The memoirs of an activist

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Making Genes, Making Waves. A Social Activist in Science

by Jon Beckwith

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Can a scientist do excellent science and at the same time be a social activist criticizing science? Only a very few people have tried to do so; Jon Beckwith, Professor of Microbiology at Harvard Medical School, is one of them, and he now describes his life in his autobiography *Making Genes, Making Waves*. He studied chemistry but was not so happy with it. He did his doctoral thesis in biochemistry at Harvard, but was not so happy with that either. During this time, he read papers by Jacob, Wollmann and Monod in French and decided that this was it. The logic of these papers was overwhelming. He wrote to Jacob and asked whether he could work as a postdoc in his lab in Paris. Jacob had no space. So he worked for 2 years with Arthur Pardee, first at Berkeley and then at Princeton. When his time with Pardee came to an end, Jacob still had no space. He followed Jacob's

suggestion and went to Bill Hayes in London where he showed that Jacob had misinterpreted his *lac* promoter mutants. This was exciting. He worked for some time with Sydney Brenner before Jacob eventually accepted him as a postdoc. In Paris, he did some excellent work that enabled him to clone the *lac* genes on a phage DNA. And so he received an independent position in Harvard Medical School. In 1969, he published a paper on the isolation of the *lacZ* gene in *Nature*—the book reproduces two beautiful pictures of the DNA from this publication. Then he and two of his collaborators gave a press conference. Their message: our method is potentially dangerous and the bad outweighs the good. The press loved it, and Beckwith became famous as a responsible scientist. A year later, he was awarded the Ely Lilly prize of US\$1000. When it was announced, he said that he would give the money to the members of the Black Panthers who had just been sent to jail. This was regarded as scandalous.

Three years later, in 1973, the cloning of plasmid DNA became possible. The claim that this was extremely dangerous attracted even more press attention, and Beckwith joined those who proposed a ban on DNA cloning. In 1969, he had simply been a moralist; now he cooperated with the enemies of science. During these years, his scientific productivity decreased. His autobiography is honest in this respect and he admits that he was wrong in trying to stop DNA cloning.

In 1973, Beckwith was informed that new-born babies were being tested for the presence of a second Y chromosome in a hospital in Harvard Medical School. It had been claimed that two Y chromosomes led to criminality and that this claim could be tested by following the fate of YY boys. Beckwith describes in detail how he and others tried to stop this project. They were at first successful, but later the Medical faculty feared that if this research could be stopped, then any

research could be stopped. Thus, Beckwith was suddenly at the edge: he was threatened with being asked to leave Harvard Medical School. In the end, the organisers terminated the project and, over the following years, Beckwith's position that such projects should not be carried out gained a growing acceptance.

When the human genome project was launched and money for ethical research became available through the ELSI (Ethical, Legal and Social Implications of the human genome project), Beckwith joined the organisation. Science is vaguely predictable, politics is not. So the public health ideas proposed by this first group of ELSI never became reality: the public health plan of Hilary Clinton disappeared with the Clintons. Now, Jon Beckwith is back doing science. He describes his new love affair with science in detail.

There are not many other scientists alive today with an equal interest in both of the two cultures; science and ethics. The book is thus interesting for its honesty and is well written. What more can one ask from a moralist's autobiography? There are some weaknesses: the people Beckwith describes remain rather abstract and their private lives are not touched upon. Also, the cultural and political background of the 1970s, which would have added to the understanding of his position, disappears. Who should read this book? Beckwith's colleagues, the geneticists, of course. But I think it is also a must for graduate students and postdocs of biology and chemistry. This is the story of a top scientist who tried to do more than science: gambled, almost lost, yet finally won. Science needs more such people.

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