

## Behind the scenes of the HGP

### The Common Thread: A Story of Science, Politics, Ethics, and the Human Genome

By John Sulston and Georgina Ferry

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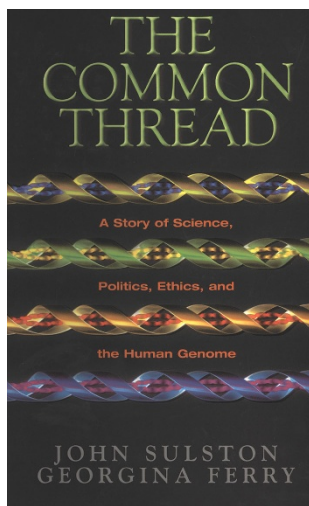
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Future geneticists will probably reflect on the Human Genome Project (HGP) as a milestone in their field. Perhaps it will be recognized alongside the chromosome theory of inheritance, the transforming material as DNA, the double helical structure for the genetic material and the cracking of the genetic code. But the HGP has certainly distinguished itself from other landmark events in genetics not only by an absence of hypothesis-driven science but also by being mired in politics and the 'good versus evil' interplay of public access versus private enterprise. *The Common Thread* by John Sulston and Georgina Ferry is an intriguing portrayal of the inner workings of the HGP and the personalities involved.

The book begins with a prologue in which John Sulston and Bob Waterston stand at the Syosset station waiting for the Long Island Railroad train to New York on their way home from the 1989 Cold Spring Harbor Symposium on the biology of the nematode worm. During that meeting they were challenged by Jim Watson's statement, "You can't see it without wanting to sequence it, can you?" after he visited their poster describing the genome of *Caenorhabditis elegans* as ordered, overlapping pieces of worm DNA studded

with known genetic landmarks. John Sulston describes hearing "the prison door shut behind them" as they committed to a pilot project



to sequence 3 million nucleotides of the 100 million-base pair worm genome. The enormity of what they had just undertaken made this a pivotal moment in the long-standing collegial relationship and friendship of Sulston and Waterston and in what would eventually become their involvement in the HGP, and it comes up again later in the book.

*The Common Thread* reveals a great deal about what took place behind the scenes of the HGP as viewed from the perspective of one scientist. The fact that one of the authors is a well respected scientist and highly active HGP participant adds a credibility to the story that is perhaps wanting in other renditions of these historical events viewed from the perspective of a journalist or science writer.

The opening chapters describe the atmosphere of the famous Medical Research Council Laboratory of Molecular Biology and the author's foray into *C. elegans* biology under the leadership of Sydney Brenner and among colleagues like Bob Horvitz, over three decades before they would share the Nobel Prize in

Physiology or Medicine for 2002. The insights into how nature works that are gained through the study of the worm and the acquisition of knowledge for its own sake are described with an almost nostalgic sense of what, perhaps, brings many of us to the profession—doing science because it is fun!

The middle chapters detail science as big business: the battle between private enterprise and open public access. It's here that the personalities of the participants of the HGP come alive—in short, the good, the bad and the ugly. Interesting perspectives are offered, including attribution of the discovery of the technique of finding genes by generating expressed-sequence tags to Paul Schimmel and colleagues at the Massachusetts Institute of Technology and not to the HGP participant who spearheaded the private effort. Political agendas are revealed, to a degree perhaps not seen before in modern basic science. Science by press release and even awards by press release are detailed. The authors show examples of the power of public relations to exert influence beyond what is justified. In the authors' own words, the HGP has been surrounded by hype, and some aspects, particularly the commercial venture, "have been a remarkable example of the Emperor's New Clothes". The authors tell a real human-interest story in which personal lives are interwoven with professional lives and portray the many human traits involved, including the less attractive ones of ego, deceit and greed. (Good luck trying to map those!)

Nevertheless, the book leaves us with a sense that the good guys won, that the principle of free release of human sequence data is a moral imperative and not one of two equally valid alternative choices, and that the draft and now almost-complete human genome sequence is truly a remarkable achievement for all—the common thread that joins us. Moreover, like the science of yesteryear, the book is informative and fun. □