

Human reproductive cloning is unethical because it undermines autonomy: commentary on Savulescu

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I believe that there is a personal right, ethically based, to individuality, autonomy, and identity. This right correlates with the right not to be seen primarily as a "means", but is more fundamental. Reproductive cloning crosses a significant boundary in removing the single most important feature of autonomy: the fact that each of us is genetically unique and individual. Our genetic identity is an essential part of this individuality, and it is our genetic differences that explain why societies which attempt to impose environmental conditioning to achieve uniformity have not succeeded.

Identical twins are always raised in objection to this. Of course, the fact that nature gives outcomes does not mean that these outcomes are necessarily ethical if reproduced deliberately by man (for instance, there are several genetic syndromes where an infant is born without arms, but it would be unethical to reproduce these using assisted reproduction). However, I believe that in the context of a discussion on cloning it is more relevant that at the moment of conception the embryo is a single genetically unique individual with a mix of (more or less) randomly assorted maternal and paternal genomes combined in an individual way. The separation of twins into two individuals occurs during later embryonic development. Twins are unique and autonomous in their genetics. Even if they closely resemble each other, they do not resemble anyone else.

To what extent are the attributes we normally associate with individuality - personality, intelligence, appearance - due to the unique genome of the individual? While it is not yet possible to make a definitive and quantitative statement about this, twin studies all show a very high concordance for behavioural traits between identical twins as compared to non-identical twins.^{1 2} Genotype also determines many aspects of interaction between an individual and the environment, and parental genotype may also be related to the environment that is provided for children. The interpretation of these data is not simple, but I think most observers would agree that genotype is a major determi-

nant of behaviour. The precise relationship between genetic uniqueness and autonomy deserves to be explored in greater detail elsewhere, since the two are not identical (genetic uniqueness is acquired at fertilisation, while autonomy arises somewhat later, associated with brain development).

Suppose we examine cloning as an extreme form of human reproduction, and consider the cloning of 100,000 persons with an identical genotype because all are derived from nuclei of cells of one individual. Would it be ethical to clone 100,000 persons from one genome? Clearly, most people would answer that this is unethical. I assume that Savulescu,³ Burley and Harris⁴ and their colleagues would also regard it as unethical. If so, why? Because, I suggest, people appreciate that genetic uniqueness (in each new generation is a property of humankind, with a fundamental and inseparable relationship to autonomy. It is understood that the 100,000 genetically identical individuals cloned from one person's genome would be diminished in autonomy compared to their "outbred" neighbours. If this argument holds for the creation of 100,000 clones from one person, it follows that it is also unethical to derive a single clone from an individual, for the ethical arguments are precisely the same. (Incidentally this also implies that "embryo-splitting" to create twins from a newly fertilised two-cell embryo raises far fewer ethical issues than intergenerational reproductive cloning.)

One of the difficulties in many areas of ethics applied to human medical genetics is that agenda may be illustrated using situations of desperate people who do not have time on their side. There are several thousand rare single-gene disorders and many of them are catastrophic. Children still die of leukaemia and other diseases because there are no appropriate tissues for transplantation. In clinical medicine we are used to giving our all, even breaking rules (such as financial or hierarchical rules) when faced with a seriously ill or dying patient, particularly a child. This leads Julian

Savulescu to sanction human reproductive cloning as a remedy that may (possibly) save the lives of a few of these very hard cases.³ However, hard cases make bad ethics in the same way as they make bad law.

A totipotent stem cell from an existing individual cannot be re-defined as a new individual because it does not possess its own unique genome. Otherwise every totipotent cell, such as an embryonic stem cell, cultured from a human becomes “a new individual”, which is clearly nonsense. It may soon be possible to modify cells from humans in culture so they lose their differentiated nature (“de-differentiate”) and acquire the ability to re-differentiate to form other tissues. This would be completely justified in the absence of reproductive cloning. Lucas I and Lucas II have nothing to worry about! Nor does Lucas III, since the procedure does not lead to the generation of an individual capable of independent consciousness.

Lucas IV, on the other hand, has moved to a point where such an individual is in existence. This individual is not in existence before three weeks after fertilisation (the development of the primitive brain), and is in existence at, say, 30 weeks (when most fetuses are capable of survival outside the womb). At some time between those two dates a step has been taken which crosses what I regard as a fundamental ethical barrier, the issue of genetic uniqueness and autonomy. We could argue whether it is closer to three weeks or 30, but the principle appears to me to be clear - if one believes that there is an ethical value in the concept of genetic uniqueness at conception, then this barrier should not be breached other than for a more compelling imperative.

Julian Savulescu argues his cases well; we all are touched when confronted with the child dying of leukaemia for want of a compatible donor, or the young adult in renal failure needing a kidney to be freed of the pain and hazard of renal dialysis. The long term solution to these problems is to find a way of using “reproductive cloning technology” to provide cells, or even tissues, from the individual (or another compatible donor) which can be used effectively and in the numbers required without going through the reproductive cloning step. There would be nothing unethical in this. It will soon be possible for bone marrow transplantation. It may take a further short period of time to acquire the ability to grow tissues from de-differentiated cells from an individual in culture, perhaps a decade. Such a timescale does not appear to me to be unreasonable, nor such as to require us to revise our concepts of ethics in relation to autonomy by supporting reproductive cloning.

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References

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