proponents of science parks which cannot be easily explained away by 'misunderstanding'. It is a pity that this text did not exploit the opportunity and capitalise of these issues. The book price puts its out of the reach of most academics, reachers and students. It should have a market as a reference source for technology policy institutions, science park administrations, universities and local governments.

Richard Joseph
University of Wollongong

For the Public Health: the Hunter District Water Board 1892-1992 *by Clem Lloyd, Patrick Troy and Shelley Schreiner* (Longman Chesire, Melbourne, 1992), pp.xii + 364, $29.50, ISBN 0-582-87686-9 (pbk).

After a deserved tribute to John Armstrong's valuable *Pipelines and People*, a history of the Hunter District Water Board commissioned by the Board for the general reader in 1967, Lloyd *et al.* state that the different focus of their study is to explore "changes in administrative practice and style in a public service institution over one hundred years; and the nature and organisation of work in a statutory authority which delivers vital public health services." Or, as Paul Broad, Managing Director of the Hunter Water Corporation which replaced the Board after an even century in 1992, succinctly and accurately puts it in a Foreword, they have penetrated the "soul" of the organisation.

The early chapters explain why Newcastle with suburbs, although a major and fast-growing coal port, with a press highly critical of odours and filth, entered the 1880s without a permanent water supply or effective sewerage system. Students of local history will recognise factors which have delayed all manner of improvements : absentee owners and land grantees, a profusion of impecunious municipalities and the belief that Newcastle was a hardy "man's town."

Now that the disused Walka pumping station, operating 1887-1930, is recognised as a fine example of industrial architecture, it is worth recalling its origin as the source of the first limited water supply system using the Hunter River to supply reservoirs serving Newcastle and Maitland. This municipal system was absorbed by the Hunter District Water Supply and Sewerage Board created in 1892 as a statutory authority responsible to a Minister and Parliament. Another Act in 1938 changed its name to the HDWB giving it autonomous control over funds and works.

Chapters 8 and 12, entitled "Work practices and rituals," are based on an imaginative use of oral history and well-digested knowledge of a great variety of tasks.

A distinctive administrative style emerges in a number of ways. A structure dividing professional, clerical and indoor from mechanical, manual and outdoor staff persisted once the latter had been inherited from the PWD. This meant administrators had higher status and control and also shaped emerging industrial relations leading in 1921 to separate wages and salaried divisions of the HDWBEA. But generally the Board was considered a good employer.

The first President of the Board was Alexander Brown (1892-96), the disinherited nephew of the coal barons, J. and A. Brown, a high-profile Protectionist appointed by a Protectionist Premier, who held this paid office while a MLC. He did not need the salary or attention and presumably held the job because he liked it and wanted to serve the Hunter region. Yet to allay charges of patronage some early positions were chosen by ballot and thereafter the President usually was chosen from the PWD engineers. (Some Novocastrians may find that the legendary engineer-soldier, "Monty" Corlette, is treated rather dismissively). Many years later there was another patronage appointment in the person of defeated ALP politician, Frank Finnan. Announced amid a storm of protest, he ended his long term (1953-64) popular with all sections of the Board and community.

A glossary would help as the comfortable modern reader has long since forgotten the difference between a cesspit, midden and dry-earth closet. This aspect of the Board's operations was even more protracted and controversial than delivering and rating water in a spreading urban environment. A sewerage scheme for the Lower Hunter was finally approved by Parliament in 1902 and completed in the early 1920s, meeting objections, still familiar, that an ocean, outfall would endanger Newcastle's cherished beaches.

In the 1980s. a Board slumbering under the weight of inbreeding and seniority became transformed by the entry of talented newcomers and rating by a "user-pays" component. These changes attracted national attention to the Board and to the management theories and strategy ("cultural revolution") of its President, Dr John Paterson (1982-84). In 1987 the Board was required to pay an annual dividend to the state government. Another Act corporatised the Board under a Managing Director and six members appointed by the Governor, none by the municipalities. Reduced water consumption made it possible to defer major works. A restructured organisation was now more attentive to economic pressures and consumer wishes.

Over a century the estimated population served by the Board has increased from 17,000 to 414,000 (App. I), while the staff has increased from 36 to 1,106 (App. E.). The latter has fallen from a peak of 1,562 in 1982 reflecting deliberate use of redundancy packages applied to the wages division.

By any standards the HDWB has become a major enterprise of national, regional, economic and administrative significance well worthy oı this thorough and readable study.

L.E. Fredman
Newcastle

Humphry Davy: Science & Power *by David Knight* (Blackwell, Oxford, 1992) pp.xiii + 218, $95.00, ISBN 0-631-16816-8

In the fourth of the Blackwell Science Biographies series under his own general editorship, Davidht turns the spotlight on the self-styled Newtochemistry, Humphry Davy (1778-1829)