## General Information

<table>
<thead>
<tr>
<th>Source</th>
<th>NBC Nightly News</th>
<th>Resource Type:</th>
<th>Video News Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator</td>
<td>John Seigenthaler,</td>
<td>Copyright:</td>
<td>NBCUniversal Media, LLC.</td>
</tr>
<tr>
<td></td>
<td>Robert Bazell</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event Date:</td>
<td>02/11/2001</td>
<td>Copyright Date:</td>
<td>2001</td>
</tr>
<tr>
<td>Air/Publish Date:</td>
<td>02/11/2001</td>
<td>Clip Length</td>
<td>00:03:06</td>
</tr>
</tbody>
</table>

## Description

Two teams of scientists announce that they have completed the first analysis of the entire human genome, a major scientific milestone with the potential to better diagnose and treat all sorts of diseases.

## Keywords

- Genetics
- Discovery
- Genome
- Disease
- Human Biology
- Genes
- Traits
- Virus
- Bacteria
- Paralysis
- Sequencing

## Citation

MLA
Transcript

Mapping the Human Genome

JOHN SEIGENTHALER:
We begin tonight with the book of human life, the instructions that make us who and what we are. Today, two teams of scientists announced that they had completed the first analysis of the entire human genome, a remarkable achievement with enormous potential. NBC’s chief science correspondent, Robert Bazell joins us now with the details. Good evening, Bob.

ROBERT BAZELL: John, the discovery of this sequence will probably stand as a major milestone of science in our time. In coming years and decades, researchers will use the information to better diagnose and treat all sorts of disease. Already the details in the genes are changing some fundamental notions about human biology.

As scientists decoded the book of life, they found many surprises that will lead to vast new areas of research.

DR. FRANCIS COLLINS: We’ve empowered all the brains of the planet to take this information and build on it.

ROBERT BAZELL: one big surprise: the human genome contains only about 30,000 genes or pieces of information. Far fewer than the 100,000 scientists had estimated. The human number is not much higher than worms or flies. But human genes, it turns out, operate in more complex ways.

DR. ERIC LANDER: It looks like we are who we are because we do an awful lot more with our genes, not because we have more of them.

ROBERT BAZELL: another big finding: we did not simply inherit all our genetic material from our ancestors. Bacteria and viruses inserted some of the genes and they have been passed on from generation to generation, sometimes giving useful traits, sometimes disease.

DR. FRANCIS COLLINS: That’s a big surprise, with considerable significance for understanding biology.

ROBERT BAZELL: Who might benefit from the knowledge of our genome?

JORDANA SONTAG: hello!
ROBERT BAZELL: Jacob Sontag suffers from a rare inherited disease called Canavan’s, destroying his nervous system. Scientists found the gene, which causes it, and Jacob’s mother Jordana now hopes doctors will be able to replace his defective gene with an experimental procedure.

JORDANA SONTAG: we need to do something and the only option that’s out there right now is gene therapy.

ROBERT BAZELL: but the information from the genome will not just help those with rare diseases. Dr. Francis Collins, who headed the publicly funded sequencing effort, says the book of life can be considered an instruction book for making a person, or a history of our species.

Dr. Collins: most importantly, it’s a textbook of medicine and written within its pages are the answers to mysteries about diabetes and heart disease and mental illness and cancer that are going to be profoundly more powerful than what we currently have.

ROBERT BAZELL: with the new genetic information researchers should be able to design new drugs, create mice with human diseases to test them, and find far better ways to diagnose common and rare disease.

When researchers compare the genes of one person to another, they find amazingly little difference, even between races and ethnic groups.

DR. CRAIG VENTER: I think our data will help to prove in the future that race is not a scientific concept, that the few differences we have between us are in fact probabilities, not absolutes.

ROBERT BAZELL: but tiny differences in the genes can make the difference between sickness and health. And the great promise of this discovery is to cure many diseases.