

century precursor of Giordano Bruno. The latter hermeticist was burned in Rome on the Campo di Fiori in 1600 for his Copernican and Hermetic beliefs, thereby giving Galileo a powerful impetus to recant when he was similarly accused a scant 32 years later. The Bible and the Talmud are painstakingly examined for alchemical references.

Finally, Patai asks whether there were any differences between the alchemy practised by Gentiles on the one hand and Jews on the other. In other words, was there such a thing as Jewish alchemy? The book opposes the general anti-alchemical bias of Jewish historians, who, the author argues, play down the involvement in the art of their co-religionists.

This is a work of scholarship. In reading it, however, I cannot suppress a niggling thought that arcane matters may occasionally be best left arcane. One emerges from the chore with a sensation of having dined on tofu with Miss Havisham and a head full of dusty words such as molybdochalkon, aurum portabile, orpiment and magisterium. □

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■ Princeton University Press has also just published *The Business of Alchemy: Science and Culture in the Holy Roman Empire* by Pamela H. Smith. \$45, £30.

## Gene hunting in the raw

Peter Goodfellow

**The Gene Hunters: Adventures in the Human Genome Jungle.** By William Cookson. Aurum: 1994. Pp. 208. £16.95.

WRITING a book about science for a general audience is not easy. The author has to translate strange language and concepts into everyday words and metaphors. Moreover, the book should be entertaining. Frequently the task is regarded by publishers as so difficult that it can be undertaken only by a journalist. If the journalist does not have a few friends willing to correct the scientific errors, the results can be amusing. Publishers concerned with accuracy are usually forced to employ scientists to write about science. The drawback with this approach is that most of us who would lay claim to the title of scientist are so frightened about the opinions of our colleagues that comprehensibility is readily sacrificed for accuracy. Obviously there are exceptions to this general rule and occasionally scientists have presented science in a human and entertaining way.

*The Gene Hunters* is a 'kiss and tell' book from a scientist involved in gene mapping and positional cloning experi-

ments. According to the book's cover: "Dr Cookson takes us inside the world of the gene hunters to show us science in the raw." The heart of the book is a description of Cookson's attempts to identify genes involved in asthma. These chapters have a disarming ring of truth. The author admits his fallibility and bares his sins and successes. He also points his finger at his enemies — and stabs them in an orifice with it. If this book was a newspaper or a television programme, several people would be claiming the right to reply. The other chapters are much less convincing. The early chapters set the stage with descriptions of DNA, genetics and gene mapping. Next come anecdotal descriptions of cloning of genes causing cystic fibrosis, Duchenne muscular dystrophy and maleness. These chapters convey a view from the balcony rather than centre stage. Cookson is always opinionated, which makes the book a good read, but he is often wrong. He is entitled to the opinion that everyone has forgotten the name Bateson although bigots from Cambridge may take a different view. He is not entitled to commit scientific errors to print. Chromosome walking in 1985 was not restricted to plasmids and, in any case, plasmids can be used to clone fragments much bigger than 2,000 base pairs. The mammalian sex-determining gene is not 240 base pairs long; the open reading frame alone is three times that size. Peter Goodfellow cannot be described as having a puckish sense of humour as it is well known that he is humourless.

The book finishes with a brief description of the genetics of cancer and a consideration of the ethics of molecular genetics and the looming problem of the new eugenics. Again, the voice that speaks has a unique flavour. It is only a slight exaggeration to suggest that Cookson blames Galton, the British class system and men with neat beards and fastidious dress sense, in that order, for the evils of eugenics. After roundly and correctly castigating eugenics, he suggests that the "more reliable" way to choose genes for intelligence for your offspring is to "find a potential mate with the abilities you seek and to persuade them to father or mother your children". Unless I am mistaken, this is a flawed strategy based in false eugenic principles.

I congratulate the author on having tried to express his view of science in a language that is lively and easy to read. I am disappointed that he did not take more care to check his scientific facts. Overall the book is entertaining and can be read in a deck chair on a beach. But it fails the final test of a popular science book: I would not give it to my mother. □

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## Feynman and the art of physics



"WHEN my calculations didn't work out, I would watch the girls... I'd like to use the place to work in," Richard Feynman said of a topless bar he used to frequent. He was testifying in court on behalf of the bar's proprietor, who had been charged with permitting "lewd performances". As this page from one of his notebooks shows, he also practised his sketching there. The picture appears in *No Ordinary Genius: The Illustrated Richard Feynman* (Norton/Weidenfeld and Nicolson, \$29.95, £18.99) by Christopher Sykes, a collection of personal reminiscences by Feynman's family and friends.