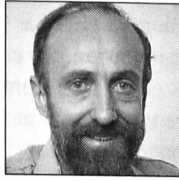


READING NOTES

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The Right Balance?

John Mignone, John Walsh, Angela Colliver & Deborah Crossing 1996, *Resources: Working for the Right Balance*, Department of Mines and Energy South Australia/ Adelaide Institute of TAFE, 290pp., Video, CD-ROM, Teachers' Guide and support materials, issued free to schools.

In April 1997 I attended a tour of three of South Australia's significant mine sites sponsored and conducted by the SA Chamber of Mines and Energy for teachers in the key learning areas of Science, Technology, and Studies of Society and Environment, and for Career and Student Counsellors. In the course of the trip we were shown a video produced on behalf of the SA Department of Mines and Energy, and Western Mining Corporation, called *Resources: Working for the Right Balance*, a title about which I felt uneasy. It is part of a package of learning materials for schools, which includes a CD-ROM, guide book and lesson notes and worksheets designed, in the words of the package, to "encourage thinking about social issues associated with the Earth's resources". The package includes sections dealing with Exploration, Mining and Processing, Environmental Management, and Careers, amongst others, and is superbly done.

Why did the title strike a wrong note? Because of my long term interest in earth sciences I was aware that, at times, spokespersons for the mining industry, and other resource industries, had identified teachers as 'snakes in the grass' credited with alienating a whole generation against such industries by inculcating a 'green' ethos in students—and even an anti-business mentality in general. Was this trip and the *Resources* kit an investment to re-educate us? I realised why I had jibbed at the term "the Right Balance". For decades environmentally concerned citizens have battled to redress the damage caused by the 'dig it up and leave the mess' and 'chop it down and burn the rest' approaches common in the recent past to resource extraction in Australia and other countries. Only the

pressure of vocal public opinion and legislation have produced more responsible—that is, balanced—behaviour from mining and other industries. The tenor of the video seemed to be 'Look, you expect to enjoy the benefits of a modern lifestyle which depends on the minerals and energy resources we produce, don't you? So perhaps you'd better back off a bit on the environment thing.'

My grandfather, seventy years ago, was fronting up to a Royal Commission into the effects of lead on the health of workers at the Port Pirie smelters, then a political issue comparable maybe to the perceived dangers associated with uranium mining today. It was known that lead could be absorbed by the human body with effects which were long term and subtle. Decades later, as an executive of a major mining company, he joined brainstorming sessions when the price of lead fell, trying to find new uses for the metal so that world consumption might increase. Producers want to sell product, of course. Two years ago Australia and Canada blocked an international agreement to phase out the use of lead in petrol, paint, toys and food tins. This was because Australia is the world's biggest producer of lead. I am reminded of another heavy metal about which grave concerns are held, but which earns shareholders a 'decent' return!

More recently Australia has balked at meeting our greenhouse gas emission targets because our country depends so much on coal and gas exports. Revenue and jobs weigh more heavily in the political balance than does any long term threat to the global environment. I guess these are difficult judgements that we expect our leaders to make on our behalf, and which the kit is inviting us to be aware of as well, presumably so that we can be well informed citizens with a balanced view. I wonder, if we employed thousands in, and earned millions from, land mine manufacture rather than copper mines whether we would have a kit for schools produced by the armaments industry?

Is it fair to be cynical about the motives of a wealthy mining company, whose activities are subject to public scrutiny and some hostility, and which then sponsors thousands of expensive kits for schools—made available free to many schools in Australia—on the subject of mining and environment? After all, they did seek and act on advice from educators throughout the making of the kit. How could a set of materials authored by a group of experienced and properly respected educators be anything other than educationally and ethically sound? If the package meets these criteria—and this is touched on below—is was not without difficulty according to several of the educators involved who were asked to contribute to the process of reviewing heavy batches of materials within very short deadlines, an urgency apparently determined by the imminence of a national meeting of mining ministers. The same educators had to argue to have the title changed from *Resources: The Right Balance*, a title suggesting that the kit dealt with matters much less problematical than environmental educators would accept to be the case. There were vigorous debates to ensure educational validity on a

number of points and educators with feet in both the worlds of education and industry successfully urged that teachers be given an inservice introduction to the material, and that it be written in a teacher friendly way.

Teachers and their students will hopefully apply their critical literacy skills in using this package, just as they would in accessing material from any source—such as the Internet. What are the sources of the material, and what might be the agenda of those people and organisations? Is there a range of points of view represented—without bias? What historical perspectives are provided, and what future possibilities, positive and negative, exist? Are there errors of omission? For example, the kit is not particularly informative on the complexity of environmental and other social issues offering “Uranium mining and the export of native animals are examples of environmental issues in Australia”. Teachers should be aware of the wider context too, and know that ex-teachers are employed by a number of groups including the Petroleum Industry Council, the uranium industry, and public relations groups such as the Chambers of Mines and Energy employ people with educational backgrounds to present materials which are useful and factual, but which appear to be designed to leave a residual impression of endeavours that are only benign.

‘a rich resource for teachers’

The package is a rich resource for teachers. The book contains nearly three hundred pages of teachers’ notes and photocopiable worksheets for students in middle primary to junior secondary years. Topics include ‘Groundwater’, ‘Energy’, and ‘The importance of resources’. There are scores of excellent illustrations, and hundreds of productive activities in Science, Studies of Society and Environment, and Technology. These range from ‘Design a miner’s helmet’, gold panning, making a model hydro generator, calculating ore grades in percentages, to role-playing debates or court hearings amongst the various stakeholders involved in a proposed mining venture. Students are invited to brainstorm lists of environmental problems and issues that face Australians in the 1990s. Techniques are introduced for examining issues; these include weighing up pros and cons—on a real beam balance; annotating the effects of an activity as plus or minus and short, medium and long term; and laying out the various viewpoints that individual members of different groups might espouse. Each section of the book is supported by a correspondingly succinct video presentation of 15–20 minutes which shows bright, current and local South Australian images. I was engrossed by the inter-active CD-ROM. It is a brilliant learning landscape to explore. One wise teacher previewed it and mapped out a path for students to follow. Another went through the book and picked out those activities on mineral processing which complemented their chemistry program. Environmental educators will probably go for the marrow, in the sections on ‘The importance of resources’, ‘Environmental management’ and ‘Working for the right balance’.

Resources does us all a sterling service by reminding us that many of the good things available to citizens enjoying wealthy lifestyles, and often taken for granted by them, have to be found, extracted from the Earth, and processed and fashioned by the application of human effort and ingenuity—and energy. This has always been an essential part of human endeavour in, for example the Stone, Copper and Bronze Ages. But is the present just part of a great continuum? Or are we humans at a watershed in our history where exploitation of resources to meet the demands of increasing populations and expanding consumption, is placing unacceptable strains on natural environments—and, perhaps, cultural ones too if you happen to be a member of one of several groups of indigenous peoples worldwide who have rather strained relations with resource industries? I think the mining industry would say “Full steam ahead! Onward and upward! Economic growth and new technology will save all!” Many teachers, however, will want their students to consider alternative viewpoints about the nature of and routes towards ‘development’.

I see the kit as part of a setting in which business strives to roll back the influence that environmentalism seems to have over the public, and the manifestation of that in the form of protest and regulation. *Resources* is splendid in itself, but gives the impression that we needn’t worry about mining, because miners are bound by legislation and can fix any problems afterwards. This notion is a key point of difference between miners and environmental activists who are members of groups such as the Wilderness Society, which maintains that no-one is capable of mining and then recreating an ecosystem with its complex of plants, associated fungi, soil organisms and fauna. Nor can we eliminate human error. Educational materials which do not pay adequate attention to these debates are not satisfactory. However, the authors prompt open discussion in the sections on environmental management and right balance; educators’ full exploitation of these parts will give rise to valuable learning. The package urges its users to be sensitive to local issues and to present a balanced view. I am tempted to wonder, however, whether the sponsors of the kit would be disappointed if “the right balance” students decided on was that there should be no mining in National Parks and that all uranium mines should close!

With their wide perspective on education, competent educators in Australia and elsewhere already strive to assist students to acquire the best balance of skills, attitudes and understandings. Students unaware of the impact of their own consumption on the planet have an unbalanced—and unhealthy—set of understandings. Considered use of *Resources* will come some way towards assisting students to redress such a lack of balance. I believe, too, that anyone who has no emotional affinity with the natural world is also unbalanced. In this regard *Resources* promotes, instead, a utilitarian ethos. Sophisticated graduates may end up doing cost-benefit analyses to find the right balance, but how do we put a price on the environment? Or is it priceless? And if we don’t, is its value zero? Or perhaps our students will

emerge from present educational experiences completely enterprising and entrepreneurial, willing and able to cut through 'environmental red tape' and to get on with 'wealth creation'. Educators need support materials which will help students become citizens who look for more than easy answers. In this respect *Resources* make a contribution—but one which itself needs balancing with educational materials raising the kinds of questions to which I have referred. Perhaps *Resources: Working for the Right Balance* is, like South Australia's Olympic Dam mine, replete with gold, silver and copper—but users need to be aware that it has other, less visible, components. 🐼

After an upbringing in several parts of country South Australia where he saw many examples, in his words, of "the land losing ground", Peter Dunn now teaches science at Hendon Primary School in suburban Adelaide. He is secretary of the South Australian Earth Science Teachers' Association and of the primary wing of the South Australian Technology Teachers' Association, as well as being a long term member of the Wilderness Society and the Australian Conservation Foundation.

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Communities and Environmental Education

Geoff Peel, Ian Robottom & Rob Walker 1997, *Environmental Education and Self-interest: The Educative Role of Community, Government and Private Environmental Agencies and Groups*, Deakin University, Geelong, Victoria.

Graeme Gibson & Meg Bishop (eds) 1996, *For a Common Cause: Case studies in Communities and Environmental Change*, AGPS Publishing Service, Canberra.

The kinds of connections between environmental organisations and schools, the benefits of them and motives for them are explored in *Environmental Education and Self Interest*. The authors raise the following issues: limitations imposed on environmental studies by 'formal' curricula and key learning areas, lack of support

from education systems for environmental educators and the exploitation of education by groups and organisations interested in profit and profile rather than educational outcomes.

They argue that due to funding restrictions on education and the importance placed on established learning areas such as Mathematics, English and Technology, schools are lowering the priority of those key learning areas, such as the Studies of Society and Environment, which encompass environmental education. In addition to this, resource materials supporting environmental education are not being produced by commercial education publishers because they are not finding it profitable. The combination of these restrictions is having a significant impact on environmental education with committed environmental educators being forced to look outside education systems to satisfy their environmental educational needs.

Five case studies are presented in which educators established working links with community groups and agencies including Landcare, small business and environmental groups so that the environmental education occurring in those situations could be supported.

'each organisation has recognised the value of investing in long term education'

The report examines each case study from the perspective of the organisation asking "What is their motive or self interest?" In each case the primary interest of the group is something other than education, be it land, water or animal management; education is a secondary concern. However, each organisation has recognised the value of investing in long term education through educational resources and support.

All the organisations made use of the media to convey environmental information, while promoting their own self interest. In a typically pragmatic view of this arrangement internationally known native habitats supporter and principal in Earth Sanctuaries, John Wamsley, states, "publicity infinitely expands the potential community exposure at minimal cost" (p.40).

Peel, Robottom and Walker explain the dangers of schools and community members having access only to industry distributed resources. If this is so the breadth of information available and the likelihood of receiving a balanced and informed view of environmental issues are severely limited. Similar warnings have been sounded by Beder (1997) in relation to the fact that: in schools corporate based 'environmental education' materials is replacing independently researched materials; in shops 'green marketing' is being used to persuade consumers that serious environmental problems are being addressed; in the media corporate advertising and sponsorship is influencing news content; and industry funded scientists are often treated as independent experts.