Cloning

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If you asked a handful of people in the street to name one ethical issue in biotechnology, a fat fraction of them would likely name cloning. Once the stuff of science fiction, the development of cloning has grown like Topsy since the birth announcement of Dolly, a sheep in Scotland that was grown whole and entire from a mammary cell of the original sheep. Then there were mice in Hawaii. We have now heard about a kind of cloning that has produced monkeys in Oregon and another experiment that produced cows in Japan. Although the US government has banned it, and although scientist everywhere swear they have no real intention of trying it, lots of people have wondered whether cloning humans is next. After all, the human is just one special mammal, and in theory the cloning of humans is just as possible, if a little less thinkable, than the cloning of other mammals. It is probably just a matter of certain biotechnical details and a lot of money. Some folks get nervous anytime humans are compared scientifically with other animals. But if we can get past that, are there *ethical* issues here?

In this article, let's consider one common concern about cloning that we shouldn't worry. But before we do, we need to recall exactly how you get a clone. The science is complicated but the simple fact is that a clone is a near exact genetic replica of the source.

Even what to call the "source" is confusing. We might want to call it the parent (or a "mother" since the source has been female cells up to now). "Parent" conveys the notion of a generation between the clone and the source. On the other hand, in terms of the number of genes in common, a clone might better be thought of as a sibling. Ordinarily a parent gives a copy of half its genes to the child, the other parent supplying the other half. Siblings, on the other hand, can have more than half their genes in common: identical twins, for example, get the same genes from **both** parents, and in fact, are genetically (nearly) identical—like clones. Even though, genetically, clones are more like siblings, for the purposes of this article, I want to call the source the parent. That's because in discussions of human cloning, most of the talk is about using cloning the way In Vitro Fertilization is used—to overcome certain difficulties some couples have in achieving pregnancy the fun old-fashioned way.

One worry that has found its way into print on this subject is that clones will not have their own identity. A genetically identical "child" will be expected to not only look exactly like its parent but have the same personality, the same emotions, the same tastes, make the same

choices. Those concerned say that a child should have a more open future than that and that every person should be prized for her own identity, not because she is a duplicate of someone else. These worriers also note that nefarious motives may inspire cloning of a new generation—if Hitler cloned himself in every generation, the world would be much worse off.

There are a couple of reasons I think that this is a misguided concern. First of all, children are different from adults. A cloned child will not look like its parent in miniature, or be its parent in miniature. It will look like and be a child. Lots of children look very much like their mother or their father did at the same age, but no one expects that the look-alike child will necessarily become a stockbroker if her mother is or a painter if her father is.

But, you say, children who look like their parents aren't genetically identical to them as clones would be. Right, I say, but look at identical twins. My cousins by marriage were identical twins—one had diabetes and the other never did, one was a policeman and the other worked for the Water Department. One died 13 years before the other. And yet genetically, they were identical. The same is true of many identical twins. They may **look** exactly the same, but no one seriously wonders if they are two separate individuals, making separate choices, and the subjects of separate personal histories.

Another reason the argument against cloning based on "it's wrong to xerox people" doesn't work is because no matter how many genes are identical in any two given people, their environments are different. Even the most biologically deterministic believe that environment makes some contribution to the identity of an individual. Studies of twins raised apart reveal some amazing similarities, but they reveal many many more differences. Identical twins raised in the same family at the same time still turn out different. Imagine clones, identical genetically but raised in different generations (when cloning is used to address infertility problems, the clone will always be raised in a different generation from its parent). Even a genetically identical parent will still experience the "generation gap." Imagine the historical importance of the generation gap in your own family. Maybe your father experienced World War II, but not Viet Nam. Maybe your grandmother never owned a car or dreamed of a computer. Maybe your 6th grade kid does research on the Internet of a higher quality than what you did as a college freshman in the library. Environments matter.

The genetic givens don't determine us any more than our astrological sign (okay, maybe a little more…). Those who think cloning is wrong because it undermines the uniqueness of every person are mistaken about where that uniqueness comes from. As Lewontin, Kamin and Rose named their book, it's "not in our genes."