

Genetics and Human Malleability

By W. French Anderson

This short article is a corollary to the Asilomar conference dealing with recombinant DNA technology. Here the author discusses what are the current capabilities of genetic transfer in humans (gene therapy) and gives the example of the murine retrovirus being used as the vector for the gene of interest. He elaborates further by talking about how Tumor Infiltrating Lymphocytes are taken out of the patient's cancer, grown in IL-2 and put back into the patient. He states that society has no moral objection to this, but that it starts to become questionable when humans were infused with a bacterial marker fused to the TIL cells to see where they go and how they work. One has essentially created a hybrid human, on a minor scale, with introduction of a bacterial gene that did not exist in that human's genome before.

He goes on to say that somatic cell gene therapy is on the near horizon. This is where the ethical dilemma is introduced. Obviously society as a whole would have no problem using this technology to cure diseases such as CF, ADA-SCID, hemophilia, and so on. The question becomes when does one cross the line between debilitating disease and enhancement engineering, more commonly known as eugenics. The difference may seem clear when one is dealing with CF versus a parent who wants his child to be taller. Suppose the gene for intelligence is found? Would infusion of such a gene into a mentally retarded child be ethical? Mental retardation is not debilitating like CF, but if the "cure" exists would it be unethical to withhold such a treatment. Where would the line be drawn? How about a child that is slow in school? Should he get the gene too? The author concludes that this technology should be reserved and used on an objective medical basis, but that the line between eugenics and needed treatment is quickly blurring.