arising from gene mapping. She tells an anecdote about the father of a female researcher who had gained the trust of the Amish people among whom she was investigating inherited manic-depressive psychoses. The father had leukaemia and required 900 blood transfusions before he died. The researcher received a bill from the blood bank for $27,000 which she could not pay. Hundreds of Amish people, however, donated blood to pay off the debt. Wingerson relates this tale merely to illutrate the Amish sense of duty to others in need. Although continually extolling predicted benefits, nowhere does she discuss how the bills will be paid for expensive genetic diagnoses and any subsequent reproductive or genetic re-programming interventions. There are currently 37 million Americans without any health insurance cover; tightly stretched public sector services exist for further millions of the poor and aged who are eligible for federal aid. Wingerson believes that US society would never tolerate any form of eugenic misuse of new genetic technologies. But if only the rich have access to the means for ensuring their children will not suffer from serious inherited diseases — surely that is a selective breeding advantage completely in accord with eugenic theory.

Being blinkered and uncritical about the established institutions of one's country is a typical manifestation of ethnocentric journalism. Another aspect of this stance is Wingerson's failure to note that the Human Genome Project is truly international with much input and leadership from the UK, Europe and more recently, Japan. Had she acknowledged this fact, she may have predicted the serious problem of information management the Project currently faces[3] along with differing national views on such matters as use of the new knowledge, patenting genes and ensuring privacy of genetic information.

The conclusion is that Lois Wingerson has written a book with some of the strengths and many of the weaknesses of the journalistic approach. Nevertheless it is worth reading especially by those interested in how American public opinion is shaped about a major field of scientific discovery.

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Charles Kerr
Department of Public Health
University of Sydney

Young Workers in Technologically Advanced Industries *by Sue Whyte and Belinda Probert*

(National Clearinghouse for Youth Studies, Hobart, 1991), pp. 4iii + 76, no charge, ISBN 1-875236-10-4.

This report is the latest in a series for the National Youth Affairs Research Scheme, and addresses the question of

> what, if anything, is special about [youth]employment in technologically advanced industries — and whether employment patterns, training provisions, skills and opportunities differed from other sectors of the labour market (p. vi).

It is an interesting and timely choice of topic for at least two reasons. First, most research in Australia has been devoted to larger, more established manufacturing and service firms covered by traditional industrial relations institutions, which are currently undergoing change through award restructuring. Not much has been written on the employment practices of the many newer and smaller technology-based firms which have developed in Australia in recent years.

Second, Australia — through award restructuring — has concentrated its training and skill formation policies to a large extent in recent years on people already in the workforce. Most of these tend, naturally, to be older workers. The specific position of young people in the labour market, and their skill and training opportunities, has been relatively neglected since the Kirby Report. Instead, youth education and training policy has focussed primarily on schools and on higher education. However, with the advent of recession and following the consolidation of higher education reform, the issues of youth unemployment, vocational training, the transition from school to work and the role of TAFE are again beginning to assume greater importance.

The report begins with a discussion of the difficulties of defining 'technologically advanced industries', before settling for a fairly pragmatic approach of including enterprises either producing advanced technology products, or using advanced technology in the manufacture of more traditional products. The bulk of the report — Chs 4 to 8 — comprises a series of case studies of nine such enterprises: a suburban bank branch; a large computing company; a section of Telecom; a plastics factory; and five 'advanced product firms' in various sectors — ceramics, biotechnology, satellite communications, instrumentation, and computer chip design.

Ch. 2 summarises these case studies. In addition, the authors carried out a postal survey of 450 firms to provide a sectoral analysis of employment to back up each case study. The postal survey's results are mentioned only sparingly, as they will be available separately. Hence, the main focus of the report is on the case studies.

The case studies range in size from quite small enterprises (12-48 employees in five cases), to large firms with over 400 employees. The numbers of young people employed in the case study also varied — from less than ten per cent of employees to over 50 per cent in the bank branch, with many more 20-24 year olds than 15-19 year olds in most cases. The postal survey confirmed these results.

The case studies showed that traditional unskilled school leavers are needed by advanced technology industries as well as more highly skilled and qualified young people, although in general it appeared that they employed disproportionately more well qualified young people in the 20-24 age range. Career opportunities for young people with tertiary computing degrees in particular were very good. In addition, those firms and workers involved in development and design rather than production tended to have higher qualifications and better training and career opportunities. The studies also showed that employment and work relations in advanced technology firms are quite similar to those in more traditional industries: "for many jobs the only thing 'special' or 'advanced' about them is the end product to which they contribute" (p. vii).

A constant theme from the case studies was how enthusiastic young people are about training, often citing that "you can't have too much". Most of the

companies took training very seriously; quite a few allowed study leave while some (especially the bigger firms) had structured training plans for all their employees. However, as in the rest of industry, some workers — women in support positions, process workers, etc. — had less prospects of moving up the promotional ladder through training than others. Award structuring will be important in overcoming these inequities, which probably hold for all workers, whatever their age. If anything, the report might have stressed the advantages which young people (including the less well qualified) have in the labour market of the future — if they are prepared to continue learning — through their relative ease and confidence with new technology and eagerness to learn by comparison with some of their older workmates.

The authors try to put the generally positive picture painted by the case studies into perspective in Chapter 3 by looking at US and Australian experience of advanced technology industry, in the light of what they see as two assumptions which underlie economic policy aimed at promoting such industries: first, that such industries lead to increased job opportunities and will provide the main source of job growth; and second, that they require increased skill levels and training for people to take advantage of these opportunities (p. 12).

This is the most disappointing part of the report. The authors argue a familiar case (albeit one that is often ignored in policy-makers' rhetoric) — that advanced technology industries are not likely to be main source of new jobs, and that for young people especially, most new jobs are likely to be in occupations with little or no training. However, most of the Australian data supporting this argument is quite dated — for example, work by Sweet and by Timo comparing census occupational data between 1971 and 1981. The report's literature reviews abound in references from the Myers' Report in 1980, and other reports from the early 1980s. It is difficult to believe that there hasn't been a great deal of change in occupational trends — or even research confirming the previous trends — since then.

In addition, and more seriously, the report makes no mention of the most profound change affecting youth employment in Australia — the massive rise in educational participation rates over the past decade. We have shifted from a situation where a third of students went on to Year 12 to over 60 per cent in less than ten years, with associated increases in further and higher education. These developments must have had an effect on the total number and proportion of young people (particularly 15-19 year olds) in the labour market, and the types of jobs they do and do not have, but the report does not mention them at all.

It is not surprising, for example, that those 15-19 year olds in the case study firms are in the less skilled jobs, since they generally have lower educational qualifications than their older counterparts. What we don't know, and to some extent this is an inevitable consequence of the 'snapshot' nature of case studies, is to what extent the *total* number of jobs for these youngest members of the labour force in these firms has fallen (reflecting lower supply as well as lower demand) and been replaced with more 20-24 year olds, many of whom are better qualified and equipped to take on more training.

The authors' main conclusion — that reform of traditional industries (where most of the jobs are) through award restructuring and other efforts to improve the quality of jobs for young people is more important than the promotion of advanced technology industries — is therefore only a partial answer to the problems of young people in the labour market, and may well refer to a

decreasing number of young people, most of whom (in the 15-19 year old bracket) are no longer in full-time work.

A more obvious lesson arising from the case studies themselves is that advanced technology industries may provide more opportunities for 'good' jobs, training and career opportunities, and that young people with qualifications and/or who are prepared to undertake further study are well set to take advantage of job opportunities arising in this section of the labour market.

The case studies present quite a positive picture of young workers in technologically advanced industries. The situation in more traditional industries may not be as positive, but the analysis contained in this report does not really allow us to draw a proper comparison or make conclusions beyond the industry sectors examined here.

John Phillimore
Institute for Science and Technology Policy
Murdoch University

Guide to the Archives of Science in Australia: Records of Individuals *compiled and edited by Gavan McCarthy*
(D.W. Thorpe, Melbourne, in association with Australian Science Archives Project and the National Centre for Australian Studies 1991), pp. xi + 291:, ISBN 0-909532-97-4.

"The history of science in Australia", the Introduction to this work begins, "is a subject that is attracting steadily increasing scholarly attention. As in any other field of historical inquiry . . . the researcher is heavily dependent on being able to locate the documentary records relevant to the investigation". I had the initial task of publishing *A Guide to the Manuscript Records of Australian Science* (Mozley, ANU Press, 1966) soon after the establishment of the Basser Library at the Australian Academy of Science and my own appointment to build an archive of the personal records of Australian science and launch the history of this field. It seemed evident then, and the point is plainly endorsed 25 years on, that the identification and preservation of the personal papers, diaries, journals, working daybooks, experimental notes, lecture notes, correspondence, drawings, photographs, etc. and societal and institutional records of science was vital to the growth of this discipline and a matter for active national encouragement.

This encouragement, as the *Guide to the Archives of Science in Australia* attests, has yielded impressive returns. The new *Guide,* which is based directly on and incorporates the materialof the original *Guide,* is the first publication to come from the growing Register of the Archives of Science in Australia held in the Australian Science Archives Project at the Department of the History and Philosophy of Science, University of Melbourne and compiled by its Senior Archivist, Gavan McCarthy. Focussing on individual scientists, it offers a source of reference to a striking array of personal papers preserved in Australia's national, state, and university libraries and archives, and the Basser Library, and to a rich and diverse assortment held in institutional, museum, herbaria, societal, company and specialist repositories. A subsequent volume will be devoted to the institutional records of science.