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William F. Colliton

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In Vitro Fertilization

William F. Colliton, Jr., M.D.

This talk was presented to the Virginia Bar Association in June, 1981 by Doctor Colliton, chairman of the Department of Obstetrics-Gynecology at Holy Cross Hospital, Silver Spring, Maryland.

It is not easy for me, a citizen of Maryland, to make representations to this distinguished assembly of Virginia lawyers, especially when my representations extend beyond my own medical background, and beg for legislative and/or judicial relief on the basis of current practices being a threat to the community. However, I am greatly comforted by the recollection that it was this great state that gave our embryonic nation the voice of Thomas Jefferson. It was he who said, "The care of human life and happiness, and not their destruction, is the first and only legitimate object of good government."

Hearing that I have come to speak because of concerns about in vitro fertilization being a threat to the community, one might ask, "How can this be?" This can be because in vitro fertilization holds no reverence for life. This proposition was most articulately expressed by George F. Will, who noted that: "Biology is taking mankind into wild country, that is full of threats to the increasingly tentative belief that all human life is of value and should be treated reverently." Mr. Will indicated that while the technique of IVF is humanely intended to prevent frustration of one of life's profoundest and most worthy desires, it is also another step into *terra incognita*. He continues, "Embryo transfer is unlike artificial insemination because it involves unknown risks to the baby who is being made and thus must be rigorously considered in terms of compatibility with the minimal principle of medical ethics, 'Do no harm.' The development of embryo transfer techniques depends upon, indeed constitutes, experimentation upon the unborn, some of whom will, in all probability, be damaged and born as physical or mental 'mistakes.'" One can note the wisdom of this statement by recalling the major congenital heart defect carried by the second Australian in vitro fertilization twin who was recently delivered.

Some damage to embryos may be deliberate. Scientists may use "surplus" embryos as laboratory specimens in tests to determine, for example, what drugs and X-ray dosages damage embryos. Just such research was proposed by the late Pierre Soupart. He sought federal funds to support the generation of 400 tiny human beings. He planned to test these tiniest of our brothers and sisters, to see how they tolerated freezing, to see if a chromosomal analysis could be done from the blastocyst using microsurgical techniques to obtain a cell. He did not plan to implant any of these babies in the womb of any mother. He planned a 14-day life for them at the most. In the face of such proposals, Mr. Will asks, "If that would be ethical, would it be similarly ethical for a woman who has decided to have an abortion to take a new drug — perhaps something like thalidomide — in order to allow scientists to study its effect on the fetus that is, in any case, doomed?"

Having shared with you the concerns of Mr. Will, with which I agree and about which I will have more to say, let me present to you my objections to in vitro fertilization. My reasons for opposition can be divided into three categories. First, there are medical concerns. These medical reservations concern both the woman involved and, more particularly, the well-being of the tiny human beings who are generated by this undertaking. While we have only sketchy reports from Drs. Steptoe and Edwards, the world's leading experts, and these from the electronic and printed media sources rather than from scientific journals, we do understand the following: the prospective mother must be subjected to repeated laparoscopic examinations. Laparoscopy using the Steptoe-Edwards approach necessitates repeated deep endotracheal anesthesia. As reported in the *Medical World News*, Feb. 19, 1979, one-third of the time these two significant medical procedures failed to yield what was sought, namely an ovum. Dr. Steptoe stated that, of 79 women treated since the switch to natural ovulation, 68 went as far as laparoscopy at the time of ovulation; of the 68, only 44 (64%) had pre-ovulatory oocytes. These medical concerns address only one step in what is a highly complex, difficult technological procedure.

Dr. Patrick C. Steptoe, addressing the November, 1978 annual meeting of the American Association of Gynecological Laparoscopists, told his audience that the culmination of a 30-year effort in mammalian fertilization was the first fertilization, as they then understood it, of an ovum outside the human body. They subsequently learned of the stages to be accomplished for a successful IVF:

- a) monitoring of the follicular phase;
- b) recognition or control of the L. H. surge;
- c) preparation of the husband's semen previously obtained;
- d) laparoscopic oocyte recovery;
- e) in vitro fertilization;

- f) cleavage of the zygote;
 - g) implantation into the uterus;
 - h) monitoring of the luteal phase;
 - i) monitoring of the pregnancy, i.e., primarily the unborn patient.
- The doctor noted that each of these steps had presented a problem and that indeed, all the problems were not yet resolved.

According to Dr. Leon Kass, in vitro fertilization is not really the practice of medicine. Dr. Kass, from the University of Chicago, a medical doctor with a Ph.D. in biochemistry from Harvard, reminds us that in vitro fertilization has nothing to do with the treatment of diseased or surgically missing Fallopian tubes. It is, rather, seeking an answer to a strong feeling or desire on the part of the woman to bear and deliver a child of her own. While all of us have great empathy for the barren couple, the media hype with regard to in vitro fertilization has focused mostly on this desirable goal. "Hype" is defined as "to stimulate, excite, agitate"; also "to intensify publicity by ingenious or questionable methods." I use this word purposefully. Dr. Kass further states that the human embryo "is not humanly nothing." He notices it is "an individualized, discreet, self-unfolding being."

Main Problem an Identity Problem

Let us take a close look at this tiny human being whose main problem today, I'm convinced, is an identity problem. I am unwilling to concede that the majority of Americans really want to legally kill innocent human life, as is the case today in abortion. Once fertilization has occurred, all that transpires for a new human being is *growth* and *development*. Nothing new is added. This growth and development occur at a truly miraculous rate. Perinatologists tell us that if the fetus were to grow as fast during the last 32 weeks of pregnancy as during the first eight, it would weigh 40 tons by the 40th week. At three weeks of age, the unborn baby's heart begins to beat. At eight weeks of age, all the organs present in an adult are present and developing. By this station in life, active brain function can be demonstrated by electroencephalography. By 10 weeks, the baby begins to squint and swallow and move about in the watery world in which he or she lives. So discriminating is the child at this stage that sweetening the fluid in which one dwells causes an increase in the rate of swallowing, while introducing a substance to make it bitter has the reverse effect. By 12 weeks, the unborn just about fills the palm of an adult hand. The heartbeat, which has been present for several weeks, can be readily demonstrated in the doctor's office.

It is the medical risks to these tiny brothers and sisters that are of grave concern to me. While the induction of multiple ovulations and the harvesting and fertilization of several ova have reportedly been

abandoned by Drs. Steptoe and Edwards, I understand it is now the practice at the Eastern Virginia Medical School. It is, therefore, just to say that multiple tiny human beings have been generated. We have no idea how this problem is handled at Eastern Virginia Medical School, but we do have word from Australia.

Richard Morecroft on Australian television recently interviewed chairman Peter Singer of the Monash bioethics committee and Dr. G. Kovacs, a member of the Queen Victoria *in vitro* team. A sample:

Morecroft: In other words, you've created this bank of human lives and now you have to decide what to do with it?

Dr. Kovacs: Correct. That's why we are hoping for help from legal people, the philosophers, such as Professor Singer, and also the theological people who are involved with that committee.

Morecroft: But shouldn't that decision have been taken before you actually started this bank of human embryos?

Dr. Kovacs: Well, it's a problem that has arisen as a byproduct of the project, and it wasn't one of those necessarily contemplated. It has been discussed by the committee, and at preliminary discussions in 1980, they thought it was reasonable for us to freeze these embryos, and consider the various aspects of frozen embryos and what we can do with them

Morecroft: . . . I think a lot of people would be absolutely staggered that a medical team has produced a bank of living human embryos which are now in deep freeze before anyone has thought through clearly exactly what is going to happen to them.

Prof. Singer: But you see, what else was the medical team to do? I mean, the alternatives, given that you couldn't, for technical reasons as Dr. Kovacs has said, put them back into the woman where they came from immediately, the alternatives were: to dispose of them, say to flush them down the sink, or, to freeze them. Now given that, what the medical team did, literally and metaphorically was to put the problem on ice.

It is this utilitarian use of the embryo, seeing it as a thing rather than as a person that is totally morally offensive to an overwhelming majority of Americans. In the medical community these reported pregnancies have also given rise to increased concerns such as those cited by Harvard biologist Prof. Ruth Hubbard. In a newly released book entitled *The Custom Made Child*, Doctor Hubbard is quoted as follows: "I see no way around the fact that every *in vitro* fertilization and implant, and every person who results from it, is an experiment and a different experiment: both the women who have these babies and the babies — on-into-adults themselves — are guinea pigs. Therefore, I see the disasters that have resulted from the use of Thalidomide, the pill, the Dalkon Shield, DES, Depo-Provera — all surely lesser interventions into normal physiological processes than *in vitro* fertilization and implantation — as probably rather minor compared to what we may be in for as a result of this new technology."

Even when one views the proposed retrieval of a single naturally maturing ovum and its fertilization with a sperm from the husband, one cannot be comforted with regard to the wellbeing of the unborn. That same cohort of women cited earlier in the *Medical World News* article yielded only four pregnancies from the patients who were laparoscoped — a 5.8% pregnancy rate. Only two of these pregnancies reached term. The others aborted spontaneously because of abnormalities. Several physicians have expressed concern about a higher incidence of abnormalities in these babies. This concern is based chiefly upon an absence of the obstacle course for the spermatozoa available to impregnate an ovum as is provided by the in vivo, or natural, process. Even more distressing, again because of the utilitarian mindset, is the need for these babies to pass a physical examination at 10 weeks of age, and subsequently a laboratory test at 16 weeks. A prudent in vitro fertilization protocol, we are told from England and Australia, calls for a real-time ultrasound study of the unborn child at 10 weeks. Normally one sees a vigorous, but graceful swimmer with a readily demonstrable heartbeat that has been functioning for approximately seven weeks.

These same IVF centers also mandate amniocentesis at 14-16 weeks gestation. With this procedure, a needle is inserted through the abdominal wall of the mother, through the wall of the womb and into the watery world of the unborn child. A quantity of fluid is withdrawn, the cells of the unborn patient grown in culture and studied for chromosomal abnormalities. If the child fails, he or she is killed. Because of the time needed for this study, this abortion decision is faced at about 20 weeks of pregnancy when the expectant mother is already feeling the baby kick within her womb.

The second group of reasons for objecting to IVF are ethical reservations. In my judgment, Paul Ramsey, professor of religion at Princeton University and a good Methodist, has detailed this argumentation best. He states: "(1) the need to avoid bringing further trauma upon this nation that is already deeply divided on the matter of the morality of abortion, and about when the killing of a human being (at tax expense) can occur; (2) the irremovable possibility that this manner of human genesis may produce a damaged human being; (3) the immediate and not unintended assault this procedure brings against marriage and the family, the immediate possibility of the exploitation of women as surrogate mothers with wombs-for-hire, and the immediate and not unintended prospect of beginning right now to "design" our descendants; and (4) the remote — but still very near — prospect of substituting laboratory generation from first to last for human procreation. We ought not to choose step by step — a world in which extracorporeal gestation is a possibility." From my own perspective, I support that theological teaching which sees intrinsic evil in the technological separation of the two goods to be realized

from a voluntary posited coital act. These two goods, namely the ultimate sharing of human love given and received, and the reproductive good, are so separated with the technologies described by IVF teams. The female candidate for embryo transplant must avoid intercourse and be isolated in a peaceful milieu. It seems perfectly logical and most appropriate to me to extend that reverence for life which, until recently, has been the basis of our medical and legal practices, to the very beginning of life.

The third and final group of concerns is that of the broader impact on society. If the humanity of the embryo is insufficient reason, one must not forget that in vitro fertilization and experimentation implicitly include genetic manipulation. There can be little doubt that, having accepted genetic manipulation, one can conceive of a call for funding to explore cross fertilization, i.e., inducing fertilization between a human gamete and the gamete of another species, thereby creating what Dr. Fletcher has called a "drone." To demonstrate that this domino theory is no mere fantasy, all one must do is cite an agenda item of HEW's Ethics Advisory Board meeting (June 15-16, 1979). That discussion concerned research involving the collection of human ova fertilized in vivo. I can tell you that human embryo flushing has been accomplished (*AUL News*, May, 1980).

First Stage Accomplished

The first stage in a process called "artificial embryonation," which involves the use of an "ovum donor" has been accomplished by two Chicago fertility researchers. The procedure, designed to give a child to an infertile woman, works as follows: a fertile woman is artificially inseminated with the sperm of an infertile woman's husband; after four to six days, the developing embryo is "flushed out" of the maternal tract by physicians using a special fluid; finally, the embryo is transferred into the uterus of the infertile woman, whose reproductive cycle has been monitored and corresponds with that of the donor.

The Chicago researchers, Drs. Richard and Randolph Seed of the Reproduction and Fertility Clinic, announced in the February issue of *Fertility and Sterility*, the journal of the American Fertility Society, that they had succeeded in the first human "embryo flushing" to produce a live embryo. It was not transferred to an infertile woman, according to a page one article in *OB-GYN News* (May 15).

According to the *OB-GYN News* story, Richard Seed said no further attempts to recover embryos will be made until patients are ready to receive them. "We don't want to recover fertilized eggs that cannot be used," he was quoted as saying. No mention was made of possible

quality-control or "discarding" of handicapped embryos obtained by flushing the maternal reproductive system.

The physicians reported in the *Fertility and Sterility* article that transfers following flushing are now being planned, and the synchronization of donors' and recipients' menstrual cycles is now in progress. All of these human experiments belie the complexity and the subtle ramifications of human embryo experimentation. It leaves unanswered many questions that must eventually be addressed in the courts, in Congress and in the collective conscience.

Among them: When does life begin? At what point in its development does the human embryo acquire the legal protection accorded human beings? Should scientists be allowed to create human embryos solely for research? Should the government sanction and support the research? Can or should the government intrude in family matters or dictate the ends and means of scientific research? Certainly the complex ethical and legal questions should be answered before and not after the techniques have been developed.

To exemplify further what can happen, I would like to share with you these thoughts of James D. Watson, a Nobel laureate as reported in *Prism* (May, 1973). "... There is one point on which Edwards and I disagree: I told him I wouldn't want to do this kind of experiment unless the doctor who attended the births that resulted from it had the right to terminate the baby's life should it come out grossly abnormal. ... Legalities aside, I think we must re-evaluate our basic assumptions about the meaning of life. Perhaps, as my former colleague, Francis Crick, suggested, no one should be thought of as alive until about three days after birth ... the doctor could allow the child to die if the parents so chose and save a lot of misery and suffering. I believe this view is the only rational compassionate attitude to have. I can see nothing wrong per se with the (Steptoe) technique. I don't have any preconceived reasons as to why it would be good or bad. 'Sacredness of life' or anything like that is not relevant to me. My chief concern is the development of this technique may provide an inevitable step toward cloning. The public really ought to be aware of that. ... It holds an infinite potential for great harm ... If human eggs become available in thousands of places around the world and unless there is some kind of restriction on their use, they will be fair game for anyone to see what can be done with them. This is the main objection I have to Edwards' and Steptoe's work."

What has brought us to this threatening state of affairs? My analysis of the situation goes as follows: Medical ethicists have not kept pace with the rapid advance of medical technology. In general, the medical technology is morally indifferent. It takes on a good or evil nature in the hands of its users. To cite a non-medical example, atomic energy, safely managed is morally indifferent. Used by government to heat

and light the world, it becomes good. Used by an Adolf Hitler type to level the world and eliminate its inhabitants, it becomes an obvious evil.

From my perspective, what we are doing with in vitro fertilization is deifying the medical technology and subordinating to it tiny members of the human family whom we take to be made in God's image. Dr. Leon Kass articulates the heart of this difficulty: "If it is true that we can maximize all good things and that we have to pay a price for everything, then it is worth at least attending to the question of price." There are some things that are not worth doing, he believes, because their price is too high. It is my view that such is the price for the human family with regard to in vitro fertilization. As George Will said, "Some manipulations of life must, over time, subvert our sense of mystery, and so our reverence for life."

In conclusion, from my perspective the human family has a poor track record when making judgments as to who should live and who should die. The accuracy of this statement is witnessed by the 12 million people who died in Nazi Germany. The heart of the problem was best articulated by Pearl Buck, a minister's daughter. In the foreword to *The Terrible Choice: The Abortion Dilemma* (Bantam, March, 1968), she wrote: "As a mother of a child retarded from phenylketonuria, I can ask myself at this reflective moment, if I had rather she had never been born. No, let me ask the question fully. Could it have been possible for me to have had foreknowledge of her thwarted life, would I have wanted abortion? Now with full knowledge of anguish and despair the answer is no, I would not. Even in full knowledge I would have chosen life. I fear the power of choice over life or death at human hands. I see no human being whom I could ever trust with such power — not myself, not any other. Human wisdom, human integrity are not great enough. Since the fetus is a creature already alive and in the process of development, to kill it is to choose death over life. At what point shall we allow this choice? For me the answer is — at no point, once life has begun. At no point, I repeat, either as life begins or as life ends, for we who are human beings cannot, for our own safety, be allowed to choose death, life being all we know. Beyond life is only faith and surmise, but not knowledge. Where there is no knowledge except for life, decision for death is not safe for the human race"
