

courtroom testimony. They spoke 'in the embittered tones of unacknowledged prophets' – and earned considerably more per year in expert witness fees than from their academic salaries or from any other source of income. I should point out, however, that such witnesses, who are likely to be accepted as experts by the court, may be the best or only ones that the defence can obtain and may well perform a useful function.

Two chapters, though somewhat out-of-date, are worth attention: Bruce Budowle's FBI forensic team on 'Reliability of Statistical Estimates in Forensic DNA Typing', and Donald A. Berry's article on 'Statistical Issues in DNA Identification'. The latter discusses *Bayes' Rule*, proposed by an English mathematician who died in 1761 and now important in DNA profiling statistics. Jerrold S. Kotval's chapter 'Public Policy for Forensic DNA Analysis: The Model of New York State' emphasizes the concerns which non-geneticists have expressed about recent trends and dangers. 'The track record of the FBI in the area of respect for civil liberties and the public's unease about the possible misuse of stored DNA in the possession of an investigative agency are legitimate concerns of public policy', he writes, and he strongly favours national legislation to forbid the banking of DNA samples taken for investigative purposes and/or the use of these samples for any other tests.

The last three chapters take the civil liberties theme further. Philip L. Bereano discusses 'The Impact of DNA-based Identification Systems on Civil Liberties'. Troy Duster writes about 'Genetics, Race, and Crime: Recurring Seduction to a False Precision', and Nachama L. Wilker, Steven Stawski, Richard Lewontin and Paul R. Billings present the current thinking of the Human Genetics Committee of the Council for Responsible Genetics on issues related to the storage and use of genetic information, in the final chapter of the book, entitled 'DNA Data Banking and the Public Interest'. Remembering the enthusiasm of many leading western geneticists in the recent past for utterly outrageous public policies of applied genetics – so-called eugenics – geneticists should lead the way in helping other civilized people to prevent similar developments from happening again.

In conclusion, I think there is much of importance in this book, to everyone except, perhaps, a prosecuting attorney.

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useful overview of principles and practice (Wilkinson). This is followed by chapters on applications of the technique to tissue sections using, as probes, radio-labelled RNA (Angerer and Angerer), oligodeoxynucleotides (Young), and biotinylated DNA, RNA, and oligos (Emson and Gait). *In situ* hybridization to whole embryos is described in two chapters relating to *Drosophila* (Tautz *et al.*) and vertebrate embryos (Wilkinson). There are chapters on simultaneous detection of RNA and protein in tissue sections and cell suspensions (Brahic and Ozden), applications in electron microscopy (Binder), rapid detection of viral DNA in cell smears, and in frozen, and paraffin, sections (Lewis and Wells), and on the localization of DNA sequences on chromosomes, banded and unbanded (Viegas-Pequignot).

The style is simple and direct with sufficient detail and emphasis on technical controls to put sound results in the grasp of anyone without specialized knowledge; indeed, even experts will find a profitable sprinkling of technical tips. The layout is pleasant and well designed: comprehensive step-by-step protocols are interspersed with explanations capped with short lists of well-selected references. The functional index is adequate for a well-organized book of this size.

I have only two criticisms. The first concerns safety: a pointed indication of the dangers in using, and disposing of, radiolabelled materials would have been pertinent in a book targeted to postgraduate students and relatively inexperienced workers. The second point relates to one of the main advantages of non-radioactive *in situ* hybridization, its potential for cellular localization. *In situ* hybridization to whole embryos gives an excellent view of the overall distribution of target sequences. That is fine for *Drosophila*. But for structures as complex as, say, a 9-day mouse embryo we are left with the frustrating difficulty of determining which tissues and cells are labelled in whole-mount preparations. It would have been worthwhile to give some consideration to the ways round this problem, by clearing, dissecting, or sectioning stained specimens or by using confocal microscopy in conjunction with fluorescent probes, to 'optically section' the specimen or deconvolute the signal.

But these criticisms should not discourage the aspiring hybridizer from buying what seems to me the best book of its kind on this popular technique.

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*In situ Hybridization. A Practical Approach.* Edited by D. G. WILKINSON. IRL Press, Oxford. 1992. 163 pages. £18.50 Softback. ISBN 0 19 963327 4.

This excellent little primer describes the commonly applied methods of detecting nucleic acids in cells and tissues by *in situ* hybridization. It begins with a very