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RESEARCH GROUP ON GENETICS

Topic: Cultural, Ethical, and Theological Issues in Cloning
Convener: Thomas A. Shannon, Worcester Polytechnic Institute
Moderator: James J. Walter, Loyola University, Chicago
Presenters: Thomas A. Shannon, Worcester Polytechnic Institute
Andrea Vicini, S.J., Boston College
Zachary Hayes, O.F.M., Catholic Theological Union, Chicago

The session began with Thomas A. Shannon first presenting the four types of cloning. The first two are gene and cell, which have been standard parts of research and medical biotechnology since the mid-1970's and are not part of the current ethical debate. The other two are blastomere separation, in which cells of the early embryo are divided to make artificially twins or triplets (used in the agricultural industry to efficiently obtain identical copies of prized lines of animals), and somatic cell nuclear transfer (an egg has its nucleus removed and replaced with the nucleus of another organism to produce an identical copy of the donor). This final method was used to produce Dolly and is critical because for the first time a fully differentiated adult cell was restarted to begin another individual. Then Shannon used the covers of various news magazines to illustrate two major flaws in the cultural debate over cloning: genetic reductionism and the metaphor of a blueprint. Genetic reductionism suggests that all genetic copies of an individual will either be identical to the person and will act the same way or will in fact be the same person. The former does not take into account the role of the environment or human freedom, and the latter position ignores the experience of naturally occurring identical twins. The metaphor of the genome as a blueprint assumes a one-to-one correspondence between DNA and person. This model is mechanical and is another form of genetic reductionism. A better metaphor is a recipe, which is an organic model which specifies a certain content and a process, but recognizes the influence of the environment as well as the effect of variation of the contents, both qualitatively and quantitatively.

Andrea Vicini discussed selected ethical issues by considering cloning within four scenarios: an accident in which a woman loses her spouse and child, and used cloning to have a child genetically related to one of them; the use of cloning to produce a child to use as an organ donor for a previously existing dying child; the use of cloning by a lesbian couple to have a child related to one of them; finally, the use of cloning by an infertile couple to avoid passing on a particular genetic disease. Vicini concentrated on the last scenario and noted that this use brings two changes to human reproduction: the genetic lineage and biological kinship of the child would be constituted by one genetic parent only

and genetic variability would be reduced. Two ethical problems are associated with the change in kinship: cloning could create a doubt about whether one is normal and one could be confused in identifying genetic familial relations and one's place in the kinship network. The problem of genetic variability is diminished by the fact that cloning would not be a widely used means of reproduction. Vicini closed by noting that while cloning does not appear to be intrinsically evil, there are four considerations that critically shape its ethical evaluation: reproduction occurs within a larger set of rights and social situation, and while reproduction may be a right, there is not necessarily a right to have a child; issues of health care, of which reproduction is but one, need to be assessed within the larger context of social justice; we need to take seriously the impact of biotechnical companies and recognize the market-driven nature of many discussions of reproduction; finally, we need to be suspicious of the growing medicalization of all aspects of reproduction.

Zachary Hayes addressed the issue of cloning from the perspective of theological anthropology and within this context spoke to two main points: concerns of the theological tradition and the context of the contemporary world view. With respect to tradition, Hayes noted several overarching themes: God alone is creator, and thus we need to be careful when we use this term analogously; following Bonaventure, the purpose of God's creating is to manifest divine goodness, truth, and beauty, and to allow others to participate in that (*manifestare* and *participare*); the purpose of creation involves the presence of intelligent and free creatures, which raises the issue of humans as created in the image of God, which leads to a consideration of human distinctiveness from other creatures, but also a connection with, and relation to, our environment; intelligence and freedom ought to move in the direction of the true and the good, which raises the issue of moral consciousness; the reality of God's purpose in creating and the reality of the "ought" in moral consciousness suggest that there are limiting factors in human freedom; if freedom is genuine, it can be exercised in less than desirable ways; and finally, Christians believe that God's purpose has been created in Jesus and our hope is that it will be accomplished in the rest of humanity. With respect to the theme of the contemporary world view, Hayes noted the following. One must choose between seeing the universe as a divinely established order of unchanging laws with interventions into such a world being extremely problematic, and seeing the cosmos as an unfolding chemical process that is open and incomplete. Such a process, together with the development of values through the culture which this process makes possible, forces us to recognize that humans are distinctive, and we must deal with the ethical consequences of this (as well as a similar distinctiveness for other creatures). The ethical mandate is to make technological possibilities creative and life-giving to bring God's aim to maximal realization. Next, Hayes reflected on the necessity of developing values commensurate with the scientific knowledge at our disposal. Here one needs to consider carefully the technological imperative (if it can be

done, it ought to be done), and the implications of our unlimited desire for knowledge. We need to recall that human activity is to reflect the eternal creative action of God in relation to our earthly community (thus the obligation to build up the earth), and that the notion of the image of God must be related to our reflection of God's creative power in a universe that is unfinished, but which has nourished us and sustained us in our present form.

THOMAS A. SHANNON
Worcester Polytechnic Institute