

Reproductive Cloning and Arguments from Potential

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The possibility of human reproductive cloning has led some bioethicists to suggest that potentiality-based arguments for fetal moral status become untenable, as such arguments would be committed to making the implausible claim that any adult somatic cell is itself a potential person. In this paper I defend potentiality-based arguments for fetal moral status against such a reductio. Starting from the widely-held claim that the maintenance of numerical identity throughout successive changes places constraints on what a given entity can plausibly be said to have the potential to become, I argue that the cell reprogramming that takes place in reproductive cloning is such that it produces a new individual, and so adult somatic cells cannot be potential persons.

1. INTRODUCTION

One well-known type of argument in discussions about the morality of abortion claims that a human fetus has a certain moral status because it has the potential to develop morally valuable human characteristics, such as the capacity to experience various emotions, the capacity to form meaningful social relationships with others, and the capacity for moral agency. The moral status conferred on a human fetus or embryo because of this potential is to be weighed, in decisions that would destroy it, against the importance of the reasons for destroying it. I do not take this moral status to be absolute – I believe that there are a range of reasons which suffice to justify decisions that result in the destruction of the fetus or embryo.¹ My focus in this paper, however, is not to defend the claim that the potential of an embryo or fetus confers upon it a certain overridable moral status, but to reply to a new line of argument which rejects the idea that the potential of a human embryo or fetus confers upon it any moral weight at all.

The possibility of human reproductive cloning has led some bioethicists to suggest that potentiality-based arguments for fetal moral status become untenable, as such arguments would commit one to thinking that any adult somatic cell is itself a potential person. Since, this objection goes, it is clearly implausible to think that an adult somatic cell is a potential person, the notion of potential cannot serve as a basis for moral status in the context of fetal development.² In this paper I defend potentiality-based arguments for fetal moral status against such a *reductio*.

2. AN ARGUMENT FROM POTENTIAL

The following argument represents the general form that arguments from potential commonly take in, for example, the context of abortion:

P1. Personhood is morally valuable.³

¹ In my view, these reasons go well beyond cases where an abortion is necessary to save the mother's life, and include abortions carried out for various psychological and social reasons. I also believe that research which results in the destruction of the human embryo can be justified, where the purposes in doing so are worthy enough. However, it is well beyond the scope of this paper to defend such claims here.

² Notice that this sort of argument could also be used to cast doubt on the idea that an individual's potential has moral significance in other contexts, outside that of fetal development.

³ Personhood is typically thought morally valuable because the characteristics that persons have (such as the capacity to experience various emotions, the capacity to form meaningful social relationships with others, and the capacity for moral agency) are regarded as morally valuable.

P2. The potential to be a person has some moral value.⁴

P3. A human fetus is a potential person.

C. Therefore, a human fetus has some moral value.

3. CLONING AS A SOURCE OF SCEPTICISM ABOUT ARGUMENTS FROM POTENTIAL

The possibility of human reproductive cloning has led some to claim that such arguments from potential are implausible, because, it is claimed, they have absurd implications. For example, Julian Savulescu argues as follows:

[Consider] the objection that although the embryo may not be something with the same rights and interests as you and I, it is a potential being like you or I and in virtue of its potentiality to become like you or I, we should treat it with extra special respect. We now know that every skin cell, every heart cell in our body has the potential to become a person like you or I and I think this raises serious problems for the argument from potentiality" (Savulescu 2000a; see also 2000b: 496; and Charo 2001)

This objection is thus put as a *reductio* of arguments from potential in the context of abortion. Does the possibility of human reproductive cloning make arguments from potential untenable?

I will argue that this *reductio* fails. This failure can be brought out by considering widely-accepted claims about the dependence of potentiality on the maintenance of numerical identity over time, along with the idea that numerical identity is not preserved in the cloning process. In brief, my argument is that, firstly, we can coherently talk of an entity's 'potential' to move from one stage of its development to another stage only if that entity remains the same individual over that time. That is, once that individual ceases to exist, and is replaced by another, distinct, individual, the potentialities of the prior individual cease (to be replaced by a new set of potentialities). Secondly, I argue that somatic cell nuclear transfer cloning involves the replacement of one thing (the somatic cell), with another (the resulting clone). The clone is a different individual to the somatic cell used in its creation. Therefore, I conclude that whatever the potentialities of a somatic cell are, they cease to exist once the clone is created. The creation of a clone brings with it a new set of potentialities (including, for example, the potential to become a person).

4. POTENTIALITY AND NUMERICAL IDENTITY

Why does talk of an entity's potential require the preservation of numerical identity? In other words, why can we not coherently speak of one entity having the potential to be a numerically distinct individual? The concept of 'potential' (and that used in arguments from potential in the context of abortion) is drawn from Aristotle's metaphysics. Aristotle used the concept of potential in discussing how each entity retains its numerical identity throughout its developmental changes, as it realises or perfects its basic 'nature' – what it is in its nature to be. For example, it is in the nature of a human embryo to develop into a person, with certain qualities; but the person and the embryo are essentially the one individual – the same human organism. In other words, the maintenance of numerical identity throughout successive developmental stages places constraints on what a given entity can plausibly be said to have the potential to become. We must assume that (at some basic level) it is the same thing, to make sense of "it" going through the various developmental stages that it has the potential to go through (see Hirsch 1995)

⁴ Potentiality is commonly thought to confer a derivative moral value on a given entity, drawn from the value of what it has the potential to become (although the value of the entity with the potential is thought to be lower than the value of the entity whose potential has been actualised). Again I emphasise that this moral value is not here taken to be absolute.

Thus, 'potential' is really a *developmental* concept, not a *causal* concept (see Buckle 1988). The embryo *becomes* the person, but it is the same individual all along. The embryo does not *result in* (some other individual which is) the person. As Warren Quinn (1984: 27) argues: "the human organism persists and continues to develop through fetal, infant, child, and adult forms, remaining numerically one and the same individual organism throughout the entire human life cycle."

5. CLONING AS THE CREATION OF A NUMERICALLY DISTINCT INDIVIDUAL

The *reductio* put by Savulescu and others assumes that, because the somatic cell and the clone have (virtually) the same genetic material (and are spatio-temporally continuous with each other), they are therefore the same individual. However, there are several reasons for thinking that the clone is numerically distinct from this somatic cell.

One could begin by noting that the clone is in fact not 100% genetically identical to its parent, because the clone shares some of the mitochondrial DNA from the cytoplasm of the egg to which the somatic cell is transferred. However, some argue that input from mitochondrial DNA is a feature of the current state of cloning technology, and that future somatic cell nuclear transfer cloning technology will enable the clone to be 100% genetically identical to its parent. So, let us assume that the clone and its parent are 100% genetically identical. Why should we think that such a clone would in any case be numerically distinct from the somatic cell with which it is genetically identical?

One reason for thinking this is that the clone and its parent, from whom the somatic cell is taken, are clearly *themselves* two distinct individuals, with different locations in time and space, and different histories. The fact that I would (on this scenario) share the same DNA as my clone no more makes us the same individual than does the identical DNA of identical twins make them the same individual. Further, a cluster of skin cells from the same individual could presumably be used to create many clones. But these clones would clearly be distinct individuals from *each other*, even though they would share the same DNA.

Of course, we do commonly acknowledge that certain modifications which an individual can undergo are *developments* rather than *transformations* of that individual. For example, as Quinn (1984) reminds us, 'adolescence' refers simply to a stage in the development of *the same* individual – an adolescent can coherently say, "when I was a child..." – it is not as if the individual that was (undergoing the period of development we call) the child is now replaced by a *new individual*, that we call 'the adolescent'. However, cloning is clearly disanalogous to adolescence. We do not say that the clone is simply a new stage in the development of the adult somatic cell, that it remains the 'same individual' throughout. Perpetual cloning would not secure immortality.

Another problem with the *reductio* is that it relies on implausibly narrow views about the relationship between genetic similarity and numerical identity. As Kathinka Evers (1999) has argued, there are various accounts of identity, many of which put far less weight on material composition (here, 'genetic indiscernibility') than this.⁵

Apart from the problems with arguments that focus on the shared genetic identity of the somatic cell and the clone as a basis for the preservation of numerical identity, there are positive reasons which can be given for regarding the clone as a new individual, with a new set of potentialities. An important reason for regarding the clone in this way, I suggest, is because of its new *functional organisation*. That is, the embryo that results from a cloning procedure has a functional organisation that is quite different from that of the somatic DNA that was transferred to it. Even if the DNA was not slightly altered by the mitochondrial DNA in the cytoplasm, the cells in the embryo still have to be rendered 'totipotent', or capable of developing into a complete embryo. (Indeed, the notion of potential is invoked in the very

⁵ There are deep metaphysical issues here, about the relationship between genetic indiscernibility and numerical identity, which are beyond the scope of this paper.

definition of these sorts of cells as 'totipotent'.) Reproductive cloning involves, in effect, a radical *re-programming* of the adult somatic cell's DNA (so that the expression of those genes will now be different to what it would have been had it remained in the adult). The nature of this re-programming, I suggest, is another reason for holding that cloning is best thought of as a *transformation* rather than a *development* of the somatic cell.

6. POTENTIAL IN SEXUAL REPRODUCTION AND POTENTIAL IN CLONING

It is important to acknowledge that, despite these arguments, the idea that numerical identity is preserved by the sharing of DNA between the somatic cell and the clone has a certain natural appeal. This appeal comes, I suspect, partly from how we think about numerical identity in the context of sexual reproduction, where arguments from potential are usually put. But focusing on only one aspect of the creation of a new individual in cases of sexual reproduction can lead us astray when we consider asexual reproduction, or cloning.

Consider arguments from potential in the case of sexual reproduction. These sorts of arguments are sometimes criticised on the grounds that they lead to an unacceptable regress. If the embryo is a potential person, it is objected, then what prevents one from saying that the sperm and the egg that it fertilises are also potential persons? But clearly the sperm and the egg do not themselves have any special moral status, and so, the objection goes, neither can the embryo.

The regress in this objection has commonly been blocked by invoking the sort of argument sketched in section 4 above, which holds that an entity's potentialities are not preserved when it ceases to be and is replaced by a new individual, which has its own set of potentialities. Thus the embryo, it is argued, is a different individual, with a different set of potentialities, to the sperm and the egg.

However, the standard explanation for this newfound nature of the embryo is that its DNA differs from those of the sperm and the egg. Indeed, in the Roman Catholic argument that the fetus is a person from conception, the focus is usually on the change in the genetic constitution of the fetus/embryo, compared to the sperm and egg. This focus might lead us to assume that where the genetic constitution is unchanged, as with cloning, the same individual persists throughout. But we should resist this inference. For what is perhaps more significantly making the embryo that results from sexual reproduction a new individual is the new *functional organisation* of the entity that is the embryo, compared to the functional organisation of the sperm or the egg alone. It is importantly because of this different 'programming', as it were, that the embryo is a numerically distinct individual to sperm and the egg from which it was conceived.

If we find this point telling in the case of sexual reproduction, then a similar argument can be employed in the case of reproductive cloning, to support the claim that the clone is a numerically distinct entity from its parent. Someone who denies the latter but accepts the former, would then need to show why, despite changes that seem similarly profound in each of the two cases, we would say that a new individual is brought into existence with an embryo, but not with a clone. (They need to say what else, other than a change in functional organisation, can lead to the creation of a numerically distinct entity.) All participants in the debate (including advocates of the *reductio*) need to be able to account for what it is that would make a new individual come into existence.

7. CONCLUSION

I conclude that the creation of a clone brings with it a new individual, with a new set of potentialities, and so somatic cells cannot be potential persons. Therefore, the possibility of human reproductive cloning does not undermine potentiality-based arguments for fetal moral status. Determining *what* moral weight is conferred upon a fetus by its potential for personhood, however, is a complex matter which remains to be settled.

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