

IMMEDIATE ANIMATION AND DELAYED HOMINIZATION

JOSEPH F. DONCEEL, S.J.

Fordham University

IN THE DISCUSSIONS which have recently flared up again about the morality of induced abortion, one of the most important questions is that of the time of animation. The main, though not the only, reason why abortion is condemned by Catholic moralists is that it amounts to the killing of an innocent human being. This supposes that from the moment of conception the embryo is a human person. Nowadays the great majority of Catholic thinkers take for granted that it is, that from the start the fertilized ovum possesses a spiritual soul (theory of immediate animation). This opinion has not always been the majority opinion in the Church. Anselm, Thomas Aquinas, and many of the great Scholastic thinkers held that the human soul was not infused at the moment of conception, but at some time between conception and birth (theory of delayed animation). This theory has always had defenders in the Church, from Aquinas to Alphonsus Liguori, from Cardinal Zigliara to Cardinal Mercier. It might well be due for a revival, and I would like to examine some of the reasons which induce me to expect this.

The terminology used in the present discussions is rather unfortunate: the two terms "immediate animation" and "delayed animation" are misleading. Animation means that an organism is animated, has a soul (*anima*), is alive. Thus the term "delayed animation" seems to imply that the partisans of this theory hold that the embryo is not alive immediately after conception. Such is not their position. They claim that the embryo is alive, that it is animated from the very start, but the soul which animates it is not yet a human soul, is a vegetative or animal soul; the human soul comes later. Animation is immediate, hominization is delayed. Hence it would be better to speak of "immediate hominization" versus "delayed hominization." In the following pages I shall generally use this terminology.

FROM ARISTOTLE TO AQUINAS

The question of the status of the embryo seems to have come up for the first time in the works of Aristotle. In his *On the Generation of Animals*, Book 2, chaps. 1-4, Aristotle says that the embryos of animals and of man are first animated by a vegetative or nutritive soul, which is followed by a sensitive or animal soul when the embryo is sufficiently organized to receive it. In the case of man, this animal soul

itself is succeeded by a rational or human soul, whose origin is difficult to explain.¹

The Greek Fathers, as a rule, admitted that the human soul was present from the moment of conception. The main spokesman for this view was Gregory of Nyssa.² The same opinion was held by Basil of Caesarea³ and by Abbot St. Maximus.⁴ There was no unanimity, however, and Theodoret defended delayed hominization.⁵

Among the Latin Fathers those who mention the problem prefer the theory of delayed hominization. A. Chollet⁶ claims that they did so in reaction to the views of Tertullian on traducianism. Tertullian, who professed immediate animation, also held that the soul of the child derives directly from that of the parents. Against this opinion the Latin Fathers insisted that the human soul is directly created by God. They made a distinction between conception, caused by the parents, and animation, resulting from a creative intervention of God. In order to emphasize the distinction between these two events, they separated them in time. Animation (in the sense of hominization) does not coincide with conception; it occurs when the embryo is ready for it. Chollet does not give any proof for his assertion that this view was held in reaction to Tertullian's traducianism.

At any rate, the few Latin Fathers who mention the problem prefer the theory of delayed hominization. Chollet mentions Gennadius of Marseille, who wrote that "the soul is infused and created after the body has already been formed,"⁷ two authors whose works have for many years been attributed to Augustine,⁸ and Cassiodorus.⁹ To these John T. Noonan¹⁰ adds Jerome¹¹ and Augustine.¹²

¹ Aristotle, *On the Generation of Animals* 735a 15-26; 736a 35-736b 16 (tr. A. D. Beck [London, 1953] pp. 192 ff.).

² *De hominis opificio* 28 (PG 44, 230); *De anima et resurrectione* (PG 46, 125).

³ *Ad Amphiloichium*, ep. 2 (PG 138, 587).

⁴ *De variis difficilibus locis sanctorum Dionysii et Gregorii seu Ambiguorum liber* (PG 91, 1335).

⁵ *Graecarum affectionum curatio: Sermo de natura hominis* (PG 83, 942).

⁶ A. Chollet, "Animation," *Dictionnaire de théologie catholique* 1 (Paris, 1903) 1307. I have borrowed several times from this excellent article (cols. 1305-20).

⁷ *De ecclesiasticis dogmatibus* 14 (PL 58, 984).

⁸ *De spiritu et anima* 9 (PL 40, 784-85); *Quaestiones ex Vetere Testamento* 23 (PL 35, 2229).

⁹ *De anima* 9 (PL 70, 1292).

¹⁰ John T. Noonan, Jr., "The Catholic Church and Abortion," *Dublin Review* 514 (Winter 1967-68) 300-345.

¹¹ "Seeds are gradually formed in the uterus, and it is not reputed homicide until the scattered elements receive their appearance and members" (*Ep.* 121, 4 [CSEL 56, 16; Noonan, p. 310]).

¹² "... There cannot yet be said to be a live soul in a body that lacks sensation

The delayed-hominization theory was adopted by many of the great medieval philosophers. Thus, Anselm wrote that it is inadmissible that the infant should receive a rational soul from the moment of conception. This would imply that every time an embryo perishes soon after conception, a human soul would be damned forever, since it cannot be reconciled with Christ, "quod est nimis absurdum."¹³ Peter Lombard uses the same terms as Gennadius: "the soul is created and infused after the body has already been formed."¹⁴ Hugh of St. Victor too prefers this theory, although he is not convinced that the human soul, which is infused only after a certain time, is preceded by any other soul.¹⁵

Aquinas took over Aristotle's doctrine of delayed hominization. He mentions it several times in his works, not only in his earlier *Commentary on the Sentences* (2, d. 18, q. 2, a. 3), but also in his *Questiones disputatae de potentia* (3, q. 9, ad 9), in the *Summa contra gentiles* (2, 87-89), and in the *Summa theologica* (1, q. 118, a. 2, ad 2). Let us read a few texts:

Every substantial generation precedes, and does not follow, the substantial form; and if any changes follow the substantial form, they are directed not to the being but to the well-being of the thing generated.¹⁶

Accordingly, the more noble a form is and the further removed it is from the elemental form, the more numerous must needs be the intermediate forms, through which the ultimate form is reached by degrees, and consequently the more numerous will be the intermediate generations. Wherefore in the generation of an animal or a man in which the form is most perfect, there are many intermediate forms and generations, and consequently corruptions, since *the generation of one is the corruption of another*. Therefore the vegetative soul, which comes first, when the embryo lives of the life of a plant, is corrupted, and is succeeded by a more perfect soul, which is both nutritive and sensitive, and then the embryo lives an animal life; and when this is corrupted it is succeeded by the rational soul introduced from without: although the preceding souls were produced by the virtue of the semen.¹⁷

Since the soul is united to the body as its form, it is not united to a body other than one of which it is properly the act. Now the soul is the act of an organic body.¹⁸

when it is in flesh not formed and so not yet endowed with sense" (*Quaestionum in Heptateuchum libri 7: Quaest. de Exodo* 80 [CSEL 28/2, 148; Noonan, p. 311]).

¹³ *Liber de conceptu virginali et originali peccato* 7 (PL 158, 440).

¹⁴ *Sententiarum libri quatuor* 2, d. 18, 8 (PL 192, 689).

¹⁵ *Explanatio in canticum b. Mariae* (PL 175, 418).

¹⁶ *Summa contra gentiles* 2, 89 (tr. English Dominican Fathers; London, 1923).

¹⁷ *Ibid.* ¹⁸ *Ibid.*

Even if we grant that man's body is fashioned before the soul is created, or vice versa, it does not follow that the selfsame man precedes himself: since a man is not his body nor his soul. But it follows that some part of him precedes the other. In this there is nothing unreasonable: because matter precedes form in point of time; matter, that is to say, considered as being in potentiality to form, but not as actually perfected by a form, for as such it is simultaneous with the form. Accordingly the human body, considered as in potentiality to the soul, and as not yet having a soul, precedes the soul in point of time: but then it is human, not actually, but only potentially. On the other hand, when it is human actually, as being perfected by the human soul, it neither precedes nor follows the soul, but is simultaneous with it.¹⁹

... the body is not formed by virtue of the soul of the begotten, as regards the body's foremost and principal parts, but by virtue of the soul of the begetter, as we proved above. For all matter is similarly configured to its form; and yet this configuration results not from the action of the subject generated but from the action of the generator.²⁰

To my mind, these statements of St. Thomas contain a mixture of erroneous biological information and sound philosophy. If this philosophy were derived from the biology, we would have to drop it. Likewise, if Thomas had reached his conclusions only by subsuming his scientific mistakes under his sound philosophical principles, we would have to question them. But it is my contention that these conclusions have been reached, or could have been reached, on the basis of sound philosophical principles and of the common-sense knowledge which was available to Thomas and his contemporaries.

The main philosophical principles are as follows. The soul is the substantial form of man. A substantial form can exist only in matter capable of receiving it. In the case of man's soul this means: the human soul can exist only in a highly organized body.²¹ Now these philosophical principles owe nothing to primitive medieval biology. They represent Thomas' hylomorphic conception of man. This conception continues to make sense even today, at least for him who understands it. Without it we are steadily in danger of slipping into some kind of Platonic or Cartesian dualism. Such a dualism goes counter to the main trends of contemporary philosophy; moreover, as I shall try to show, it has been officially rejected by the Catholic Church. In this sense at least we may say that Thomistic hylomorphism has been endorsed by the Church.

As for the common-sense biological knowledge which had to be subsumed under these philosophical principles, it has really nothing to do

¹⁹ *Ibid.* ²⁰ *Ibid.*

²¹ As Teilhard would put it, complexity must correspond to consciousness.

with the respective functions of food, semen, and blood (medieval biology), or of chromosomes, genes, DNA, and the "code of life" (our modern biology). It consists simply in the following undeniable fact, of which Aquinas was fully aware: at the start of pregnancy there is not yet a fully organized human body. Whatever is growing in the mother's womb is potentially, virtually, a human body. It cannot, if everything goes well, turn into any other kind of body.²² Yet, at the start, there is not at once a highly organized body, a body with sense organs and a brain. That much Thomas knew, and that much, combined with his hylomorphic conception of man, is enough to firmly establish his position of delayed hominization.

In other words, the reasons why the immediate-animation theory has been given up by so many are not the scientific facts, but an implicit philosophy of man which is in conflict with the Catholic philosophy of man. I prefer Thomas' position, because it is based on undeniable, though prescientific knowledge, and because it agrees best with the Catholic philosophy of man.

The hylomorphic conception of man, which Thomas took over from Aristotle, is not easy to understand, and many who pay lip service to it are, in fact, Cartesian dualists. It holds that man is composed of a spiritual soul and of materiality—what used to be called "prime matter." According to this theory, the body is the first result of the union of the soul with prime matter. The usual terminology, which speaks of man as composed of soul and body, is misleading; taken literally, as it frequently is, it amounts to dualism. Plato and Descartes taught that man is composed of soul and body, and they meant it literally. For them, man was a union more than a unity, a couple rather than an individual. For Thomas, man is a real unity. He is constituted by the complementary causality of his soul and prime matter. This complementary causality makes him wholly into a person and wholly into a body. I am a person and I am a body.

The human body is not a reality in and by itself. Its quantitative, visible features may be said to be rooted in it, to derive from it, only if the body is considered as animated by the soul. These features are not caused by man's material component. Matter, in the sense of prime matter, contributes nothing positive to man; it supplies only receptivity, potentiality. It is nothing but pure potentiality. All man's positive features—not only his intellect and his will, but also his imagination and his memory, his senses and their organs, his character and temper-

²² Our knowledge of genetics helps us understand *why* this is so. St. Thomas did not know *why* this was so. But this does not affect his conclusions. It was enough for him to know, as well as we do, *that* it was so.

ament, his sex, health, and stature—derive totally from the soul.²³ How could pure potentiality be anything but the material, that is, the receptive, cause of anything? Prime matter, to use modern terminology, is “undetermined cosmic stuff.” Such stuff cannot exist as such. Whatever exists is determined, it is this or that, here or there. Such stuff can only coexist, exist together with a form, which makes it into this or that.

Since prime matter is often misunderstood, since it can only be co-understood with substantial form, it is no wonder that the same is true of its complementary cause, substantial form, the soul. The soul is often, albeit unreflexively, interpreted as some subtle reality which permeates the whole body (in a certain sense this is true), a body which is considered as previous to it, as independent of it (this is false). It is supposed to act upon the body, and the body is seen as acting upon the soul. They do indeed act upon each other—not, however, as the driver acts upon his car and vice versa, but rather as the shape of a statue acts upon this statue, and the other way round. When I move my arm voluntarily, my soul does not give the order and my body execute it. In the giving of the order, in the intention, my body too is at work, and when my arm moves, my soul moves in and with it. There is no efficient causality of one upon the other; there is the complementary causality of the soul as form upon man’s materiality or prime matter.

To give one more example of the latent dualism in many “Thomistic” theories, consider the usual explanation of the origin of our ideas. Ideas are derived from phantasms, that is, from organized sense knowledge. The phantasms are known by the imagination, that is, by a bodily power. How can their content be transferred to the intellect, a power of the soul? The usual answer is that the intellect abstracts the universal, immaterial features from the particular and material phantasm and somehow imprints them on itself. This whole explanation smacks of dualism. It supposes that there are two knowers in us: the body, knowing the phantasm, and the soul, knowing the idea. Or, at least, it supposes some transfer from a lower to a higher level of knowledge in man. It forgets that, as the soul animates the body and gives it its whole reality, so the intellect animates the senses and the imagination, providing them with whatever is positive in them. It overlooks that whatever enters the senses comes at once under the influence of the ensouling intellect. An idea consists precisely in this “animating” relation of the intellect to sense knowledge. There is no transfer of knowledge from one level to a higher one; there is no abstraction in the sense of an extraction of some immaterial content from the material phantasm.

²³ See K. Rahner, *Geist in Welt* (2nd ed.; Munich, 1957) pp. 325 ff.; Eng. tr., *Spirit in the World* (New York, 1968) pp. 323 ff.

Thomas speaks of abstraction, to be sure, but his explanation does not imply any dualism in man.²⁴

I have insisted on these misunderstandings in order to show how easy it is to slip from a Thomistic, hylomorphic into a Platonic-Cartesian dualistic conception of man. Is it surprising, then, that the same thing has happened with respect to the problem of hominization? It is this, not the scientific discoveries of biology, which explains why Aquinas' theory of delayed hominization has been given up by so many thinkers.

Hylomorphism cannot admit that the fertilized ovum, the morula, the blastula, the early embryo, is animated by an intellectual, human soul. Soul and matter are strictly complementary; as the soul stands higher in the hierarchy of beings, the matter which receives it, which is determined by it, must be more highly organized. Even God cannot put a human soul into a rock, a plant, or a lower animal, any more than He can make the contour of a circle square. Thomas, after Aristotle, defined the soul as the first act of physical, *organized* body, which possesses life in potency. To each specific degree of organization there corresponds a soul. The early embryo possesses a rudimentary organization, which allows it to perform the operations of nutrition and growth. To such an organization corresponds a vegetative soul. At first the embryo lives of a plant life; it is an autonomous growth, living parasitically in the mother's womb.

The processes of nutrition and growth render the embryo more complex, more highly organized. Sense organs and a rudimentary nervous system emerge. When this complexity has reached a certain stage, a threshold is reached, a sudden ontological shift occurs. The vegetative soul is replaced by a sensitive soul. The embryo is no longer a mere plant, it is a sentient organism, endowed with an animal soul. Thomas uses old-fashioned language to explain this transition. The language may sound quaint; the ideas are quite modern. He says that the generation of one soul *is* the corruption of the other. Teilhard would have said: a threshold has been reached, that is, a sudden, radical change, after a long process of transition. And he uses the example of water which, on being heated, increases gradually in temperature, until suddenly the water becomes vapor, liquid turns into gas. The appearance of vapor *is* the disappearance of the water. Thomas would have said: the generation of one *is* the corruption of the other.

Animated by a sensitive soul, the embryo continues to develop, its organization goes on apace, its complexity increases. The sense organs

²⁴ See J. Maréchal, *Le point de départ de la métaphysique* (2nd ed.; Brussels, 1949) pp. 194 ff.

continue to develop. Man's higher, spiritual faculties have no organs of their own, since they are immaterial, intrinsically independent of matter. But they need, as necessary conditions of their activity, the cooperation of the highest sense powers, imagination, memory, what the Scholastics called the "cogitative power." Its activity presupposes that the brain be fully developed, that the cortex be ready. Only then is the stage set for another ontological shift; matter now is highly enough organized to receive the highest substantial form, the spiritual, human soul, created by God.²⁵

Thomas did not spell out his doctrine of hominization in so much detail. Yet I believe that the process as outlined above corresponds to his basic conceptions. If this is the case, it is easy to see that his lack of biological information does not affect his philosophical position. The real reason why he professed delayed hominization was his hylomorphic conception of man. He knew very well that the early embryo was not yet a fully organized human body. In his opinion, this excluded the possession of a real human soul. He was aware that the embryo was virtually, potentially, a human body, that, given a normal development, it would become such a body. But his philosophy prevented him from joining an actual human soul to a virtual human body. If form and matter are strictly complementary, as hylomorphism holds, there can be an actual human soul only in a body endowed with the organs required for the spiritual activities of man. We know that the brain, and especially the cortex, are the main organs of those highest sense activities without which no spiritual activity is possible.

For Platonic or Cartesian dualism, the soul is to the body somewhat as the driver is to his car. The driver may exist before the car. To use Gilbert Ryle's simile: the ghost may exist before the machine, he may even make the machine in which he will exist. For hylomorphism, the soul is to the body somewhat as the shape of a statue is to this statue, as the meaning of a sentence is to the sentence. The shape can only exist *in* the completed statue and, in our modern conception of language, the meaning does not exist before it is expressed in words.

To claim that the spiritual soul is virtually present in the fertilized ovum, or that this ovum is virtually a human body, is to conceive of the soul as an efficient cause, is to hold that the ovum is "capable of producing this thing [the human body], or to develop into this thing, by an immanent activity. Now, the formal cause, as formal cause, does

²⁵ Not in the sense of a categorial intervention of God into the processes of nature, but in the sense that God, by causing the parents to transcend their own powers, is, together with the parents, the cause of this soul. See K. Rahner, *Hominisation* (New York, 1965) pp. 98-101.

not produce anything, but is itself the terminus of the production."²⁶ Such a conception is acceptable for dualism; it cannot be reconciled with hylomorphism or with any doctrine which holds that the rational soul is per se, essentially, the form of the body.

For one thing to be another's substantial form, two conditions are required. One of them is that the form be the principle of substantial being to the thing of which it is the form: and I speak not of the effective but of the formal principle, whereby a thing is, and is called a being. Hence follows the second condition, namely, that the form and matter combine together in one being, which is not the case with the effective principle together with that to which it gives being.²⁷

The statement of the tenth objection, that the body is conformed to the soul, and that for this reason the soul fashions a body like to itself, is partly true and partly false. For if it be understood of the soul of the begetter, the statement is true, whereas it is false if it be referred to the soul of the begotten; because the body is not formed by virtue of the soul of the begotten, as regards the body's foremost and principal parts, but by virtue of the soul of the begetter, as we proved above. For all matter is similarly configured to its form; and yet this configuration results not from the action of the subject generated but from the action of the generator.²⁸

In this last text Thomas makes two statements, a negative and a positive one. The negative statement claims that the body is not formed by its own substantial form. This statement follows from his hylomorphic, antidualistic doctrine, and it keeps all its value. The positive statement claims that the body is formed "by virtue of the soul of the begetter." This does not follow from hylomorphism, but is connected with Thomas' erroneous information about the semen, about the respective functions of male and female in the process of reproduction, and so on. This misinformation induced him to admit the existence of a "formative virtue" contained in the semen, and which "causes the formation of the body in so far as it operates by virtue of the father's soul, to whom generation is ascribed as the principal agent."²⁹ The mother's function was considered merely passive and receptive.

The reader who has been willing to follow me hitherto may wonder how I explain the formation of the new human being. If neither the soul of the father nor the soul of the embryo itself explains embryonic development, where are we to look for the cause of the process?

²⁶ H. de Dorlodot, "A Vindication of the Mediate Animation Theory," in E. C. Messenger (ed.), *Theology and Evolution* (London, 1949) p. 262.

²⁷ *Summa contra gentiles* 2, 68.

²⁸ *Ibid.* 2, 89. ²⁹ *Ibid.*

My preference goes to the theory delineated first by Teilhard de Chardin and worked out in detail by Karl Rahner. In embryogeny a new being comes into existence. But being can be caused only by the Supreme Being. In a hitherto unpublished manuscript Teilhard suggested that besides the notion of creation (making out of nothing) and that of transformation (modifying that which exists), we should use the intermediary concept of creative transformation, by which that which exists is enabled to produce new beings. Rahner has worked this theory out in considerable detail, and explains how God enables the secondary causes to transcend their own virtualities, inserting, as it were, His divine causality within their own causality, without becoming a constitutive element of their being. In this conception the creatures are more than instrumental, less than material, causes for God. I cannot here explain this theory in more detail.³⁰

Thus what happens in embryogeny is nothing but ongoing creation. God's creative activity did not cease on "the sixth day." He continues to create. In this way we can explain not only the process of evolution as it happened in the past, but also the evolution which occurs every day in the womb, not only phylogeny, but also ontogeny.³¹ Thus embryogeny is explained on the phenomenal level by the countless physicochemical and biological factors, whose activity is investigated with increasing success by the science of embryology; it is explained on the ontological level by the creative power of God, who continues to expand the creation which He started "in the beginning." This explanation may somewhat downgrade the parents' contribution in the begetting of their child. Is this a real difficulty, when we consider that the possibility of causing this process to occur in vitro is no longer purely theoretical?³²

THE "DEFINITION" OF THE COUNCIL OF VIENNE

Let us suppose, simply for argument's sake, that I have been able to show that the hylomorphic conception of man, as professed by St. Thomas, implies delayed hominization. The question may well be

³⁰ Cf. Rahner, *Hominisation*, pp. 80 ff.; also my article "Causality and Evolution," *New Scholasticism* 39 (1965) 295-315.

³¹ The objection is sometimes raised that modern biology no longer admits that ontogeny is a recapitulation of phylogeny. It may be true that the human embryo does not pass through all or most of the stages of its phylogenetic ancestors, especially not through their adult stages. But who would deny that it passes from the invertebrate to the vertebrate level? And this suffices for our purpose.

³² See the experiments of Dr. John Rock at Harvard University and of Dr. Landrum Shettles at Columbia University.

raised why we should accept this conception. I do not intend to try to demonstrate it philosophically, but I shall endeavor to show that it is the theory which agrees best with Catholic dogma.

Some authors have claimed that the Council of Vienne (*DS* 902) has defined the hylomorphic conception of man. Others rightly deny this. But what might well be said is that the Council favors, that it has endorsed, this conception. And it has clearly condemned all forms of Platonic or Cartesian dualism. Its purpose in this philosophical foray was to safeguard the reality of the human nature of Christ. In order to understand the teaching of the Council, we must have a look at the circumstances in which it was held and at the problems it confronted.³³

The Council was held in Vienne, France, in 1311-12, under the leadership of Pope Clement V. Its main business revolved around disputes *within* the Church. Its acts have almost entirely been lost, were possibly destroyed. After having suppressed the Order of Knights Templar, the Council turned its attention to the virulent discussions which divided the Franciscan Order. Some of the followers of St. Francis, the Spirituals, wished to return to a stricter and more literal observance of Franciscan poverty, while others, the Community, were in favor of a more moderate interpretation. For many years the leader of the Spirituals had been Petrus Joannis Olivi (1248-98). One of the ways his opponents used to undermine his influence was to make him suspect of heresy. He was accused, among other errors, of having taught that "the spiritual soul is the form of the human body not in virtue of its own entity, but only through its sensitive component. Now this involves serious consequences for the humano-divine person of Jesus."³⁴ It is on account of such possible consequences for a central dogma of the Catholic faith that the Council condemned the theory of Olivi and endorsed an antidualistic conception of human nature.

We condemn as erroneous and opposed to the Catholic truth every doctrine which makes bold to deny or to question that the substance of the rational or intellectual soul is truly and by itself the form of the human body. In order that all may know the truth of the sincere faith and that entrance may be barred to all errors, we define that everyone who makes bold to assert, defend, or stubbornly hold that the rational or intellectual soul is not by itself and essentially the form of the human body must be considered a heretic.³⁵

The meaning of this "definition" has given rise to protracted dis-

³³ See E. Müller, *Das Konzil von Vienne* (Münster, 1934).

³⁴ *Ibid.*, p. 274. ³⁵ *DS* 902 (481).

cussions. A. Michel has devoted a thorough study to it,³⁶ which I use in the following remarks.

Olivi, who was an Augustinian in philosophy, held that man's rational soul itself was hylomorphically composed of spiritual matter, informed by the two essential parts of the soul, an intellectual and a sensitive part.³⁷ The rational soul, consisting of these two essential parts, is really the form of the body. But it is the form of the body not through its intellectual part, but only through its sensitive part. Hence the intellectual part of the soul is not united to the body by a formal and immediate union, although it is substantially united to the body.³⁸ He did not deny that the body is informed by the rational soul, but he denied that this information occurs through its intellectual part. "By exaggerating the independence of the intellectual part with respect to the body, he endangered the unity of man's nature."³⁹ He admitted the unity of the human person, but not the unity of human nature. Since this unity had been defined by the Church with respect to Christ, the Council felt obliged to condemn Olivi's doctrine. It did not strictly impose the Thomistic or hylomorphic explanation of this unity of human nature. The word "form" is not, in the definition, taken strictly in the sense either of Thomas or of Duns Scotus; its meaning is left vague. The Council "did not intend to explain the way in which soul and body are united; it wished only to reaffirm that they were united."⁴⁰ This explains why the Council three times uses the expression "anima rationalis seu intellectiva" (the rational or intellectual soul), thus emphasizing that there was no distinction between the two. This rational or intellectual soul is called the "form" of the body. It makes the body into a human body. This soul is said to be the form of the body by itself (*per se*), not through the sensitive part only.⁴¹

Michel concludes his study by stating that every theory which maintains the substantial unity of the human composite is compatible with the statement of the Council of Vienne, while all the theories which destroy this unity cannot be reconciled with it.⁴² Among the theories which are thus rejected, he mentions Platonic and Cartesian dualism, the occasionalism of Malebranche, and the pre-established harmony of Leibniz.⁴³ Among the theories which are compatible with the "definition," he mentions the hylomorphism of Aquinas (including its Suarezian version) and the theory of Duns Scotus. For Scotus, the

³⁶ A. Michel, "Forme du corps humain," *Dictionnaire de théologie catholique* 6 (1920) 546-88.

³⁷ *Ibid.*, col. 547. ³⁸ *Ibid.*, col. 548. ³⁹ *Ibid.*, col. 549. ⁴⁰ *Ibid.*

⁴¹ *Ibid.* ⁴² *Ibid.*, col. 558. ⁴³ *Ibid.*, cols. 567-68.

human body "possesses, besides the soul united to it, an incomplete form, subordinated to the soul, which is called the form of corporeity. Although this form determines matter to constitute a body, this body is an *incomplete* body, which may still further be informed by the soul. . . . The form of corporeity turns matter into an organic body; the soul turns this organic body into a living body."⁴⁴ Michel finishes with the following comment:

Without wishing to impose an opinion, I might be allowed to indicate the reasons for a preference. Only the Thomistic position seems to correspond adequately to the definitions of the Church; the other opinions . . . are forced to proceed through adaptation, and the term "form" is no longer used in its strict and obvious sense. . . . If one rejects the system of St. Thomas, there is no longer in the material beings any really substantial unity.⁴⁵

Hence we shall not say that the Council of Vienne has "defined" the hylomorphic theory of human nature. But we might say that it has endorsed it, or at least that it shows a marked preference for it. At any rate, this theory has for many centuries, and until quite recently, especially during the Neo-Scholastic revival, been the most widely accepted theory of human nature among Catholic philosophers and theologians, the one also which the magisterium clearly preferred and continues to prefer. However, quite a number of those who gave it their sincere allegiance did not realize and accept all its implications. I have tried to show that one of these implications is delayed hominization.

In the following pages I would like to show (1) that, although many people believe that delayed hominization has been given up long ago, it has always had important upholders in the Church; (2) that the reasons why so many have dropped the theory are very questionable; (3) that modern science and philosophy seem to favor a return to this theory.

PERSISTENCE OF DELAYED-HOMINIZATION THEORY IN THE CHURCH

The theory of delayed hominization has been enshrined by Dante Alighieri in his *Divine Comedy*:

The active virtue having become soul, like that of a plant, differing in this only, that this is on the way, and that has already arrived, works then in such wise that motion and sense appear as in a sea-fungus; and at that point it takes in hand to make organs for the faculties whereof it is the seed. Now is displayed, my son, now is put forth the virtue which has its being from the heart of the begetter, where nature designs all members. But how from an

⁴⁴ *Ibid.*, col. 574. ⁴⁵ *Ibid.*, col. 581.

animal it becomes a speaking being thou seest not yet Open thy breast to the truth which is coming, and know that so soon as in the embryo the fitting of the brain is perfected, the first Mover turns him to it, with joy over such art of nature, and breathes a new spirit replete with virtue, which draws into its own substance that which it finds active there, and makes of itself one single soul, which lives, and feels, and revolves within itself.⁴⁶

The Catechism of the Council of Trent (the Roman Catechism), first published in 1566, clearly teaches delayed hominization, in connection with the mystery of the Incarnation:

But something which goes beyond the order of nature and beyond human intelligence is the fact that, as soon as the Blessed Virgin gave her consent to the Angel's words . . . at once the most holy body of Christ was formed and a rational soul was joined to it Nobody can doubt that this was something new and an admirable work of the Holy Spirit, since, in the natural order, no body can be informed by a human soul except after the prescribed space of time.⁴⁷

In 1588 Pope Sixtus V published the Bull *Effraenatam*, by which he reserved to the Holy See the excommunication which punished all those who have, in any way whatsoever, brought about "an abortion, or the expulsion of an immature fetus, whether animated or not animated, whether formed or not formed."⁴⁸

Three years later, in 1591, his successor Pope Gregory XIV explained in his Bull *Sedes apostolica* that the severe legislation of his predecessor had not brought about the desired results and threatened the eternal salvation of many who were unable or unwilling to send their petitions for absolution to Rome. Hence he deemed it preferable, "where no homicide or no animated fetus is involved, not to punish more strictly than the sacred canons or civil legislation does."⁴⁹

Another witness of the persistence of the delayed-hominization

⁴⁶ *The Purgatory of Dante Alighieri*, ed. and tr. A. J. Butler (London, 1880) Canto 25, vv. 52-62, 67-75 (pp. 311-13).

⁴⁷ "...cum servato naturae ordine, nullum corpus, nisi intra praescriptum temporis spatium, hominis anima informari queat" (*Catechismus Romanus ex decreto Concilii Trid. et Pii quinti jussu primum editus* (Louvain, 1662) p. 36. I have found the same text, repeated in the 1685 Louvain edition (p. 35), in the following French editions: Paris, 1702, p. 48; Rouen, 1736, pp. 47-48; Paris, 1826, Vol. 1, p. 91; Paris, 1923, p. 50.

⁴⁸ "...qui...abortus [sic], seu foetus immaturi, tam animati, quam inanimati, formati, vel informis ejectionem procuraverint" (*Bullarum...amplissima collectio* 5/1 [Rome, 1751] 26a).

⁴⁹ "...utilius censentes, ubi nec de homicidio, nec de animatu [sic] foetu agitur poenas non imponere durius iis quae per sacros canones et leges prophanas sunt inflictæ" (*ibid.*, p. 275b).

theory in the Church is the Roman Ritual. In the 1617 edition, printed in Antwerp, we read: "Nobody enclosed in the mother's womb should be baptized. But should the infant thrust out its head and should there be danger of death, let it be baptized on the head. . . . But if it thrusts out some other limb, which shows some vital movement, let it be baptized on this limb, if there is imminent danger."⁵⁰

The Ritual prescribes that baptism be administered in such critical circumstances only if either the head or some limb of the fetus shows, and only if this limb gives a sign of life, only after "quickenning." Unorganized fetuses are not to be baptized. A quick check on successive editions of the Ritual shows that this formula remained unchanged until 1895. The phrase "quod vitalem indicet motum" was still present in the 1895 Regensburg-New York edition (p. 7), but had been dropped in the 1926 Mechelen edition.

In 1658 Hieronymus Florentinius published a book *De hominibus dubiis sive abortivis baptizandis pia prothesis*, in which he argued that a fetus should be baptized even if it was expelled from the womb before forty days. Although his work enjoyed considerable success, it was delated to the Congregation of the Index, which approved of the book under condition that the author should explain that his ideas were merely speculative, that nobody was obliged under pain of mortal sin to baptize a fetus of less than forty days, and that he was speaking only of aborted embryos which clearly showed sense life and possessed at least the first outline of a human body.⁵¹

On April 5, 1713, the Holy Office gave the following answer to a submitted question: "In the case under consideration [the baptism of an aborted fetus], if there is a reasonable foundation for admitting that the fetus is animated by a rational soul, then it may and must be baptized conditionally. If, however, there is no reasonable foundation, it may by no means be baptized. . . ." ⁵²

Another important witness of this uninterrupted tradition in the Church are the twenty-four Thomistic Theses, offered as guidelines for the study of philosophy in Catholic seminaries and universities by the Sacred Congregation of Studies in 1914.⁵³ The fifteenth thesis

⁵⁰ "Nemo in utero matris clausus baptizari debet. Sed si infans caput emisit, et periculum mortis imminet, baptizetur in capite. . . . At si aliud membrum emisit, quod vitalem indicet motum, in illo, si periculum imminet, baptizetur" (*Rituale Romanum Pauli V jussu editum* [Antwerp, 1617] pp. 7-8).

⁵¹ Dorlodot, *art. cit.*, p. 272. See the 1761 Augsburg edition of the book, p. 1 and p. 108; F. E. Cangiama, *Embryologia sacra* (Ipris, 1775) p. 61.

⁵² *Collectanea de prop. fide* 1 (Rome, 1907) no. 282, p. 92 (quoted by Dorlodot, *art. cit.*, p. 275).

⁵³ AAS 6 (1914) 383-386.

states that the human soul, which is created by God, "may be infused into a subject that is sufficiently disposed" ("Per se subsistit anima humana quae, quum subjecto sufficienter disposito potest infundi, a Deo creatur").⁵⁴ Thesis 13 explains what is meant by this sufficient disposition of the subject: "In living beings . . . the substantial form, which is known as the soul, requires an organic disposition, that is, heterogeneous parts" ("In viventibus . . . forma substantialis, animae nomine designata, requirit organicam dispositionem, seu partes heterogeneas").⁵⁵

It would take too long to mention the names of all the theologians and moralists who have held or favored delayed hominization throughout the centuries. I will have to restrict myself to two quotations from one of the Church's leading moral theologians, St. Alphonsus Liguori (1696-1787). He mentions the prevailing opinion, favorably received by the experts, that fetuses have a soul from the moment of conception, or at least after a few days. But with Tournely he warns that "not every lump of flesh should be baptized which lacks every arrangement of organs, since it is universally accepted that the soul is not infused into the body before the latter is formed; in which case it can only be baptized if it *shows some kind of vital movement*, as prescribed by the Roman Ritual."⁵⁶ And elsewhere he writes: "On the other hand, some are mistaken who say that the fetus is ensouled from the first moment of its conception, since the fetus is *certainly* not animated before it is formed. . . ."⁵⁷

In 1951, H. M. Hering, O.P., published an article in which he explains that quite a number of authors consider the delayed-animation theory "wholly given up as antiquated and less probable, even, according to some, as certainly false."⁵⁸ Wishing to find whether this summary condemnation corresponded to the facts, he examined the writings of a great number of Catholic philosophers and theologians of the last century. He reached the following conclusion:

On further examination it turns out that the theory of delayed animation of the human foetus . . . is nowadays by no means considered antiquated and

⁵⁴ *Ibid.*, p. 385. ⁵⁵ *Ibid.*

⁵⁶ *Theologia moralis* 6 (Bassani, 1779) tract. 2, no. 124, p. 107: "cum ubique receptum sit, non prius infundi animam corpori, quam istud formatum fuerit; et tunc, ut baptizetur, requiritur ut *indictet aliquem motum vitalem*, prout praescribit Rituale Romanum" (emphasis in text).

⁵⁷ *Ibid.* 3, tract. 4, no. 394, p. 159: "E converso, male dixerunt aliqui, foetum in primo instanti quo concipitur animari, quia foetus *certe* non animatur antequam sit formatus" (my emphasis).

⁵⁸ H. M. Hering, O.P., "De tempore animationis foetus humani," *Angelicum* 28 (1951) 18-29; see p. 18.

given up. The contrary is true: it counts strong defenders, especially among the philosophers, who are wont to investigate the matter more profoundly than the moralists and the canonists. Although during the past century and at the beginning of the present one the theory of immediate animation seemed to be rather widespread, today it is becoming less common, while St. Thomas' doctrine in this domain is accepted by many, especially by those who try to examine the problem according to the principles of Scholastic philosophy and the empirical facts of scientific biology.⁵⁹

For the end of the past century he mentions, as upholders of delayed animation, Liberatore, Zigliara, Cornoldi, Lorenzelli, Sanseverino, and di Maria. Among the more recent authors, he lists, with references and quotations, Cardinal D. Mercier, V. Remer, A. D. Sertillanges, D. Prümmer, A. Farges-D. Barbedette, A. Vermeersch, B. Merkelbach, A. Pirotta, C. Carbone, F. X. Maquart, R. Jolivet, A. Lanza, E. Messenger, R. Lacroix, and M. Barbado.

WHY THE DOCTRINE OF AQUINAS WAS GIVEN UP

As I see it, this happened under a double influence, a scientific and a philosophical one. The scientific influence came from the erroneous biological theory of preformation, the philosophical influence from the system of Descartes. The two influences combined, since, on account of the lack of interest of decadent Scholasticism for the budding natural sciences, the scientists tended to turn to Cartesian philosophy.

One of the first thinkers who rejected the traditional delayed-animation theory was Petrus Gassendi (1592-1655). We are told that in his *The Generation of Animals* the founder of modern atomism "reported about five aborted embryos and their measurements. The first one, which was certainly twelve days old, was formed from top to toe; its size, however, corresponded to the third part of a Parisian inch."⁶⁰

In 1620 a famous Flemish physician, Thomas Fyens (Fienus), Pro-

⁵⁹ *Ibid.*, p. 19.

⁶⁰ Cangiamila, *op. cit.*, p. 47. The complete title of the book is "Sacred embryology, or about the duty of priests, physicians, and others concerning the eternal salvation of the little ones who are in the womb." This is a strange and gruesome book. The author, a canon-theologian-inquisitor of Palermo, Sicily, is convinced that the human soul is present almost at once after conception and that unbaptized human beings cannot be saved. A great part of his book is about the need and the manner of practicing a cesarean operation on all pregnant women who die before delivery, so that the fetus may duly be baptized. The task is to be entrusted to a surgeon; if no surgeon is available, a barber or a midwife must take over. If none of these "experts" is at hand, the parish priest himself will have to do the job. Cangiamila's book explains how to go about it. The author inveighs against overzealous followers who do not wait until the woman is dead before setting to work. The good canon's *Sacred Embryology* must have led to a considerable amount of sacred butchery!

fessor of Medicine at the University of Louvain, published in Antwerp his *De formatione foetus liber, in quo ostenditur animam rationalem infundi tertia die* (A book on the formation of the fetus, in which it is shown that the rational soul is infused on the third day). A number of observations were reported of embryos, aborted during the first weeks or even the first days of pregnancy, showing a complete human organization, albeit on a microscopic scale, with a tiny brain. The early microscopes were very rudimentary and some eager researchers saw things which were not really there.

One obvious way of explaining the incredibly fast development of the complex structures of the embryo was to admit that in fact there was no real development, but only the enlarging of something which pre-existed. The structures were preformed, the whole human being was precontained, on a microscopic scale, as a homunculus, in the ovum.⁶¹ Embryogeny simply consists in a gradual increase in size.

When de Graaf (1641-73) discovered the follicle called after him, he thought that it was the ovum, and that the embryo was preformed in this ovum. Thus a complete human organism was present in the ovum even before fecundation, possessing all essential parts of the human body. This is the theory of the ovulists. The animalculists, on the other hand, asserted that the preformed embryo was contained in the spermatozoon.

Given the theory of preformation, hylomorphism might be reconciled with immediate animation. If all the human organs, including the brain, are present in the homunculus, if matter is so highly organized from the very start, there is no difficulty in admitting that it is from the beginning animated by a human soul. Size does not seem to matter. As a microscopic statue possesses a shape, a microscopic human body may possess a human soul.⁶²

Eventually, however, mainly through the work of C. F. Wolff, the preformation theory had to yield to the theory of epigenesis, which explains embryogeny as the result of a long, complex process of maturation, organization, and differentiation. Why then was the immediate-animation theory not given up at the same time?

⁶¹ "It has been established that the embryo with its limbs exists even before conception, although darkly and visible only under the microscope; but after fecundation it is always perceptible in the ovum. . . . Moreover, it is a fact that on the third day not only can the fetus be seen, like a worm, without a microscope, but its head, which is the main seat of the soul, can be discerned" (Cangiamila, pp. 68-69).

⁶² "Zachias claims that right after conception the soul is united to the body; this is the more probable as by then the latter exists with all its parts which afterwards simply grow larger" (Abbé Dinouart, *Abrégé de l'embryologie sacrée* [Paris, 1766] p. 42). On

The main reason seems to have been the decadence of Scholastic philosophy and its increasing contamination with Cartesian elements. For Descartes, the soul is not the substantial form of man, the first act of an organized body; it is a complete substance in itself, and so is the body. The soul is a thinking substance, the body an extended one. Within such a philosophical framework immediate animation is quite acceptable. An actual human soul may be joined to a virtual human body. Matter does not have to be highly organized before it is united to a thinking substance. This theory is not absurd; it has been held by many great thinkers. But it seriously endangers the unity of the human person and leads to great philosophical difficulties. And it is in evident conflict with the "definition" of the Council of Vienne. Descartes's soul cannot be considered as "by itself and essentially the form of the human body."

In fact, in this system the soul will be considered as actively molding and organizing the body. It is no longer the "shape in the statue" but the "sculptor of the statue." This is soon obvious in the manner of speaking of the authors who turned to immediate animation. Thus, one of the main conclusions of the above-mentioned work of Fienus was: "The rational soul shapes and organizes its own body of which it is the form."⁶³

We notice that Fienus continues to call the soul the form of the body. But it is a form which "shapes and organizes the body." This is no longer a substantial form, of which St. Thomas says: "Every substantial generation precedes and does not follow the substantial form."⁶⁴ This is an efficient rather than a formal cause. It is an effective principle, of which St. Thomas says: "The form and matter combine together in one being, which is not the case with the effective principle together with that to which it gives being."⁶⁵ Fienus' form may not be the sculptor of the body, since a sculptor does not

p. 36 the same book shows an embryo only seven days old: "a very respectable and virtuous lady of Turin lost it on the seventh day after her wedding." "Its head is more developed and the organs are large enough to allow us to see that it is a human head" (p. 39). The great philosopher Leibniz, too, held some kind of preformation theory: "Thus I tend to believe that the souls which will one day be human souls... have been in the seeds and in the ancestors all the way back to Adam and have thus existed from the beginning of things and always in a manner of organized bodies" (G. W. Leibniz, *Essais de théodicée* 1, no. 91; *Die philosophischen Schriften* 6 [ed. C. I. Gebhardt; Leipzig, 1932] 152).

⁶³ *Ibid.*, p. 184 (quoted by Anonymous, "De animatione foetus," *Nouvelle revue théologique* 11 [1879] 180).

⁶⁴ *Summa contra gentiles* 2, 89. ⁶⁵ *Ibid.* 2, 68.

exist in his statue, but it looks very much, to use Gilbert Ryle's expression, like "the ghost in the machine."

The point is made even more clearly by Michael Alberti (*Germaniae medicus*, 1725), who writes that "from the first beginning of conception the rational soul is present in the fetus, because conception cannot take place without this soul, which is at hand as the maker and the architect of its body, on which therefore the act of formation depends."⁶⁶ Or by Hieronymus Florentinius, who wrote that "most probable is the opinion which states that as soon as the rational soul is in the body, it produces for itself in matter dissimilar parts and limbs."⁶⁷ This is no longer the substantial form of hylomorphism. Is it still a form which is "per se and essentially the form of the human body"?⁶⁸ The authors claim that it is, but their decadent Scholastic philosophy, a mixture of Thomism and Cartesianism, may well, on closer examination, turn out to contain hidden contradictions.

The anonymous author of *De animatione foetus*, an all-out defender of immediate animation, is aware of these difficulties. In a second, likewise unsigned article⁶⁹ he answers, in Latin, some syllogisms against his position. He is reminded by an opponent that Thomas held that "generation does not follow upon but precedes the substantial form." He remarks that Thomas himself added right away to the above statement: "unless one should say that the body possesses another substantial form besides the soul." He does not, however, quote what Thomas adds at once: "whence it follows that the soul would not be united substantially to the body, since it accrues to the body after the latter has already been made into something by another form."⁷⁰ The position rejected here by Aquinas is in conflict with the teaching of the Council of Vienne. It resembles that of Scotus. Scotus avoided a conflict by insisting that the form of corporeity, which the body possesses prior to its information by the rational soul, is an *incomplete* form, making the body into an incomplete body, one which may still further be informed by the soul. Verbally there is no more conflict with dogma. But one may seriously doubt whether the solution is more than verbal. Moreover, even if we admit this "incomplete" form of corporeity, should we not expect it to be not only logically and ontologically but also chronologically prior to the information by the rational soul? This way too would lead to delayed hominization.

⁶⁶ *Systema jurispr. medic.* 6/1, 124 f. (quoted by Anonymous, "De animatione foetus," p. 184).

⁶⁷ *Ibid.*, p. 288. ⁶⁸ *DS* 902 [481].

⁶⁹ *Nouvelle revue théologique* 11 (1879) 268-89.

⁷⁰ *Quaestio disputata de potentia*, c. 3, a. 12.

The theory of delayed hominization seems to have been dropped as the result of an erroneous biological theory (preformation) and under the influence of a philosophy which is difficult to reconcile with Catholic doctrine (Cartesianism). It seems to me that we are now about to return to delayed hominization on account of our more accurate biological information and the strong antidualistic trend of most contemporary philosophy.

A FEW POINTERS FROM BIOLOGY

If we consult today's scientists, the biologists and more especially the embryologists, in connection with our problem, their answer, as is to be expected, will depend on the question we ask them.

If we ask at what time, in their opinion, the fertilized ovum starts to live of its own life, the answer will be unanimous: at the moment of fecundation or of conception, as soon as the nuclei of the two gametes are united. At once the zygote initiates a complex process of scission, organization, differentiation. It has its own metabolism, is a distinct organism. All scientists admit immediate animation, which is not the same as immediate hominization.

If we ask at what time this new organism becomes a human organism, begins to show human features, most scientists, if I am not mistaken, will reply: from the very start. The fertilized ovum is a human ovum; it differs clearly from the ova of all other species; it can, if everything goes well, develop only into a human being. Each one of its cells possesses the forty-six human chromosomes; it carries the human genes, man's DNA, his "code of life"; it is typically human.

This, however, is not an endorsement of immediate hominization. Transposed into Thomistic terminology, the scientists simply say this: from the start the fertilized ovum shows a human vegetative life. Its genetic capital, its physiological processes, are clearly human. The same thing, however, may be said of every single cell in the human body; likewise, as O'Mahony and Potts remark, of a "hydatidiform mole, which is a mass of placental [afterbirth] tissue containing no remnant of any embryo," and which is also "genetically unique."⁷¹ When a heart is taken out of a deceased donor to be transplanted into another person, it is artificially kept alive. It is a living human heart. It possesses all the human chromosomes, genes, and so on. It differs from the heart of all other species. Yet it is not a human person, it possesses only vegetative human life; the higher levels of human life are missing, and that is why it possesses no rational, human soul.

⁷¹ P. O'Mahony and M. Potts, "Abortion and the Soul," *Month* 224 (1967) 45-50; see p. 48.

Finally, if we ask the scientists at what time this new organism becomes a human person, a being endowed with a spiritual, human soul, no competent scientist will venture an answer. For him, as a scientist, the question makes no sense. The words "person" and "soul" never occur in his scientific system. If we get an answer at all, he will let us know his philosophical views, which are worth exactly, not what his scientific, but what his philosophical, competence is worth.

The trouble is that the question can be answered neither by the scientist as such nor by the philosopher as such. Both science and philosophy are needed. With the increasing specialization of all human disciplines it becomes more and more difficult to discover someone who is an expert both in embryology and in philosophy. To solve the difficult problem of the time of hominization, the philosopher must consult his colleagues in the laboratory, and the scientist will have to listen to his colleagues in philosophy.

Unfortunately, philosophers and scientists do not speak the same language, and efforts of either to hold forth about the other's field are bound to sound naive, untechnical, often ill-informed. There is not much a mere philosopher can do about this, except to hope that the scientists will be tolerant when they hear him mention, in his own crude language, some facts he has gathered from science and see him trying to interpret these facts philosophically.

So let us come back to the living human heart which a team of surgeons is transplanting from a donor to a recipient. Why is this living organism, with all its human chromosomes and genes, not a human person? It is alive—hence, for a Thomistic philosopher, it possesses a vital principle, a soul. But this soul is a vegetative soul, merely the principle of physiological activities. Since the heart is unable to perform any intellectual operations, it possesses no spiritual soul, is not a human person. Why should we not say the same of the fecundated human ovum during the early stages of pregnancy? It can perform only physiological activities, is totally incapable of the higher activities, does not even possess the organs which are the necessary, though not sufficient, condition of such activities.

The upholders of immediate hominization will probably object: it is wrong to equate the ontological status of the early embryo with that of a human heart which is artificially kept alive for a very short time outside the organism. The former is actively growing and developing and will eventually turn into an organism endowed with sense organs, a nervous system, and a brain, which will enable it to perform conscious and intellectual activities. The heart, on the other hand, has reached the end of its development. The embryo is potentially, virtually, a

human person, the heart is not. That is why the embryo may possess a human soul and be a human person, while the heart is only an organ of our vegetative life.

The objection is well taken and deserves closer examination. We are told now that what makes an organism a human person is not merely the possession of the human genetic capital, but the virtuality, the power of developing into a human person. The trouble is that, if this is true, every single cell of the zygote, of the morula or the blastula, is a human person; for at the earliest stages of embryogeny each cell resulting from the division of the fecundated ovum possesses such a power and virtuality. All these cells are totipotent; each one of them may, if separated early enough from the others, turn into a human being.

Hans Driesch, Hans Spemann, and their successors in experimental embryology have many times performed this experiment on the embryos of lower organisms. With infinite care they separated one or a few cells from the zygote and allowed them to develop in isolation. In many cases these cells developed into complete, though smaller adult organisms.

To my knowledge, such an experiment has not yet been performed on a human ovum. Who will make bold to assert that it will never be feasible? As a matter of fact, nature frequently performs it on man. Identical twins (unlike fraternal twins, who derive from two distinct ova, fecundated by two distinct spermatozoa) start life as one ovum, fecundated by one spermatozoon. For the proponents of immediate hominization, this fecundated ovum is one human person. Very early in pregnancy this ovum splits into two (or more) parts, each one of which develops into an adult. This fact is difficult to reconcile with immediate hominization. A human person does not split into two or more human persons.

The fact of identical twins elicits the following comments from one of the leading Catholic theologians of our time:

Moreover the question may be raised whether the gametes which come together into the fecundated ovum constitute already a human being in the full sense of the word from the moment of their union. The Middle Ages preferred the opinion that the human soul originated only in a further stage of embryogeny, and K. Rahner may be right when he says that nowadays this opinion is winning ground again.⁷² One fact especially renders for us a later "hominization" of the embryo more probable: the occurrence of identical twins (triplets, etc.). This fact shows that biologically speaking the fecundated ovum is not yet wholly individual. For, although its hereditary virtualities are set, a cellular division may change it into more than one individual. . . . As long as such a possibility exists, the philosophical definition of individual, which explains it

⁷² Cf. Rahner, *Hominisation*, pp. 93-94.

as “undivided in itself” (*indivisum in se*), is not yet realized, at least not as strictly as the individuality of the human person demands. If the fecundated ovum can split into two beings which turn out to be two persons, it is difficult to admit that at first it was itself a person, hence fully human.⁷³

There is more. If the power of becoming a person makes an organism into a person, the time may come when we shall have to say that even an unfecundated ovum is a person. This would be the case if experimentally-induced parthenogenesis should succeed in humans, as it has succeeded with a certain number of animal organisms. In such experiments, performed on animals which normally reproduce bisexually, unfecundated ova develop into adult organisms without the intervention of the male gamete; a biochemical stimulus applied to the ovum sets off the process of embryogeny, resulting in female offspring which is, genetically speaking, a perfect copy of its mother. Claims have been made that such parthenogenetic births have occurred in humans: a mother giving birth to a girl without previous sexual intercourse. Of their very nature such claims are difficult to check.⁷⁴ But the science of the future may well be capable of such “virginal births” of female descendants. In that event, even an unfecundated human ovum would be potentially, virtually, a human person. Does each such ovum possess, a human soul?

Recently botanists have been able to take a cell from the leaf or root of a plant and produce a new individual . . . without going through the normal processes of reproduction. There is no theoretical reason why this should not one day be actualized in animals.⁷⁵ It would then be possible to take a cell—say a white cell—from the blood and produce a new being.⁷⁶

Thus we see that neither the possession of the genetic capital nor the virtuality or power of developing into an adult person is proof that the zygote is already a human person.

Another consideration adds weight to our argument. Gynecologists tell us that a considerable percentage of fecundated ova never become implanted in the uterus: they are shed with other waste products. In this connection Karl Rahner makes the following remark:

For a few centuries Catholic moral theology has been convinced that individual hominization occurs at the moment of the fusion of the gametes. Will the moral theologian still have today the courage to maintain this presupposi-

⁷³ P. Schoonenberg, S.J., *Gods wordende wereld* (The Hague, 1962) p. 51. English translation: *God's World in the Making* (Pittsburgh, 1964) pp. 49–50.

⁷⁴ See Schoonenberg, *op. cit.*, p. 51.

⁷⁵ It has been actualized: see *Scientific American* 219 (1968) 24–35.

⁷⁶ O'Mahony and Potts, *art. cit.*, pp. 48–49.

tion of many of his moral theological statements, when he is suddenly told that, from the start, 50% of the fecundated female ova never reach nidification in the uterus? Will he be able to admit that 50% of the "human beings"—real human beings with an "immortal" soul and an eternal destiny—do not, from the very start, get beyond this first stage of a human existence?⁷⁷

It was to a great extent under the influence of "scientific" discoveries that the theory of delayed hominization was given up at the Renaissance. It looks as if more reliable scientific data may force us to return to the position of traditional philosophy. For modern science, evolution is a fact. The unfortunate and protracted opposition of Catholic theology and philosophy to this "hypothesis" has almost totally disappeared. There can be no doubt that this rejection of evolution in the race has contributed to a similar rejection of evolution in the womb, as implied by the theory of delayed hominization. The point is illustrated by one of the "arguments from reason" which Chollet mentions in behalf of immediate animation. He writes: "It is difficult to understand the *succession of several souls*, especially of three souls in one and the same body. This theory contains a real danger of transformism."⁷⁸

So it does. But meanwhile the argument "against" has turned into an argument "for." J. Feiner tells us that "for the evolutionistic way of thinking it is more probable that [hominization] occurs not at the moment of conception, but at a later time of embryonic development, after the intermediate stages through which the organism receives its orientation to the spirit."⁷⁹ If the Swiss theologian is right, we may expect a revival of the delayed-hominization theory, since the sciences of life can no longer afford not to think evolutionistically.

Evolution may also help us answer one of the objections most frequently leveled against delayed hominization: "Development is continuous. Hominization is a very gradual process, which goes on from the moment of conception to the hour of our death."

⁷⁷ K. Rahner, *Schriften zur Theologie* 8 (Einsiedeln, 1967) 287. Rahner's figure of 50% may be too high, but there seems to be no doubt that a high proportion of fecundated ova do go "down the drain." St. Anselm, as we have seen above, had already made a similar remark. Dorlodot put it more bluntly: "In the same way, we should have to insist that a search should be made in the menstrual flow of every woman who has had sufficiently recent matrimonial intercourse to see if there were not some germs there, or better still, we ought to pour baptismal water on this blood, taking care that the water should penetrate everywhere, and pronounce *sub conditione* the baptismal words. For it is quite possible, on the immediate-animation theory, that this menstrual blood contains a fecundated ovum in process of development" (*op. cit.*, p. 279).

⁷⁸ Chollet, *DTC* 1, 1317.

⁷⁹ "Der Mensch als Geschöpf," in J. Feiner and M. Löhrer (eds.), *Mysterium salutis* 2 (Einsiedeln, 1967) 581.

There is some truth in this objection. Yet the fact that human development is gradual, that the process goes on in some way throughout man's life, does not exclude sudden shifts, what Teilhard called "thresholds." Evolution too is a gradual process, which started hundreds of millions of years ago and will go on in some way as long as there is life on earth. Yet in this long and gradual process there are thresholds. We may be unable to pinpoint them. But we can definitely say when some phenomenon was *not yet* present and when it was present on earth. We do not know exactly when life started, but we do know that there was no life on earth during its earliest stages as a planet. We do not know exactly when man first appeared on earth, at what stage of the evolutionary process hominization occurred. But we know that *Dryopithecus* and *Propliopithecus* were *not yet* human beings. Again, we do not know when a child is first capable of making a free moral choice, but we are certain that he is *not yet* capable of such a choice during the first year of life. Likewise, I do not know when the human soul is infused into the body, but I, for one, am certain that there is no human soul, hence no human person, the first few weeks of pregnancy.

Philosophically speaking, we can be certain that an organism is a human person only from its activities. The most typically human activity is reflection, self-awareness, the power of saying "I." Of course, if we had to wait until a child starts to say "I" or to use the word "true" (which implies some self-reflection), we would have to delay hominization until long after birth. The Church has condemned this position (*DS* 2135) and rightly so. When we sleep or have fainted, we possess no self-awareness either, yet we remain human beings; we remain capable of such activities. A person in the ultimate stages of senility may give no more sign of self-awareness, yet he still possesses the organs required for such activity. The least we may ask before admitting the presence of a human soul is the availability of these organs: the senses, the nervous system, the brain, and especially the cortex. Since these organs are not ready during early pregnancy, I feel certain that there is no human person until several weeks have elapsed.⁸⁰

⁸⁰ It is difficult to be more specific. If "quickening" means the onset of "movement" and of "feeling," it might be a useful criterion. It would mean that the sensitive level of life has been reached. The next level, the rational one, is most probably still quite a distance off. O'Mahony and Potts claim that the sensitive level is reached around the twelfth week (*art. cit.*, p. 48). Doriidot considers it "very probable that the organization necessary in order that the brain may be said to be human is completed only during the third month after conception, and in fact nearer the end of the month rather than the beginning" (*op. cit.*, p. 260).

ANTIDUALISM IN CONTEMPORARY THEOLOGY AND PHILOSOPHY

Contemporary philosophy is strongly antidualistic. As a result, Catholic philosophers and theologians are more clearly aware of the real import of hylomorphism. And even those who do not profess hylomorphism offer views which are closely parallel to it. This might well contribute to a revival of the delayed-hominization theory. Let us listen to a few of these thinkers. In 1945 Jean Mouroux wrote: "We do not imagine body and soul as two things. We think them as the two irreducible aspects, implied in each other, of the one real being, man. We are not shocked when we read these words of a physician: '*Our soul is nothing but our body in action.*'"⁸¹ Karl Rahner writes:

... that which I experience as the bodyliness of a man is already the reality of the soul, extraposed in that mysterious something, which we know only from metaphysics, which the Scholastic, Thomistic philosopher calls prime matter. The body is already spirit, considered in that aspect of its self-realization in which the personal spirit gives itself away in order to encounter directly and tangibly that which is distinct from it. Hence corporeity is not something which is added to spirituality, but it is the concrete existence of the spirit itself in space and time.⁸²

And elsewhere he adds: "The essence of the human spirit as spirit implies its bodyliness, hence the fact that it refers to the world."⁸³

From Johannes B. Metz come the following lines: "The reality of [man's] body is nothing but his real soul, insofar as the latter can be real only by expressing *herself* and positing herself in an available space-time, that is, as body, somewhat as (to use a comparison for this unique relationship) the thrust of a needle, with which I make a hole in a piece of paper, is real only as pierced paper. . . ."⁸⁴ From E. Schillebeeckx we read this:

Man is not a closed interiority which afterwards, as in a second stage, would incarnate itself in the world through bodyliness. The human body as such belongs indissolubly to man's subjectivity. The human I is essentially in and with the things of the world. He is with himself, he is a person only when he is with other things, especially with other persons. . . . The body does not refer to a soul which lies behind it, it is not *sign* of the spirit, but this interiority itself made visible.⁸⁵

⁸¹ *Le sens chrétien de l'homme* (Paris, 1945) p. 43 (my emphasis).

⁸² K. Rahner and A. Görres, *Der Leib und das Heil* (Mainz, 1967) pp. 39-40.

⁸³ *Geist und Leib in der menschlichen Existenz* (Freiburg, 1961) p. 198. The interesting discussion between N. Luyten and K. Rahner shows how easy it is to slip into dualism, even when one professes hylomorphism.

⁸⁴ "Caro cardo salutis," *Hochland* 55 (1962) 103.

⁸⁵ *Christus' tegenwoordigheid in de Eucharistie* (Antwerp, 1967) p. 77.

Teilhard de Chardin speaks of self-consciousness more than of soul. The two are not the same thing, but they obviously go together. Where there is a sensitive soul, there is the possibility of consciousness; where there is a spiritual soul, self-consciousness must be possible. Thus we may apply to our problem Teilhard's famous and widely accepted "law of complexity-consciousness."

This law states that centro-complexity and consciousness vary together. That is why, for Teilhard, there can be no self-consciousness, no human reflection, without a very high degree of centro-complexity. By centro-complexity he means the orderly arrangement of an immense number of cells in a closed whole, in which all of them work together for the same purpose. It corresponds to Aquinas' *dispositio materiae*. For Thomas, there could be no rational soul before matter was disposed to receive it. For Teilhard, there can be no self-consciousness without an almost "infinite" centro-complexity.

Some people object and say that the zygote, with its many chromosomes and countless genes, possesses this kind of complexity. This is very doubtful. Teilhard's "infinite" complexity supposes millions of cells; the fecundated ovum starts 'as one cell. Teilhard has made it very clear that the complexity he had in mind was that of the human brain.

The last author I shall quote is France's greatest phenomenologist, Maurice Merleau-Ponty. His thought is very rich, full of nuances; his philosophy has been called a "philosophy of ambiguity." As a result, it is difficult to present in a few lines. As I understand and possibly oversimplify it, there are in man three levels of existence: the physical, the vital, and the spiritual. Each lower level is to the next higher one as the data are to their meaning, as the body is to its soul.⁸⁶ Each higher level endows the previous ones with a new signification. The vital level presupposes a certain organization of the physical one, and the spiritual level is possible only as rooted in a vital level which is ready to carry it.

Neither the psychic with respect to the vital level, nor the spiritual with respect to the psychic level, may be treated like new substances or new worlds. The relation of each order to the higher one is that of part to whole. . . . The advent of the higher order . . . suppresses the autonomy of the lower ones and endows their activities with a new signification. . . . The spirit is nothing or it is a real, not an ideal, transformation of man. Because it is not a new kind of being, but a new form of unity, it cannot rest in itself.⁸⁷

⁸⁶ "Chacun de ces degrés est âme à l'égard du précédent, corps à l'égard du suivant" (*La structure du comportement* [3rd ed.; Paris, 1953] p. 227).

⁸⁷ *Ibid.*, pp. 195-96.

None of these authors addresses himself directly to our problem. Yet I have the impression that what they say about body and soul, or body and consciousness, agrees better with the theory of delayed than with that of immediate hominization. I have tried to show above that hylomorphism supposes delayed hominization, that St. Thomas held the latter because he professed the former, that the *real* reason why immediate animation took over with Renaissance Scholasticism is this decadent philosophy's contamination with Cartesian elements. Now that modern Catholic authors are rediscovering the real meaning of hylomorphism, we may expect them to return to delayed hominization. And even among non-Catholic thinkers, the strong antidualistic trend seems to point in the same direction.

AN ECUMENICAL NOTE

Most Jewish religious thinkers and a considerable number of Protestant theologians favor a mitigation of the present antiabortion statutes.⁸⁸ Shall we say that they condone infanticide, murder, the "unspeakable crime" stigmatized by Vatican II? Should we not rather admit that, even when they do not say it in so many words, they feel that the life they are willing to sacrifice is not yet the life of a human person? In our modern society reverence for human life is steadily increasing: witness the abolition of capital punishment and the growing opposition to any kind of war.⁸⁹ Should we expect respected churchmen to move against this Christian trend?

In this respect it is interesting to compare two texts. The first comes from the Church (of England) Assembly Board of Social Responsibility: "It is possible to argue that between the moment of conception and the full maturing of the personality—whenever that may be assumed to have been attained—there is a long period of development, and that the degree of protection which is this person's due develops *pari passu* with it."⁹⁰ The second text is taken from Vatican II's Pastoral Constitution on the Church in the Modern World: "... from the moment of its conception life must be guarded with the greatest care, while abortion and infanticide are unspeakable crimes."⁹¹

In the hypothesis of immediate hominization these two statements are in total opposition: the former may occasionally condone what the

⁸⁸ For names of and references to Protestant theologians, see E. McDonagh, "Ethical Problems in Abortion," *Irish Theological Quarterly* 35 (1968) 269-72.

⁸⁹ This trend has *not* been led by the Catholic Church.

⁹⁰ *Abortion: An Ethical Discussion* (London, 1965), quoted by McDonagh, *art. cit.*, p. 277.

⁹¹ No. 51 (Abbott-Gallagher, *Documents of Vatican II* [New York, 1966] p. 256).

latter condemns as an "unspeakable crime." On the other hand, in the hypothesis of delayed hominization the opposition is only apparent. The upholders of this theory and the Anglican Board members agree that "from the moment of its conception life must be guarded with the greatest care," because this life possesses a human finality, is evolving with great speed towards hominization. The Council does not say that the life of which it is speaking is the life of a human person; it does not say that this life has an *absolute* right not to be terminated. Might it not be terminated occasionally for *very grave reasons*, the reasons which the other Christian churches consider sufficient? As for abortion, I submit that it may rightly be called an "unspeakable crime" only if it is really an infanticide, the murder of an innocent human person. The Council assumes that every abortion is such an infanticide. This assumption must be examined. Is it rash to suggest that we do not always have to admit something which a Council takes for granted without explicitly asserting it?