

natural responsibility as human beings. The full implication of this thesis is expressed by one of the quotations on the flyleaf: " 'From a cross one could make two gallows', the expert contemptuously remarked".

This restricted self image of engineers is reflected in the structure and attitude of the VDI. In its early days it incorporated many freelance engineers and entrepreneurs. These soon diminished in importance as engineers increasingly became industrial and government employees, and indeed industrial leaders, though always a small minority of the membership, soon acquired most of the places on the governing élite of the VDI and have stayed there ever since. The most valuable part of the book analyses this takeover in some detail, and frequently comments on the uncritical acceptance of the aims of their employers by the rank and file members of the VDI. Much of the rest of the book is concerned with the consequences of the way the VDI has developed and come to regard its functions in a narrow technological sense, and a discussion of how this narrow attitude relates to the education of German engineers and their sense of apartheid from much of society. Much is made of the German disjunction between culture and civilization: the engineers, it seems, have a share in the second but not the first. The contrast with the French polytechnicians is pointed with feeling, and the book's coda is concerned with suggestions for institutional and educational reform.

R. W. CAHN

BORSTAL BOYS

City Lads in Borstal

A Study based on 100 Lads discharged to Addresses in Liverpool. By David Murray Lowson. (Social Research Series.) Pp. xii+156. (Liverpool University Press: Liverpool, May 1970.) 55s.

INQUIRIES, by interviews and questionnaires, were addressed to a hundred lads recently released from borstals to homes in Liverpool. They were asked about present living circumstances and what they felt about their penal experience.

Before the war borstals tended to be reserved for the better prospect cases, the types who would today be likely to be given probation. With the imposition of statutory limitations on the imprisonment of young offenders, borstals have become the main custodial institutions for young recidivists. The youths in this study were typical of present day borstal populations. They were very predominantly from low-class, large-sized families living in working class ghetto areas; their educational attainments were extremely poor and nearly all were unskilled workers. They all had previous convictions for indictable crime, and the majority had had previous experience of custodial detention in approved schools, detention centres or borstals, and some of them had spent many years of their short lives in institutions. There was the usual high incidence of broken and unstable parental homes. As many as seventy-two were reconvicted within a year of their current date of release.

The experience of borstal seemed to have left most of the lads remarkably indifferent and unaffected. As Dr Lowson points out, they lost little socially, because they had little to lose. While many accepted the necessity for punishment, they resented the wasted months, and few thought they had benefited at all from the training provided. The alienation of these boys from the middle-class ideals borstal tries to promote, and the social barriers between the boys and the staff, were too great for any substantial attitude change to be expected. Resentment against officers was not much in evidence and complaints of brutality or abuse by officers were few. The most frequent complaints were about the officious or impersonal methods of handling inmates and the amount of "locking

up". Some well meaning attempts to help the lads had clearly gone wrong. The suits provided them on discharge, for instance, were more often objects of ridicule and contempt than useful assets.

The author recognizes that the boys draw some support for their antisocial ways from the working class subculture to which they belong and which is committed to hedonistic, live-for-the-moment values. At the same time he sees how this oppositional subculture has been moulded by the wider social system. He makes a powerful appeal for better understanding and help for the under-privileged, and for more human contacts between officers and boys in borstals.

D. J. WEST

AGENTS OF DISEASE

Virus Diseases of the Liver

By A. J. Zuckerman, with contributions by Patricia E. Taylor and Susan F. Sullman. Pp. x+158. (Butterworth: London; March 1970.) 86s.

THE agents of most common viral diseases have been isolated and characterized during the past 50 years but, in spite of extensive efforts, the agents of both serum hepatitis and epidemic or infectious hepatitis have not been identified. The long sequence of negative or irreproducible results was recently broken by the demonstration of an association of Australia antigen with serum hepatitis and the transmission of infectious hepatitis to nonhuman primates. An almost explosive restimulation of hepatitis research has been the result and so the publication of a monograph on this subject is very appropriate.

Dr Zuckerman's book outlines the history of hepatitis from the Babylonian Talmud, lists the many attempts at isolation of the causative agent(s), and summarizes the various theories of the pathogenesis of virus disease of the liver. The arrangement of the book is somewhat unorthodox, particularly with an opening chapter devoted to a detailed discussion of tissue culture of the liver, but this subject is, after all, the current interest of the author. Other subjects, probably in the interest of brevity, are dealt with in a somewhat fragmentary fashion. The book, however, attempts to provide basic virological knowledge for the reader unfamiliar with viruses and clinical information for the microbiologist. It is an excellent reference volume for those interested in the development of hepatitis research and the lists of references are an adequate guide to the student who is interested in a more detailed study of the subject. Other viral diseases regularly or only occasionally inducing liver damage are discussed, but a more systematic treatment would have helped an easier understanding of these various ailments and their relationships to liver disease. The book is recommended to physicians and basic scientists, and to students interested in virus-induced liver disease, as a condensed reference volume which will help readers to put the plethora of current work on hepatitis into a better perspective.

FRIEDRICH DEINHARDT

PROTEOLYTIC ENZYMES

Structure-Function Relationships of Proteolytic Enzymes

Edited by P. Desnuelle, H. Neurath and M. Ottesen. (Proceedings of the International Symposium, Copenhagen, June 16-18, 1969.) Pp. 309. (Munksgaard: Copenhagen, 1970.) 110 D.kr.

THIS book contains many of the invited papers and subsequent discussion comments given at last year's International Symposium on Structure-Function Relationships of Proteolytic Enzymes, a meeting which attempted to unite the growing body of primary and tertiary struc-