



*Photograph by Robert Ladd*

## **Altering genes in humans**

Dr. Smithies: I would say by all means altered genes in humans who have faulty genes that can be corrected as an individual. That's to say if I have , as I originally set out to do, if I have an individual who has sickle cell anemia and I know what is the gene that is wrong, if I can find a way to correct that gene for that person there is no ethical problem whatsoever in that. But now if you ask me to correct that gene in order that children would not have, inherit that difference, I would say that gets to be much more difficult. First of all, it's extremely difficult to do that. It's very inefficient and it's full of all sorts of risk if you were to attempt it. So I would say it is completely unethical to attempt to do that.