

**The unborn child, as one of the weakest, the most vulnerable, and the most defenseless forms of humanity, should receive protection**

N.Z. Royal Commission on Contraception, Sterilization and Abortion

*Dr. Jerome Lejeune, professor of fundamental genetics, University Rene Descartes, Paris, testimony to the U.S. Senate Judiciary Subcommittee on Constitutional Amendments, May 7, 1974*

The transmission of life is quite paradoxical. We know with certainty that the link which relates parents to children is at every moment a maternal link, for we know it is from the encounter of the female cell (the ovum) and the male cell (the spermatozoa), that a new individual will emerge. But we know with the same degree of certitude that no molecule, no individual particle of matter enclosed in the fertilized egg, has the slightest chance of being transmitted to the next generation.

Hence, what is really transmitted is not the matter as such, but a specified conformation of the matter, or more precisely, an "information."

Without reviewing the complex machinery of coded molecules like DNA, RNA, proteins, and so on, which are the vehicle of heredity, we can see that this paradox common to all the processes of reproduction whether natural or man made.

For example, a statue must be built out of some material, and could not exist if made of pure void. During the casting process, there exists at every moment a continuity of molecules between the statue and the cast, and later, between the cast and the replica. But, obviously, no matter is reproduced, for the replica could be plaster, or bronze, or anything else. What is indeed reproduced is not the matter of the statue, but form imprinted in the matter by the genius of the sculptor.

Indeed, the reproduction of living beings is infinitely more delicate than the reproduction of inanimate forms, but the process follows a very similar path, as we will see by another familiar example.

On the magnetic tape of a tape recorder it is possible to inscribe by minute alterations of local magnetism a series of signals corresponding, for example, to the execution of a symphony. Such a tape, if introduced in the appropriate machine, will play the symphony, although there are no musicians in the machine nor any notes written on the tape. That's the way existence is played!

But, in this analogy, the magnetic tape is incredibly thin, for it is reduced to the size of a DNA molecule, the miniaturization of which is bewildering. To give an idea of this minuteness, we should remember that in this thread every character of each of us is exactly described. Thou shall have blond hair, hazel eyes; thou shall be six feet tall, and thou shall live some eighty years, if no road accidents intervene! All these instructions, giving a full description of a man, are written in a thread one yard long. But the thread is so thin and so carefully packed inside the nucleus of the cell, that it would stay at ease on the point of a needle.

To give another impression, if we were to reassemble on this table all these threads which will specify each and every quality of the next three thousand million men who will replace us on this planet, this quantity of matter would fit nicely in an aspirin tablet. The fertilized egg is comparable to a loaded tape recorder. As soon as the mechanism is triggered, the human work is lived, in strict conformity to its program.

The very fact that we have to develop ourselves during nine months inside the bodily protection of our mother does not change anything, as you can easily observe by looking at the egg of a hen, from which the chicken will emerge. It makes no difference whether he was incubated by the fowl, or by an electrical heating device! The chicken is still a chicken. If one day a child can be entirely grown in a test tube, the test tube will never believe that the child is its property!

Such a reduction of the human being to its very nature may not be very palatable, or intuitively satisfactory, but it accurately reflects the present state of our scientific knowledge.

When a new student hears for the first time a symphony, let us say *A Little Night Music* by Mozart, he must listen to the whole in order to know it. But if he is a music lover, he will recognize Mozart at the first bars, and could tell the title at the second or third bar. It's the same with the human symphony. The specialist can recognize it at its first accents, even if a great number of various movements are required, so that its general form becomes evident to everyone.

The infinitesimal threads of the genetic information are carefully coiled in the little rods, the chromosomes, easily visible with an ordinary microscope. They are something like the magnetic tape inside the cartridge of a mini-cassette.

Some twenty years ago, nobody could have told the cell of a man from the cell of a chimpanzee. Ten years ago, a simple counting of the chromosomes would have given the answer, 46 if a man, 48 if a chimp. Since last year, if a student looking at a dividing fertilized egg, or at the dividing cell of a blastocyst, could not tell them apart saying, "This one is a chimpanzee being, this one is a human being," he would fail the examination of his license.