction” to the actually born infant and points out that the tendency of most people is to “read a kind of personal identity backwards” into fetuses, and even more so into human infants.¹³ According to writers such as Jeffrey Reiman, “[k]illing infants is not, morally speaking, murder”¹⁴ since the “construc

¹² Udo Schüklenk, “How Not to Win an Ethical Argument: Embryo Stem Cell Research Revisited,” Editorial in *Bioethics* 22/2 (February 2008): ii-iii, here at p. ii.

¹³ Jeffrey Reiman, *Abortion and the Ways We Value Human Life* (Lanham MD: Rowman & Littlefield, 1999), p. 92.

¹⁴ *Ibid.*, p. 108. This position is famously held by better-known philosophers such as Michael Tooley, Jonathan Glover, and Peter Singer; see

tion” necessary for the attainment of moral personhood has not yet taken place. Although such a conclusion seems socially unacceptable, particularly when stated in such a blunt fashion, it does seem to follow logically from the acceptance of the construction image of the human being’s growth as the “lens” of our view of human development. In 1983 Peter Kreeft wrote as a sort of *reductio ad absurdum*: “If dependence makes for nonpersons, small children are nonpersons and killing them is not murder.”¹⁵ This “absurd” conclusion has readily been incorporated into various philosophical arguments. “Particular scientifico-philosophical viewpoints,” as Iglesias writes, “although necessarily related to the empirical facts... rest on moral commitments and moral convictions, as ‘the eyesight of the soul,’ in terms of which we see everything.”¹⁶ If one sees humans as the end result of a “construction” process, then every stage of human development up to the end result of maturity also may be seen as an incomplete example of humanity.

Kreeft would disagree with the rhetorical intent behind these construction-oriented arguments, but he summarizes well their primary idea:

Whenever a person begins, it just can’t be as early as fertilization. Just look at that zygote: a single cell with no brain, no nervous system, no consciousness, no heart, no face, ...no differentiation of cells or functions or systems, no organs.... Don’t you feel the utter absurdity of calling *that* a human being?¹⁷

Likewise, the ethicist Maureen Junker-Kenny points out the significance of the “size” issue in the minds of many (though she herself also disagrees with this ascription of significance): “How can one suggest reflection on the moral status of something that is smaller than a speck of dust? For some, the question of moral status would already be answered

especially Singer’s “Killing Babies Isn’t Always Wrong,” (London) *Spectator* (16 September 1995): 20-22.

¹⁵ Peter Kreeft, *The Unaborted Socrates: A Dramatic Debate on the Issues Surrounding Abortion* (Downers Grove IL: InterVarsity Press, 1983), p. 61.

¹⁶ Iglesias, “Review of *Conceiving the Embryo*,” p. 87.

¹⁷ Kreeft, *The Unaborted Socrates*, pp. 62-63, emphasis in original.

by this observation, and dismissed as impossible.”¹⁸

But an obvious question should immediately spring to one’s mind: Why is this so? Certainly there may exist some pre-philosophic wisdom in the reluctance to grant personhood to “a microscopic speck of matter.” But if one does not want to limit one’s moral considerations to appeals to pre-philosophic sense, and especially if one is making a philosophical argument in the strict sense, one is left with the question: What does the size of a developing human have to do with that developing human’s moral status? In Thomistic terms, what do the “accidents” of the being’s size and appearance have to do with the proper identification of the type of “substance” that the being in question possesses? In the case at hand, it is a substance that is human in kind. What does the human “shape” or “size” have to do with the proper identification of the human “form”? This is the philosophical issue in question, even when the technical terms of Thomism are not in use, as in the following quotation:

As debates over stem-cell research and cloning roil on, proponents ask: How can you care about these clumps of cells, no bigger than the period at the end of this sentence? But why is size an issue when there is so much inherent developmental capacity? Surely size in a world of quarks, quantum events, Planck’s Constant, and neutrinos is relative. Scientists who describe the Big Bang claim that at its beginning the whole universe was many times smaller than a single human cell.¹⁹

In fact, when considering the possible contributions of pre-philosophic wisdom, one might also mention the widely accepted point that a violation of any human victim is all the worse to the extent that the victim is the more helpless to offer resistance. Abuse of a baby, for example, is commonly seen as worse than abuse of a twelve-year-old, abuse of a twelve-year-old as worse than abuse of a thirty-year-old, and so on, until advanced age once more renders the victim relatively helpless. If the size

¹⁸ M. Junker-Kenny, “The Moral Status of the Embryo” in *Concilium: The Ethics of Genetic Engineering* (April 1998): 43-53, here at p. 43.

¹⁹ Sidney Callahan. “Zygotes and Blastocysts.” *Human Life Review* 28/3 (2002): 81-82, here at p. 81.

of the conceptus is actually morally significant, it is so only in the sense that humanity should sympathize even more with the very helplessness of the victim of abortion.

“Some commentators say that human embryos don’t ‘look like’ human beings,” as Robert P. George writes. However, “the answer is that they look exactly like the human beings they are, that is, human beings in the embryonic stage of their existence.”²⁰ The size or shape of the conceptus would seem to have no moral significance at all in the determination of when the conceptus should be accepted as a human person, that is, as an individual, developing substance of rational nature.²¹ The issue of size is discussed here solely because it continues to be brought up in bioethical disputations as if the mere mention of the microscopic size of the zygote or blastocyst in fact conveyed some morally significant defense of the practice of abortion.

FORM AND SHAPE

The “construction” conceptual framework seems markedly inferior to its rival. The “development” conceptual framework is better for various reasons, and especially for its use of embryologically-based premises. It may be helpful here to consider why the “construction” model may still seem to be “a sensible surmise, especially for those unfamiliar with

²⁰ Robert George, *The Clash of Orthodoxies: Law, Religion, and Morality in Crisis* (Wilmington DE: ISI Books, 2001), p. 320. George and Tollefsen expand this thought in a later work by saying: “To claims about the size and appearance of the embryo, we must say that it simply begs the question about the humanity (and the rights) of the embryo to say that it does not resemble (in size and shape) human beings in later stages of development. For the five-day-old embryo looks exactly like what human beings look like at five days old.” Robert P. George and Christopher Tollefsen, *Embryo: A Defense of Human Life* (New York NY: Doubleday, 2008), p. 159.

²¹ The definition of a person as an “individual substance of rational nature” is borrowed from Boethius through Aquinas, *Summa Theologica* III.2.2. The translation of the *Summa Theologica* used is that of the Fathers of the English Dominican Province, 1920 (New York NY: Benziger Brothers, 1947).

modern science.”²² In testimony before a U.S. Senate subcommittee Dr. Micheline Matthews-Roth of the Harvard University Medical School commented: “It is incorrect to say that biological data cannot be decisive.... It is scientifically correct to say that an individual human life begins at conception.” After hearing this testimony, the Senate in its official report reached this conclusion: “Physicians, biologists, and other scientists agree that conception marks the beginning of the life of a human being—a being that is alive and is a member of the human species.”²³ Dr. Keith Moore, former head and currently Professor Emeritus of the Department of Anatomy at the University of Toronto Faculty of Medicine, likewise asserts in his widely used text: “A zygote is the beginning of a new human being.... Human development is a continuous process that begins when an ovum from a female is fertilized by a sperm from a male.”²⁴ Both human life and development, in other words, begin in the fertilized ovum far before any significant level of “construction” is achieved or any tests of functionality can be applied. Moore’s judgment is further supported by numerous authorities in the field of embryology; examples of such support could be multiplied.²⁵

Contrary to the “construction” model, therefore, hominization does

²² Stith, “Construction, Development, and Revelopment,” p. 246.

²³ These statements are taken from the official report of the Subcommittee on Separation of Powers, U.S. Senate Judiciary Committee S-158, 97th Congress, First Session, 1981.

²⁴ Keith L. Moore, Ph.D., and T.V.N. Persaud, M.D., *The Developing Human: Clinically Oriented Embryology*, 6th ed. (Philadelphia PA: W.B. Saunders, 1998), pp. 2-3.

²⁵ For example: “[The] moment of zygote formation may be taken as the beginning or zero point time of embryonic development” – William J. Larsen, *Essentials of Human Embryology* (New York NY: Churchill Livingstone, 1998), p. 17; “Fertilization is an important landmark because, under ordinary circumstances, a new, genetically distinct human organism is thereby formed” – Ronan R. O’Rahilly and Fabiola Muller, *Human Embryology and Teratology* (New York NY: Wiley-Liss, 1996), p. 5; “The culmination of the process of fertilization...marks the initiation of the life of a new individual” – Bradley M. Patten, *Human Embryology*, 3rd ed. (New York NY: McGraw-Hill, 1968), p. 43); and so on.

not occur when the zygote or embryo has enough “parts” nor when the embryo is “viable” enough to survive outside of the mother’s womb. The fact of an embryo’s requiring continued care (much as in the case of the candidate for euthanasia in a hospital bed) has nothing to do with whether or not the embryo (or the patient) is a human being. To conclude with Stith:

From the point of view of natural science (and natural theology) delayed animation (quickenings) is no longer needed to explain human development, and Ockham’s razor should cut it out of our debates. “Viability” is similarly irrelevant to human identity if we bear in mind that the child is developing rather than being constructed.... In other words, those who hold both to the truth of human development and to the truth of universal human dignity will seek to respect life from conception.²⁶

Stith therefore is in essential agreement with the “ontological position” of scholars like John Noonan mentioned earlier: “The criterion of humanity, thus, was simple and all-embracing; if you are conceived by human parents, you are human.”²⁷ As Stith writes in “The Priority of Respect,” if a developing tree bears apples, “we know in hindsight that it was always an apple tree...unless someone can show that its later form was a product of making (grafting) rather than development.”²⁸ Similarly Jason Eberl points out the differences between a “natural substance” such as a zygote and an “artifact” such as a hammer and then concludes: “For a natural substance...its *ordered natural development*, the principle of which is active and internal to it, is sufficient for it to *be* that toward which it is developing.”²⁹ In support of his statement Eberl quotes Aristotle’s *De Generatione Animalium*: “When we are dealing with definite and ordered products of nature, we must not say each *is* of a

²⁶ Stith, “Arguing with Pro-Choicers,” n.p.

²⁷ John T. Noonan, ed, *The Morality of Abortion* (Cambridge MA: Harvard Univ. Press, 1970), p. 51.

²⁸ Stith, “The Priority of Respect,” p. 180.

²⁹ Jason Eberl, *Thomistic Principles and Bioethics* (New York NY: Routledge, 2006), p. 30, emphasis in original.

certain quality because it *becomes* so, but rather that they *become* so and so because they *are* so and so.”³⁰

The distinction between the conceptual models of “development” and “construction” might also be stated as the Thomistic distinction between “form” and “shape” mentioned briefly in the previous section. Eventually the specific “shape” that something takes—a growing human being, for example—will achieve “its own terminal boundaries”³¹ as it develops. However, the specific shape at any particular point in the course of the thing’s growth does not determine the essence of the thing; rather, it is the thing’s essence or form that sets the parameters for the possibilities of the shapes that the thing can take in the course of its existence. A mannequin may have a human shape, but it is not thereby a human being, since it has no innate principle (no “substantial form” of a human type) directing its development toward the terminal boundaries of that shape (in the sense of the mature contour of a being of that type). When still an embryo or a zygote, a human being may not yet possess its mature contour or terminal human shape (likewise for someone who has suffered the loss of multiple limbs), yet that individual still possesses a human form directing the on-going development of his or her size and shape. As Ric Machuga writes:

Modern philosophy’s disdain for the distinction between form and shape ultimately demonstrates the truth of Aristotle’s remark that a little mistake at the beginning of a philosophy can have disastrous consequences in the end. . . . All things are composed of both form and shape. “Form” is that which makes something *what* it is. “Shape,” as we are using the term, refers to the totality of a thing’s physically quantifiable properties, i.e., its physical shape and size, height, weight, chemical composition, etc., in its most complete [physical] description.³²

³⁰ Aristotle, *De Generatione Animalium* 778b2-6, as found in *The Complete Works of Aristotle*, ed. J. Barnes, 2 vols. (Princeton NJ: Princeton Univ. Press, 1984), emphasis in original.

³¹ Aquinas, *Summa Theologica* I-II, q.54, a.1.

³² Ric Machuga, *In Defense of the Soul: What It Means to Be Human* (Grand Rapids MI: Brazos Press, 2002), pp. 25 and 27), emphasis in original.

Therefore, given this distinction, it would be wrong to attempt to determine “humanness” based on when the embryo begins to take on a recognizably human “shape,” or when it is sufficiently “constructed.” The embryo is human because it has a human form, whatever shape it may currently possess, and eventually it will have a full-fledged or mature human shape precisely due to that human form that is at its core. In simplest terms: The embryo is human in “form” from the beginning of its existence, as its eventual human “shape” and its eventual human functional abilities will reveal to the gaze of anyone, regardless of whether they have the philosophical training to think about the matter in terms of substantial form and accidental form.

Given this understanding, it is possible to see that Dombrowski and Deltete confuse these two ideas and the terms that express them when they write: “The human soul is to the body (*hylē*) like the *shape or form* (*morphē*) of a statue is to the original statue.”³³ While Aquinas does borrow from Aristotle the analogy that “the soul and body are one, as...wax and its shape are one,” it seems obvious that the form of a living, developing being is not to be identified with its terminal shape, as would be the case with a lifeless statue. The form is, rather, the first act of the living being’s animation and development: “The unity of a thing composed of matter and form, is by virtue of the form itself, which by reason of its very nature is united to matter as its act.”³⁴ Therefore, the discussion of the human form does not also require the discussion of shape, for the shape of the embryonic human has little or nothing to do with its humanness.

One may therefore conclude that from both philosophical and scientific stances—from both the Thomistic metaphysics of “form” and from advances in embryology—that Stith’s “development” model clearly seems superior to the “construction” model. The zygote’s potential is developing from within, from its activated DNA, and therefore its human form, the activating agent giving life to the genetically human cells, is

³³ Dombrowski and Deltete, *A Brief, Liberal, Catholic Defense*, p. 27, emphasis added.

³⁴ Aquinas, *Summa Theologica*, I, q.76, a.7.

also present from the beginning of its animation. The conceptus is not only living, but a living human being. Moreover, in Aquinas's view, if in fact the zygote is a living human being, the zygote would also be a human person. This is so because the definition of "person" as "an individual substance of rational nature" would suffice for Aquinas with regard both to humanness and to personhood. However, that argument must be left for another time.