

# NOTES AND COMMENTS

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## *The New Biology and Mormon Theology*

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The spirits of fish, birds, beasts, insects, and of man, are in the image and likeness of their natural bodies of flesh and bones, and of the same magnitude, filling every part of the same. It is the spiritual substance, and not the body, that sees, hears, tastes, smells, feels, thinks, enjoys, suffers, and manifests every other affection or passion characteristic of the animal creation. It is this self-moving, powerful substance, that quickens, animates, and moves the natural body—that forms and fashions every part—that preserves the organization from decay and death.

Orson Pratt, "Figure and Magnitude of Spirit"

EXEGETES AS WILLING AND CAPABLE as Orson Pratt to combine empirical and theological insights have all but disappeared from the Mormon scene. His successors have retained the enthusiastic optimism of early Mormonism, but they have not replaced the empirical beliefs of the nineteenth century with the more correct information which is available to us now. One can only wish that the discoveries of modern science had been available to Orson Pratt, for some of the recent discoveries open up new possibilities for theological discussion. The new biology has given us insights into the nature of life that

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bring into question many of the easy assumptions that Mormons often make about the nature of the soul (body and spirit). In this essay we hope to point to developments which raise interesting ethical or theological questions. Unfortunately, we cannot provide the answers to those questions.

It is possible to remove cells from a human being and to keep them alive indefinitely—long after the donor has died. Organs of a dead person can be transplanted into another human being, where they function as part of the new body. Finally, it is possible to keep a human body “alive” long after the brain is dead. Conversely, there are organisms which begin life as single, independent cells, which at a certain time crawl together and form a new organism with specialized body parts and a new form of behavior. Where is the spirit in these examples? Do new spirits inhabit the cultured cells from a human being? Does a “general” spirit quicken lower life forms?

Two or more mouse embryos can be fused to produce a single mouse (a chimera) which may have three, four, or more parents. As pointless as such a creation sounds, it has great practicality for the study of biological processes. It is almost certainly possible to create human chimeras. If the spirit is present from the moment of conception, or from very early embryonic development, how many spirits are housed in a chimera? Closely related to this question is the phenomenon of identical twinning. Identical twins begin as a single embryo which at some point in development splits into two. At what point are two spirits present?

Identical twins are clones. Another type of clone can be formed by removing a nucleus from an individual and implanting it into an enucleated egg. After the egg has developed into a many-celled embryo, several of the nuclei from the embryo are again transferred to other enucleated eggs. These eggs develop into adults which are genetically identical to the original nucleus donor. This procedure will be very valuable to stock breeders. If it can be applied to cattle, it can also be applied to humans. If human cloning is ever accomplished, what role will the spirit play—and at what stage of development?

The test tube baby is already with us. A small piece of the ovary of certain infertile women can be removed surgically and induced to form eggs. After the eggs are fertilized by the husband’s sperm, one healthy embryo is reimplanted into the woman’s uterus. From this point on, the pregnancy is not unusual. The unused embryos are discarded. Are the discarded embryos human souls? We Mormons have a plethora of opinions in answer to this question, but no clear doctrine.

External fertilization offers several other new possibilities. A woman could have children without ever being pregnant if she could find a surrogate mother for her children. Two women could have a child, since it seems to be possible to use one egg to fertilize another egg to produce an apparently healthy embryo. A woman who was totally incapable of producing eggs could bear children produced by external fertilization of a donated egg by her husband’s sperm and implantation of the embryo into her uterus. This last

procedure is much like artificial insemination by a donor, a procedure accepted by the Church although not encouraged, in which the wife of a sterile husband becomes pregnant by sperm from an anonymous donor.

Stock breeders are working very hard to perfect techniques which would allow them to maintain sperm, egg and embryo banks. Thus a mating which produces superior stock could be repeated thousands of times, with the embryos being implanted into surrogate mothers. If perfected, these techniques would allow humans to "custom order" their children from human embryo banks. For instance, a couple who wanted a superior athlete as their progeny could order an embryo produced from the sperm of a professional basketball player and the egg of a superior woman tennis player. The sex of the child could be controlled by discarding the embryos of the unwanted sex.

There do not seem to be any great technical obstacles to the above procedures. The Church does not seem to place an inordinately high value on biological parentage, judging from its encouragement of adoption and its tolerance of artificial insemination. Perhaps then the crucial question about the acceptability of some of these procedures revolves around the fate of the unused embryos. That remains to be seen.

The emotionally charged issue of abortion requires some comment. Spontaneous abortion is far more common in humans than most people realize. Somewhere between twenty percent and well over half of all conceptions end in spontaneous abortion. Most of these happen in the first days or weeks of pregnancy, usually escaping the notice of physicians and often of the pregnant woman. When aborted fetuses are examined, a high percentage are found to be genetically defective. Thus abortion appears to be nature's way of eliminating most seriously defective fetuses. If one were to assume that every embryo is a human soul, the simplest conclusion would be that many (perhaps most) of our brothers and sisters never experience mortality in a meaningful way. There are more complicated assumptions—for instance, that the spirit of the aborted fetus is reassigned to another body. The common belief that mothers will be allowed to raise a baby to adulthood after the resurrection should the child die early in this life is a variation on this theme. Our scriptures do not allow us to identify any of these assumptions as doctrine.

Amniocentesis is often (incorrectly) identified with abortion. This procedure, in which fluid and cells are removed from the amniotic sac for examination, can be used to determine whether or not a fetus is mature enough to survive outside the womb. It also allows the diagnosis and treatment in the womb of certain disorders such as methylmalonic acidemia and blood-type incompatibilities, conditions which are often lethal to the untreated fetus. Additionally, it is possible to determine whether a high-risk fetus has a particular genetic disorder. If the fetus has the genetic disorder, it can be aborted clinically. These procedures allow couples who are known to carry defective genes or chromosomes and older women to have children without fear. These high-risk parents often forego having children altogether if such

procedures are not available. Although there is still some risk of other birth defects, the overall risk is greatly reduced.

The ethical problem associated with clinical abortion of defective fetuses is fairly obvious. At one extreme are those who consider abortion synonymous with murder. Perhaps at the other extreme are those who believe that all considerations of abortion are private matters which are not the legitimate concern of society. The position of the LDS Church is less clear. Although abortions are clearly forbidden in most cases, they are permitted under exceptional circumstances when the health of the mother is threatened or following rape. Abortions of defective fetuses have not been explicitly approved or disapproved. It can be argued that clinical abortion of defective fetuses is an extension of spontaneous abortion which already eliminates most defective fetuses.

Recent discoveries raise other questions about the spirit-body relationship. At least two mental illnesses—manic-depressive syndrome and schizophrenia—seem to be genetically controlled. The new science of sociobiology—which promises to be at least as controversial as the ideas of Darwin and his successors—argues that altruistic behavior is also genetically controlled. If it indeed is true that much of human behavior is genetically controlled and is responsive to chemical modification and perhaps genetic engineering, what role should be ascribed to the spirit in overcoming sins?

Recombinant-DNA experiments (gene splicing) allow the transfer of genes from any organism into bacteria. It is very likely that we will soon be able to place genes from any source into any organism, including human beings. This would allow the insertion of “good” genes in place of “bad” genes in some cases. Few people would argue that such gene therapy is unacceptable. However, if it should prove possible to alter behavior or some other socially sensitive trait, the impact on our ideas about the spirit-body relationship could be profound.

Some people believe that the moment of death is divinely determined. If this is so, why is death routinely interfered with by the use of antibiotics, surgery and prayer? If the hour of death is determined, is it sinful to intervene, or is it commendable because it demonstrates our love? A related issue is the phenomenon of faith healing. Physicians who are not necessarily religious use the techniques of psychosomatic medicine to achieve “faith” healings which are at least outwardly similar to those we see in the Church. What is the relationship between the spirit and the body in these situations?

Many of the discoveries and techniques we have mentioned have worked together to create a paradoxical attitude in many people. On the one hand there is awe and admiration for the feats of science. On the other hand, there is suspicion and fear that we have been tampering with things that ought not to be interfered with. The resulting anxiety is sometimes relieved by a general feeling that “God would not let *that* happen.” Perhaps there is a Murphy’s Law of history: Anything that can be used for evil will be. However, it seems to us that the appropriate response to a potential for evil is to seek to

do good rather than to attempt to set limits on science. Although the new biology may alter the way in which Mormons think about some ethical problems, it will not fundamentally change the need to live by faith in a world that we do not fully comprehend. The Lord may have placed very few constraints on us in our search for knowledge and understanding. It seems rather that he allows us much freedom in this world. As a result, science moves inevitably toward synthesis of living things, as it has already achieved the ability to alter species. It is reassuring to us to know that Mormon theology offers us the chance to work toward godhood, not only in the life to come, but in this life as well, as we discover more and more about the nature of God's universe and are given the opportunity to use that knowledge to do good works.

