Article

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An Anatomist Considers Overflow at the Boundaries of Being a Person

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In dealing with the body of a deceased individual, the anatomist has to decide whether this individual is to be treated as a person. One approach is to gain insights from those who are definitely persons—healthy children and adults—and work toward those in which there is uncertainty and ambiguity, in this instance, the deceased. The same applies at the other end of life when dealing with embryos and fetuses. In both cases, marginal persons are given the benefit of the doubt, using the concept of "overflow."

An analysis is undertaken of the treatment of the deceased: initially, of the recently deceased; then assessing approaches to human remains from the remote past; and finally, the troubling status of dissected plastinated bodies, "plastinates." Against this background, attention moves to ways of approaching embryos. Following an overview of a range of theological insights into embryonic existence, attention is paid to the heterogeneity of blastocysts, the significance of their immediate environment, and their place within the broader human community. Reference is also made to the advent of synthetic embryos and the challenge they will present for a notion of personhood. An attempt is made to assess where these ambiguous versions of ourselves fit into the priorities of the human community, and whether an approach based on the notion of "overflow" will provide helpful pointers.

Keywords: human person, dead human body, anonymous human material, plastinate, embryo, blastocyst, fetus, prenatal life, "overflow" concept, human dignity

Debate about the emergence of personhood during gestation has a long history, crossing disciplinary boundaries, and mired in conflict. In Christian circles, it is often guided by theological insights into God's purposes for embryos and fetuses. The major thrust of debate in theologically conservative Christian circles has traditionally been on the evil of abortion and the destruction of the fetus. The rationale for this position is that human personhood commences at conception (fertilization), with the rider that God's love for prenatal life (the fetus and the earlier embryo) commences at this point, leading to the notion that all prenatal life is inviolable. This leaves no room for any research on embryos, or if consistently applied, for any procedures such as *in vitro* fertilization (IVF) that involve the destruction of embryos. From the perspective of a biomedical scientist this leads to a science-faith divide that is not informed in its rigidity. This article contends that there are uncertainties in the notion of personhood at the extremes of human life, in its earliest stages and at the time of death, and that these should be taken into account by bioethicists and Christians in determining how best to treat these equivocal entities.

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The task of recognizing when we are in the presence of another human person can be fraught with ambiguity and contention. James Peterson's article in the 2022 June issue of this journal eloquently pinpoints the possibilities and pitfalls of attempting this in relation to the developing human individual.[1] The difficulties have been cited on countless occasions within both the general ethical and also the Christian literature, so much so that congenial and productive debate can seem elusive. Peterson is to be commended for broadening the scope of enquiry by reference to the dead body, slavery, and genocide, thereby demonstrating that this is a matter that extends across the whole span of human existence, and is not confined to the prenatal period.

The present article concentrates on the latter stages of human life, as a prelude to turning once again to prenatal life. By working from instances where it is relatively straightforward to determine that a human person is present, the aim is to throw light on those situations where there are uncertainties and ambiguities. The approach is to start from those who are definitely persons, such as healthy children and adults, and work toward those who many regard as less definitely persons, such as the recently deceased on the one hand, and embryos on the other. The concept of "overflow" is developed in order to give these marginal persons the benefit of the doubt, using a range of biblically based values. The imagery behind the development of this concept is that of a river overflowing its banks, or of a hall overflowing with people. In both instances, the water or the people are spilling out from a well-defined container into a surrounding space that takes on some of the characteristics of the river or the hall. Hence, those who are not conclusively persons are compared favorably with those who are unquestionably persons. They are given the benefit of the doubt, even if it is a constrained benefit; this explains why a variety of descriptors has been employed, namely, equivocal and borderline. This is most readily appreciated when looking back at what once was but has now been lost; but it also conveys the hope that what is now undeveloped will one day become what it is meant to be.

Laying the Groundwork

Under most circumstances, we recognize that we are in the presence of another person when that individual is akin to us, with characteristics similar to those we possess. There is an equivalence that we find easy to accept. A more detailed description of what it means to be a person is beyond the scope of this article, except to state that, in Christian terms, it is to be made in the image and likeness of God, with a uniqueness and ability to live in relationship with God and other persons. It is the potential of being able to give of oneself to and for another, and of living together in human community. But all is not straightforward at the peripheries—whether backward into the past, or forward into the future. Respectively, these movements represent a past as embryos and fetuses, and a future as cadavers. We are unable to experience what the one was like, or the other will be like. When did others first recognize us as persons, and when in the future will others cease to treat us as persons?

Phrasing these considerations in individualistic terms highlights the far more general question of when and how we recognize that a human person is present in human tissue. How, and under what circumstances, are we to acknowledge embryos, fetuses, and the recently deceased as fellow humans with the same claims and privileges that we ourselves enjoy? When are we to love them, care for them, and sacrifice for them? When are they our neighbors, to all intents and purposes equal to us?

A Human Presence in the Recently Deceased

Peterson made the observation that we should treat a human corpse with great respect even though it is no longer a person.[2] Since it is no longer a person, it can be buried, cremated, and dissected in a variety of ways. But why treat it with respect, and why are there restrictions on what can be done with a dead body?

An immediate response is based on the recognizability of the recently deceased. We recognize each other because we recognize each other's bodies, and while this applies supremely during life, some very important aspects of this identity continue following death. In other words, the dead body has intrinsic value; it is an end-in-and-of-itself.[3] During life, we recognize each other by recognizing each other's bodies, since a person and their body are more-or-less inseparable; at death, the intrinsic value of a living person

is bestowed upon the body. A number of years ago W. F. May commented:

> ... while the body retains a recognizable form, even in death, it commands the respect of identity. No longer a human presence, it still reminds us of the presence that once was utterly inseparable from it.[4]

If this is the case, in R. N. Wennberg's words, it is not surprising that

> we don't treat human corpses as garbage, because the corpse is closely associated with persons: it is the remains of a physical organism that at one time supported and made possible personal life.[5]

Here is the link between treatment of the living and the dead, with the treatment of the living influencing the treatment of the dead.

The dead body is sufficiently recognizable to remind the living of the human person who once existed, no matter how ambiguous this now is. It serves as a source of memories and responses, leading to the conviction that a corpse should be respected and treated in a "decent" manner, the term used in the original 1832 and subsequent Anatomy Acts in the United Kingdom. Desecration of a corpse is, in an intangible way, desecration of a person, even though the person who was known and loved is no longer present as a companion and soul mate.[6] The thrust of this Act was to counter the serious lack of respect shown by those in anatomy schools, who went to the lengths of digging up the bodies of the recently deceased, without the knowledge, let alone consent, of their relatives.

More poignantly, the deceased person was a relative and friend, and these people are now grieving the death. The intensity of this loss will decrease as time passes, but this does not deny the significance of the cadaver as an integral part of the initial grieving process. This is another feature of the built-in opacity of the recently deceased—no longer a vital human presence, and yet neither an entity lacking any meaningful human connections.

Additional light is thrown on the human presence of the recently deceased by the manner in which they are able to contribute to the living, by serving as a source of organs in organ transplantation. In this way, cadavers have *instrumental value*. They can function in this manner only because of their close resemblance to the living. Taken together, these complementary values suggest that the deceased are to be *treated* as having moral significance as a result of their human presence, if not active personhood.[7]

It is for this reason that most ethicists now argue that only bodies that have been expressly donated for these purposes should be used in these ways.[8] Fully informed consent strengthens the bond between the living and the dead. Disrespect is shown to a person-now-dead when that person's body is allowed to be dissected after death in the absence of any consent on the person's part prior to death and/or without any close friends and relatives to represent the deceased. This is the case with "unclaimed bodies"; there has been no consent for their use in anatomy. It is a form of exploitation of both the dead and the living, precisely because informed consent is central to the treatment of human persons.

A somewhat different illustration of the importance of consent is that of Henrietta Lacks, a working class African-American woman, from whom a biopsy of a cancerous cervical tumor was removed in 1951. The cells were taken without her consent or even knowledge; neither was her family consulted. This marked the beginning of the immortal HeLa cell line, the first human cells to be grown successfully in the laboratory. No one could have foreseen in the early 1950s how useful this line was to become for many branches of medicine. Along with the myriad successes of the HeLa cell line went a host of ethical and social problems, spurred on by the ever-increasing power of genetic analyses. In hindsight, it became apparent that the successes had paid little attention to the respect owed both the dead in general, and the family in particular.

This discussion is based on the premise that the bodies of the dead are being viewed through the lens of a "transitional state"—not definitively a human presence, but neither entirely lacking a human presence. The dead exist in a twilight border state, in which there are uncertainties in both the moral and theological realms. Despite such uncertainties, the dead are given the benefit of the doubt that they represent the human condition, albeit a constrained benefit.

The rationale for arguing like this, when dealing with the recently deceased, stems from their associations for the living. "Mary-Ann" was known to those around her for her values, interests, and likes and dislikes: characteristics that imbued her with a status

as one of us, as someone like us, as someone made in God's image. She had a dignity bestowed upon her as one of God's creatures. On her death, she has not ceased to be someone loved by God, even though she can no longer contribute to the ongoing life of the human community. And yet her body still reminds us of what she was like and of how she contributed as one of God's people. We respect her, and her body is a reminder of what she once represented.

A Human Presence in the Remote Past

If the recently deceased maintain marks of human personhood, or are reminders of human personhood, for how long does this apply? The passage of time will not completely eradicate these memories, although they will lose many of their associations. Consider human bones uncovered in an archaeological dig. There are no known living descendants, and hence no loved ones to mourn the skeletal material as it is uncovered and brought into the laboratory. It is "anonymous archival material": exhibit N571/0215. Do these skeletal remains retain any human presence, or has this been eradicated with the passage of the years?

Anonymous archival material has no known links to its original subject; if found in a museum, no information is available regarding whether consent was obtained for its collection and removal to the museum, and little or nothing is known about the method of acquisition of the material.[9] For biological anthropologists in the field, its dating depends on a host of other factors, but study of the skeletal remains can yield important information about the conditions under which these people lived, their nutritional status, the illnesses from which they suffered, and their lifespan.[10] In other words, anthropological study of the skeletal material brings these people "back to life," and reveals strong hints of the human presence they once possessed. This is not lost completely, even though these individuals, now encountered as human remains, have not contributed to the ongoing life of any community for many years. Nevertheless, they place demands upon contemporary populations to treat them in an ethical fashion on account of their relationship to present-day humans.[11]

It is these human associations that lead indigenous populations to request the return of the remains of their ancestors from overseas museums and anthropological collections.[12] In these instances, there is a perceived relationship between the present-day tribal or cultural group and the skeletal remains of their ancestors.[13] There is a direct link between the two, with the remains providing deeply personal meaning for the living, based upon recognition, not only of their humanness but of their familial link. For example, for Māori in New Zealand, the past is intimately linked to the present, and this includes ancestors. They are to be protected since they are core to the identity of the extant populations. Where they are buried is regarded as crucial because it connects them to the land. Regardless of the specific interpretation in any one cultural context, the underlying message is that these long-buried or long-stored skeletal remains have a human presence with cultural and religious meaning.

Reflection upon anonymous human material in museums leads to similar conclusions. Problems arise since this material was not collected in line with present-day ethical expectations; there was no informed consent, and no acknowledgement of the dignity of the human beings involved. Four options present themselves:

1. Dispose of the tissue respectfully, an action that precludes its use to benefit the human community.
2. Use it in teaching, and hence benefit health science students.
3. Use it in research, with the intention of benefiting the human community either scientifically or clinically.
4. Leave it in storage with the hope that it may be useful at some stage in the future in unspecified research projects.

Each of these options comes with positives and negatives.[14] Above all, the availability of archival material represents a compromise. Routinely, it is preferable to err on the side of altruism, with consent provided for the use of all newly acquired human tissue.[15] This is unattainable for anonymous archival material, and yet even this material should be treated with care and respect; they are reminders of the personhood of the individuals of whom they were once an integral part.

Consider the following unusual circumstance. Very recently, a funeral notice appeared in the local

newspaper for a memorial service to lay to rest "the gold miner" in a cemetery close to where a considerable amount of gold mining had taken place in the latter half of the nineteenth century.[16] The intriguing feature of this burial is that the person concerned died 140 years ago when he was originally buried. Later, in 1983, the body was exhumed during archaeological work prior to the construction of a dam. Since that time, the bones had been kept in the Department of Anatomy's biological anthropology collection at the University of Otago for use in teaching and research.

Prior to the recent funeral, the funeral director commented that this gold miner was representative of all the gold miners who had lost their lives in the harsh conditions of the gold-mining period. More poignantly, efforts had been made to arrange the skeletal remains as accurately as possible, in order to maintain a level of respect and dignity that "everyone deserves to have."

This is an extreme example of respecting the human person through the medium of the skeletal remains, but is it justified? Nothing is known about the man himself, and there is no record of his descendants; if there are any, they will have known nothing about what became of him, let alone about his recent funeral. He was one of many who died in isolation far away from home and family. The bones alone remain to provide significant, if incomplete, information about the once-living person. The bones represent that individual and are unmistakably human. Consequently, they should be treated in as dignified a fashion as possible.[17]

Respect along these lines stems from the association of the bones with once-living human beings, even when the identification of that person is unknown. There is a direct conceptual link between the two; the bones are human bones, and as such indicate a human presence. It is this principle that underlies forensic investigations on the one hand, and the study of indigenous skeletal remains on the other.[18] In spite of this, the efforts to re-enact a nineteenth-century burial were driven by cultural considerations rather than by ones stemming from a close relationship between the bones and a human presence. The latter demanded only a simple respectful burial.

Although no attention was given to DNA analysis in this case, such analysis opens new avenues of analysis, both anthropologically and ethically. The study of ancient DNA demonstrates that genetic information can provide invaluable data on nutritional status, disease states, and living conditions. Together, these provide evidence that the skeletal material represents human beings who, while no longer alive, are still part of the human community.

Entering the Dubious World of Plastinates

Apart from routine preservation, the preceding situations have not involved any attempt to modify the dead body. There has been no attempt to transform the body to make it appear other than the remains of a once-living subject. This changed in the 1970s and 1980s with the advent of the technique of "plastination," a method of preserving tissues by replacing the tissue fluids with plastic.[19] Human specimens preserved in this manner are dry, odorless, and durable, and they retain the natural structure of the tissues. They have proved extremely useful for the teaching of human anatomy in health science settings, where the emphasis is on the structure of body parts, limbs, and organs. However, beyond these strictly educational uses, a range of public exhibitions of dissected whole bodies ("plastinates") has emerged. Of these, the best known are the Body Worlds series of exhibitions.[20] In these, plastinates are displayed in upright poses, giving the impression that they are "alive." To reinforce this impression, they are depicted as being involved in a number of sporting activities, playing chess, riding a horse, or even having sexual intercourse. The effect is dramatic and awe inspiring, and elicits reactions ranging from wonderment at the beauty and complexity of the human body, to disgust.[21]

No matter how one reacts to the exhibitions, these dead and dissected bodies are nothing if not human. Their apparent lifelikeness and apparent participation in sporting and cultural activities mean that their human presence is unmistakable. This may be deceptive, since it has been made possible by the artifice of the technicians responsible for the plastination, but it is difficult to reject entirely. Equally unmistakable is its ambivalence, since it is thirty per cent human tissue and seventy per cent plastic. It is more than a model, because it reflects the individuality of the original person—all the way down to the level of cells and tissues.[22] If one knew what

to look for, it would be possible to distinguish one individual/plastinate from another. Some of the characteristics of "Erin" when alive are replicated in "Erin" now that she is dead and remains as a preserved, dissected plastinate. The human presence cannot be ignored.

Plastinates represent a new category of dead human body, separate from both a new corpse and decaying remains.[23] They have been contentiously described as "post-mortal bodies." Even if their artificiality has cyborgian overtones as a consequence of being part human and part machine, their human presence shines through.[24]

Those behind these exhibitions claim that plastinates are "real" human beings, but this is only partially correct, since they have been modified to become a new entity—one based on a human template but increasingly artificial.[25] The plastinated version of Erin is no more than partially Erin, although core characteristics remain. The end result is a conundrum, because the newly constructed plastinated body is far removed from that of the original living individual. Plastinates represent their own category of being: a "living deadness," part mortuary and part art gallery. For von Hagens, they are frozen in time between death and decay;[26] they have achieved a post-Christian, secular form of immortality.[27]

Where then can their human presence be found? Although far from being alive, they are poignant reminders of the human form. The anatomical detail and the organization of the human body revealed by plastinates stand out as startling examples of the intricacy of the human body revealed by the brilliance of those who have undertaken the dissection. Coming face-to-face with plastinates is an unnerving experience.[28] They are dead, no matter how "dressed up" they may be to suggest life and continuing happiness. They are neither enjoying nor bemoaning their experience of being dead. But there can be little doubt that they reflect the humanness of these once-living individuals. While their artificiality may be spurious, and their presentation to resemble the young and healthy gravely misleading, none of this would be possible if they lacked substantial human characteristics. They are reminders that a human presence does not cease at death, and that dead bodies do not become a nothing.

Although there has been no specific Christian commentary in the preceding sections, Christian motifs have been present throughout—the centrality of the body for our lives as created beings, the ongoing significance of the body even after death, the recognition of human dignity throughout life and beyond, and the centrality of informed consent as acknowledgment of our standing as people with responsibilities before God and the human community.

Recognizing a Human Presence in Prenatal Life

The move from the end of human life to its beginning may appear incongruous, and yet both are fraught with tension and uncertainty. In the case of the preborn, extreme perspectives predominate—complete protection or no protection at all, absolute moral value or no meaningful value, everything or nothing. Rarely are such inflexible descriptors applied to other spheres of human endeavor, where gradations of value or varying degrees of significance are recognized. The same consideration applies at the early stages of human development.

The major tenor of the debate around prenatal life revolves around the fetus and abortion, as so glaringly demonstrated by the revitalized Roe v. Wade debate in the United States.[29] This reinforces the all-or-nothing framework employed so frequently in approaches to the fetus, and by extension to the embryo. Unfortunately, this camouflages the ambiguities inherent in any assessment of the human embryo, leading to bioethical stalemate and political stagnation. The long-standing vehemence of the abortion debate has been transferred to the far more recent embryo debate.[30] Any scientific distinctions between the embryo (ranging from fertilization to eight-weeks' gestation) and the fetus (from nine-weeks' gestation to term) disappeared as the whole weight of ethical interest shifted to fertilization (or conception—the term frequently used by Christian writers[31]).

This conflation of embryonic and fetal debates has had far-reaching consequences, arising from equating the status and value of the early embryo and the late fetus. Distinctions between the two have been obliterated, with the result that arguments against abortion have become arguments against the reproductive technologies, insofar as they entail any

destruction or modification of embryos. Destruction of the fetus and destruction of the embryo have become morally and theologically equivalent, with each having a moral value equivalent to that of postnatal humans.[32]

This equivalence has proved attractive on account of its perceived simplicity and assurance. It permits the claim to be made that a procedure imperiling the ongoing development of a one-day-old embryo is ethically and theologically equivalent to causing the death of a five-year-old child or a forty-year-old adult. No distinctions are recognized between these three scenarios, with the result that ethical considerations applying to postnatal humans are equally applicable to the earliest stages of embryonic development. All are human; all have been made in the image of God. No matter how assured this stance is, it is intimately dependent upon a future perspective—what they are expected to become. Their potential is bestowed on a basis of trust and hope. However, unlike the recently deceased, who have previously made their presence felt as members of the human community, embryos do not bring with them memories, regardless of what their future prospects may be.

References to early embryos may suggest that they are homogeneous entities with an inbuilt capacity to become fully developed human individuals, regardless of the environment in which they are located. This is an unhelpful oversimplification. The fertilized egg is a single cell, the "zygote," and is totipotent, giving rise eventually to the fetus and placenta. This single cell divides to produce two, then four, then eight smaller, identical cells. These are the "blastomeres," which at the eight-cell stage are only loosely associated with one another, and have the potential to develop into complete adults if separated from the surrounding blastomeres.

By five- to seven-days gestation, this equal developmental potential has been lost. An inner group of cells, the inner cell mass (ICM), continues to be undifferentiated, and a small number of these cells will give rise to the future individual. The embryo at this stage has an internal cavity, and is termed the "blastocyst." The outer cells form a surface layer, the "trophectoderm," which becomes the "trophoblast" when implantation occurs into the wall of the mother's uterus (completed by fourteen days). It is these cells that eventually give rise to the placenta.

By fifteen to sixteen days, the "primitive streak" is visible. This is a transitory developmental structure, that instigates the appearance of the neural plate, from which arises the first rudiment of the nervous system early in the third week of gestation. From this point onward, a spatially defined entity, capable of developing into a fetus and infant, begins to exist. The appearance of the primitive streak is widely regarded as marking a point of transition, with some arguing that no coherent entity exists prior to it, and hence there is no entity present that can be meaningfully referred to as a human individual.[33]

Theological Insights into Embryonic Existence

These embryological details appear to be far removed from the approaches of some, but not all, theological commentators. For Calum MacKellar, each new embryo is a creation of God and an expression of profound and real love.[34] This love applies no matter how the embryo came into existence—through rape or incest, or within a happy family—nor its location—in the uterus, the abdominal cavity, or *in vitro* in the laboratory. God's love applies irrespective of whether the embryo possesses the capability of developing into a child. The reason given is that the embryo has full moral status, no matter where it is found and regardless of whether it has any potential, biologically and environmentally, to develop any farther. What counts is embryonic existence, no matter for how short a time.

Edwin Hui had earlier reached very similar conclusions, contending that the zygote, with its capacity for self-development, is a human person with the potential for ongoing development.[35] God's work in creating an embryo led Hui to oppose any technological inroads into the reproductive process, since use of the artificial reproductive technologies forces God to accept the child to whom he has not given that gift of life. Hui allowed no place for any study of human embryos, since any procedures that undermine our dependence upon God and our interdependence on fellow human beings are unacceptable. From Hui's perspective, God uses only natural processes. It seems that nowhere is scientific creativity allowed a supplementary role, even to enhance the natural process, rendering the human-divine relationship far more asymmetrical in this area than in many others.[36]

These approaches suggest that some Christian conceptions allow no room for any scientific inquiry into human blastocysts. There is, it seems, direct conflict between Christian ideals and scientific creativity. Embryos belong to God's domain, and as such are untouchable by human beings. They are viewed as having a human presence from day one. However, this does not represent the only Christian approach.

Thomas Shannon and James Walter argue that an individual is not present until two to three weeks after the beginning of fertilization, prior to which the genetic status of the embryo is associated with what is common to all, the embryo's "common nature," and not what is unique to a particular individual.[37] From this, it follows that an individual cannot be recognized as having human presence earlier than the two- to three-week period. In their thinking, an ontological individual emerges when the totipotency of the cells of the embryo is lost, around three weeks of gestation. Hence, personhood and individuality cannot be identified before this time. They conclude that the pre-implantation embryo possesses a "premoral value" that needs to be judged in the light of other premoral and moral goods, such as the benefits that may accrue from research on these embryos in reproductive and other areas.

The differences between Hui and MacKellar on the one hand, and Shannon and Walter on the other, are considerable, even as both positions strive to be faithful to their respective theological traditions (Protestant evangelical and Roman Catholic, respectively). The differences can largely be reduced to whether they are prepared to entertain a role for science in describing the nature of the early embryo, or whether this is entirely the domain of theology unencumbered by any scientific insights. This, in turn, raises the question of whether theology itself, explicitly or implicitly, has been influenced, over the centuries, by scientific and cultural viewpoints.

For his part, Ted Peters questions why so many theologians, when confronted by the value of the human embryo, are drawn to the past, confining the debate to what he considers is a confused account of genetic origin.[38] He contends that this is not required by Christian theology, since it leaves out of the account God's eschatological call to become who we are destined to be. This is closely allied with gifts given us by God, namely, our creativity as human beings, our glimpse of God's promised future, and our ability to make decisions for the good.

For Peters, we are to treat others as having intrinsic value. Dignity is the fruit of an ongoing, loving relationship, expressed so clearly in the developing relationship between a mother and her newborn. To confer dignity on someone who does not yet experience it, or claim it, is a gesture of hope. It is the end-product of God's saving activity rather than something imparted with the genetic code. We impute dignity to those who may not already experience it, enabling them to claim it for themselves.

Peters's position is a melding of divine action in conferring dignity and of human response in claiming dignity, ensuring that individuals are provided with an opportunity to blossom and flourish. This is an expression of God's love for all, leading to God's bestowal of unmerited dignity on all. Embryos are members of the human community, with a hope based on God's promises of a coming kingdom of justice and fulfilment. The Christian commitment should be to achieve as much equality as feasible for individuals, and to provide conditions that will enable the human community as a whole to flourish.

In light of this discussion, where does a biblical account enter the picture, and can it throw light on the personhood of very early embryos? It is difficult to accept that the biblical writers provide every insight into blastocysts, since these are products of contemporary analysis and were unknown to the biblical writers. The notion that the human embryo is inviolable from conception relies upon biblical passages in which God's servants looked back at the ways in which they had been protected from their earliest development (Job 10:8–12; Pss. 22:9, 10; 51:5; 139:13–16; Isa. 49:1; Jer. 1:5). These *retrospective* data serve as very important spiritual guideposts for individuals, but they provide a far less reliable framework for determining what can and cannot be done to blastocysts in the laboratory. These are retrospective statements that are being interpreted *prospectively*.[39] To make the personal history of God's servants into a general principle relating to the status of all embryos, regardless of their relationship to a community of faith, moves far beyond any biblical evidence. It is also important not to overlook the imprecatory psalms, such as Psalm 137, where infants are not protected, but are seen as part of the

nation's desire for God to intervene to keep his covenant, and right all wrongs.

It is impossible to discuss contemporary embryological issues solely on the basis of the biblical writers alone. This in no way downgrades the important insights provided by a range of biblical writers on the value of prenatal life, but it signals caution that we do not indulge in what has been termed "reverse transposition."[40] This is the application of scientific knowledge to the Bible, to make it refer to a concept such as fertilization that was unknown to the biblical writers. When these writers referred to a woman conceiving a child, what they had in mind was her awareness of being pregnant. The same applies to all arguments that are allegedly based on scripture, but use genetic uniqueness (a scientific notion) to bolster claims that human personhood commences at conception. The belief that every human embryo ever conceived is to be protected is a possible, but not an inevitable, extension of biblical principles. In all these instances, extra-biblical data and ideas are being employed as though they are implicit within scripture, when they are not.

Much of what passes as biblical commentary on early development owes far more to ideas originating outside scripture than is being acknowledged. Nevertheless, the desire for biblical perspectives serves a crucial function in providing restraint on overextension of scientific concepts and theorizing. A spirit of humility is essential, serving to balance grandiose interpretations of the biblical evidence and the pretentious and dangerous investigations of some scientific endeavors.

Early Embryos and the Human Community

Regardless of what perspective one adopts toward them, embryos and, in particular, blastocysts are ambiguous entities. They give the impression of occupying a different stratum from most others within the human community, and yet they never exist in isolation of others, even in the laboratory. Their existence and flourishing are dependent upon others within this community, and on the relationships they have with others.

This observation elicits two reactions. Being the weakest of all human forms, they should be protected under all circumstances and never be used in research. Alternatively, their value is to be seen alongside that of other human beings, none of whom are of absolute moral value. All are created in God's image, and all are to be valued as much as is feasible.

The intact blastocyst within a woman's body is totipotent, and can therefore form a new complete individual. It also exists within a uterine environment that allows this to take place. Once one or more of these conditions is removed, the blastocyst ceases to be totipotent. This is the situation of *in vitro* blastocysts (those in the laboratory), since they have been removed from a uterine environment, and are "*potentially* totipotent."[41] Their status reverts to that of "*actually* totipotent" when introduced into a woman's uterus for further development.

Another way of phrasing this is to refer to "blastocysts within an environment congenial to further development" as against "blastocysts within an environment hostile to further development."[42] The first situation has the potential of producing a human individual; the second has no such potential. Far away from the laboratory, environmental factors always have to be taken into account in determining the fate of blastocysts, which are found naturally in a range of environments, some of which enhance their ontogenetic development, whereas others hinder it. Some blastocysts, found naturally within the abdominal cavity, lack the potential to become flourishing individuals.

Some theological approaches ignore this environmental conundrum, enabling them to claim that blastocysts should be treated as persons, even though there are no scientific means of providing meaningful information on the question.[43] A corollary of a position like this is that the environment plays no part in God's purposes, even though no blastocyst will mature into an individual human being in the absence of a nurturing environment. Once the environment is factored into the equation, it is difficult to claim that God is committed to every blastocyst. There is no way of knowing whether every embryo has been selected for ongoing existence, a point that has been made repeatedly over the years in relation to the spontaneous abortion/miscarriage of early embryos.[44] All people who are now alive were once embryos and may have been set aside as embryos, but can the same be said of those entities that never made it beyond embryos?[45]

A fascinating perspective is provided by those families who, having been through an IVF program, still have embryos in storage, but do not want a further child. The remaining embryos are, to all intents and purposes, redundant. There are legitimate ethical and theological issues raised by this situation. What is of relevance for the present discussion is to ask whether they should be seen as equivalent to "unborn children/pre-persons," or whether they are the unfortunate byproducts of a procedure intended to bring new life into existence? If it is the first, they should never be knowingly destroyed (and probably should not have been produced in the first place). If the second, and this is the position argued here, there is no theological reason why they should be retained indefinitely.

It is presumptuous to claim that all blastocysts are persons or have the indelible features of persons. This presumption becomes even more questionable when the origin of the blastocysts lies outside the "normal" fertilization of sperm and ovum, having been manufactured from stem cells.[46] These are synthetic embryos resulting from mixing induced pluripotent stem cells with chemicals capable of coaxing them to form spherical structures, "iBlastoids," that resemble early human embryos. The result is an integrated human embryo model containing cell types related to all the founding cell lineages of the fetus and its supporting tissues.[47] Whether such embryos are ever allowed to develop further remains to be seen—and will be dependent upon scientific expertise and political will. But should this scenario ever eventuate, will the blastocysts have the status of human persons?

These may be flights of the imagination at present, but they add to the list of borderline entities that one day may have distinct human characteristics. Their ambivalence is far more profound than that of routinely fertilized embryos, and yet there will be pressure to categorize them in one way or another. If it is accepted that they have human characteristics, either actual or potential, regardless of their origin and unknown potential, any procedures conducted on them should be undertaken with the respect due to equivocal persons.

The Concept of "Overflow"

It has been impossible to escape the opacity of both the deceased and early embryos, different as these two groups are. In contrast to healthy adults, the personhood of both is equivocal. Debate about whether the embryo is a person with potential, or a potential person, has led to considerable conflict, with the former suggesting that the embryo definitely is a person from fertilization (the moment of conception), and the latter that a person can be definitively identified only at some later point during gestation. The argument of this article is that, although it is not possible to be categorical about when the early embryo can be valued as a person equivalent to that of a postnatal human, this does not entail agnosticism about it. The concept of "overflow" proposes that equivocal entities be given the benefit of the doubt. Even though they are not conclusively persons, any marks indicative of personhood should be taken into account in determining how they are to be treated. The onus will be on bestowing them with as much dignity as possible, as a gesture of hope, signifying God's love for them and our high regard for them. This resembles Peters's approach that we are to impute dignity to those who may not experience it in their present stage of development.[48] This approach aims to do what is best for embryos and fetuses, but alongside the demands of others, including those who are definite persons.

Underlying this approach is the impetus to show love for our neighbor, as the Good Samaritan did for the man beaten and left at the roadside (Luke 10:25–37). The early embryo is a neighbor to those making decisions about its future. It is the stranger in need of recognition as a fellow human, but how far does this extend? The Samaritan passing by the injured man had to decide what he would sacrifice in order to give help to this stranger, how much of his own comfort he would relinquish, and the extent to which he was willing to assist. In the contemporary world, the task is to determine how much we are willing to sacrifice to protect the early embryo (as well as the deceased); how much can be justified?

The notion of "overflow" gives the benefit of the doubt to the early embryo, an equivocal person rather than a definite person.[49] It is to be protected, if feasible, but on occasion, a balance has to be struck between its interests and those of definite persons. In practice, this will demand rigorous assessment on a case-by-case basis, an assessment to be guided by love and concern for the other, and a desire to protect

the interests of prenatal life within the broader context of the welfare and interests of all relevant others. ▶

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