

Human Genome Project

Concept: Human Genome Project

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Description The Human Genome Project was established in 1988 with the task of mapping the genes that make up human beings. Scientists debated how many genes this would entail, some estimating it could be as high as 80,000. The project was completed in 2003, and in 2005 the Project estimates that the sequence of the human genome contains approximately 20-25,000 genes.

The quest to sequence the human genetic code illustrated the tension between the public interest and private incentive inherent in science in the global era. While the Human Genome Project was a publicly funded consortium, supported mainly by the United States National Institute of Health, the US Department of Energy and the Wellcome Trust, it faced competition from J. Craig Venter's Celera Genomics, a private, for-profit company formed in 1998. This competition arguably sped up the process of mapping the human genome, but has also led to debates over whether such knowledge should be patentable. The Human Genome Project has deposited its findings in the GDG Human Genome Database, a publicly accessible resource for the use of researchers around the globe. This is an example of science working for a global public interest.

While the sequencing of the human genome was a major scientific success, there is still much to learn about our genetic makeup. The Project does not tell us how all of these genes interact with each other, or with the roughly 97 percent of our DNA which does not code for protein (the "actors" in the genome); it is these interactions, exponentially more numerous than the number of actual genes, which determine our nature. Thus, the sequencing of the human genome does not point to biological determinism; rather, it shows both the ingenuity of modern global science in searching for the basis of human autonomy, and the inherent tension between the global public good and the imperatives of private interests in this search. The Human Genome Project has helped inform the broader public about microbiology, and encouraged closer inspection of the claims of genetic engineering.

Suggested Reading: **Human Genome Project website.** www.ornl.gov/sci/techresources/Human_Genome/home.shtml (accessed 2 August 2005).

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