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Book reviews

Genetics of Criminal and Antisocial Behaviour. Ciba Foundation Symposium 194. Pp. 283. Edited by G. R. Bock & J. A. Goode. (Wiley, Chichester, 1996.) £50.00.

The idea that criminal behaviour is somehow determined by the biology of the perpetrators, and that criminals differ in some biological features from other members of the population, is not new. Following Gall's phrenological interest some two hundred years ago in morphological variations in the head, Lombroso (1889) in the latter part of the nineteenth century applied the newly emerging techniques of anthropometry to enquire into metrical variations of the head and body, and at the beginning of the twentieth century in Britain Goring (1919) carried out his measurements of some 3000 criminals, dividing them into habitual and non-habitual. The idea received new impetus in the late 1960s with the discovery (Jacobs *et al.*, 1965) that the XYY karyotype was more common in inmates of maximum security institutions and that it was associated with distinctive features of behaviour and personality, and for the first time it appeared that there was some evidence of a genetic basis for criminality. But there are many more males born with the XYY chromosome constitution who are quite normal in behaviour, so that the karyotype only gives a slightly higher risk of developing a deviant behaviour pattern.

The genetic advances of the last few years have brought renewed interest, and *Genetics of Criminal and Antisocial Behaviour* is devoted to this topic, examining some of the new evidence. Based on a Ciba Foundation symposium, it takes the form usual for Ciba volumes, containing the texts presented by the principal speakers and a transcript of the discussion after each group of papers. In the Introduction, Rutter points out the difficulty of definition of crime and antisocial behaviour. He sees the widespread occurrence of conduct problems at some stage of childhood as indicating a behavioural tendency shown by all human beings to some degree, a continuously distributed dimension analogous to that for multifactorial medical conditions with a threshold, vague indeed, beyond which the behaviour is no longer acceptable. He recognises the heterogeneity of antisocial behaviour (e.g. in age of onset) and discusses its correlates and risk factors, the inadequacy of a genetic explanation for the sudden rise in crime in the United Kingdom over the last 50 years, the difference in murder rates in young people in Britain and the USA, and this leads to concepts of genetic effects. As a background to the new evidence presented later he summarily reviews the *status quo* as set out by Carey (1994) and Goldsmith & Gottesman (1995): genetic effects on individual differences in the tendency to antisocial behaviour vary according to age and the measure used; different lines of investigation, e.g. twin, adoption, and sibling studies, all agree in showing a modest genetic effect; yet the genetic data are full of contradictions; the evidence for environmental risk factors is consistent. The question to be answered then is not whether genetic factors are involved but how they operate, and attempts at an answer pose clinical, ethical and legal problems.

In the second introductory chapter, Stephen Maxson argues the usefulness of mouse studies in the search for candidate genes for human aggression, using gene mapping of quantitative trait loci by association and linkage analysis. Distinguishing different aspects of mouse aggression shows that composite scores for offence are insufficient, and that the components of aggression (latency, frequency and duration) require separate analyses. Experimental studies show a behavioural complexity that does not bode well for extrapolation to the human situation. The participants in the discussion on this paper tended to scepticism, and the general discussion that followed was concerned with crime, its specificity or generality, and the effects of shared environment.

In the next group of papers, Cairns examines aggression from a developmental perspective, and shows that genetic effects for aggressive behaviours are both highly malleable by experience during development and susceptible to developmental timing, and he sets up a model incorporating these. In view of the coherence of results on such interaction from a number of studies 'there is a special folly in recent attempts to identify the ''gene'' for aggressive behaviours' and there must be a number of genes that act and interact with each other and with experiences, at the neurobiological and endocrinological levels. Two chapters based on twin data, by Lyons using self-reported criminal activities from Vietnam military personnel and by Silberg using the prospective Virginia Twin Study of adolescent behavioural development, are complementary. It seems from the first that common environment more strongly influences juvenile delinquency and genetic factors adult criminality, and from the second that there are different patterns of conduct disturbance in adolescent boys which vary in the extent and nature of genetic influence, in their different ages of onset, and in the frequency of a psychiatric diagnosis in one or other parent and especially the mother.

Adoption data provide the material for the next two papers, by Bohman and Brennan *et al.* The Stockholm Adoption Study shows that different genetic and environmental antecedents influenced the development of criminality according to whether there was associated alcohol abuse. Male alcoholic criminals often committed repeated violent offences, whereas non-alcoholic criminals, who as a group more often had biological fathers with histories of petty crime but without alcohol abuse, committed a small number of petty property crimes. In the Danish adoption material, where the number of court convictions served as an index of criminal involvement, those in adopted offspring were significantly correlated with those of their biological parents and so were the number of property but not of violent offences.

Three chapters concern molecular genetic variants. Several functionally significant alleles involved in impulsive and aggressive behaviour in man have been identified, and among these the evidence from neurochemistry, neuropharmacology, and occurrence in various psychiatric disorders all points to a major role for 5-hydroxytryptamine (5-HT) and other monoamines. Goldman *et al.* review the candidate genes involved in dopamine and 5-HT function. Brunner discusses the association of deficiency of monoamine oxidase isozymes and abnormal behaviour in the light of evidence from a large Dutch kindred. Virkkunen *et al.* report on a different approach, a survey of 5-HT polymorphisms in relatives of Finnish violent offenders and normal subjects.

Population considerations are discussed in the final group of papers. In a thoughtful paper Daly examines the evolutionary adaptational significance of criminal and

antisocial behaviour, and favours in explanation frequency-dependent selection, in which a variant is most successful when it is rare, as the process likely to be responsible for the maintenance of some variants of human behaviour. Chagnon describes individual and institutionalised violence in the Yanomama Indians and other primitive societies, drawing largely from his own field work. He sets his findings in an ecological and demographic context, and concludes that lethal conflict in such societies is not a pathology. The chapter by Glover develops the thesis that the discovery of a genetically based disposition to violent behaviour would not reduce the perpetrator's responsibility for that behaviour, and this leads logically to the final paper by Denno on the legal implications of results from genetics and crime research. She reviews first the way in which the XYY syndrome as a possible defence was treated in court and then discusses the attempts to introduce genetic testing in the defence of the convicted murderer Stephen Mobley. She concludes that even if closer causal links should be established between crime and specific genes, the problem would remain of the vague and inconsistent ways in which the legal system is likely to deal with such evidence.

This book, discussing genetics and antisocial behaviour from a wide range of viewpoints, is well up to the high standards of Ciba symposium publications. The chapters are well-organised, with adequate recent references. The discussions are sharp and add appreciably to the papers they consider. It is an informative and thought-provoking book that is well worth reading, especially by those interested in the vagaries of human behaviour and in behavioural genetics.

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The Politics of Health. Research in Social Policy, Vol. 4. Edited by J. H. Stanfield. Pp. 244. (JAI Press, London, 1996.) £47.00.

This is a collection of papers with no preface or overview from the editor, and with titles that do not give a sense of cohesion. However, as a volume in social policy, repeating themes appear throughout the volume: health, health care and its provision, and the tensions between providers and recipients, mostly in the United States.

The first paper, by the editor, presents an introductory paragraph to the volume, before developing his theme 'Sierra Leonean medical doctors and the Europeanization of West African tropical medicine, 1860–1920'. This offers a model for the study of the

politics of health care and medicine in the colonial context. The following paper considers the nature of AIDS service organisations, by way of a case study of one such organisation in Los Angeles County, United States. Unlike most other service organisations, those with AIDS as the primary focus have membership and functions which change rapidly, challenge classification, and are difficult to evaluate. The authors, Beaudin *et al.* recognise the limited generalisability of any case study, but elegantly describe the organisational web in Los Angeles (and probably elsewhere), where fluidity of relationships between donors, clients and service providers sets them apart from more traditional non-profit organisations. The third paper continues the theme of AIDS and health care by examining the development of a semi-autonomous local service system developed in Dallas, Texas, for people living with AIDS. Bielefeld & Scotch show how the growth of such a system is dependent upon local political culture and institutional structures. They conclude that local initiatives are unlikely to be as inclusive or comprehensive as those undertaken in response to federal requirements.

The fourth paper, by Spangler, examines the ways in which disease-focused all-volunteer social organisations differ according to cause in the United States. Divergence in activist mobilisation varies according to the nature of the disease in focus, government and medical action in place, the extent to which the disease is socially stigmatised, and the type of social movement model chosen by the activist group. In the paper by Simon *et al.* the attention turns to long-term care policies in Canada. The greatest area of conflict in long-term care is that of the relative provision of care from public, as against private, resources. The authors examine the tension between higher- and lower-level decision making and conclude that the Canadian example reflects healthy conflict, and is a model that the United States could learn from.

Paper six, by Smith, considers health delivery among Caribbean ethnic organisations in the United States. She argues that the social status of immigrant groups, and their ability to gain access to resources, is connected to their primary strategies for conflict management. With New York City migrant groups as her study sample, Smith demonstrates the importance of cultural factors in the delivery and uptake of health care provision. In the penultimate paper, Stanfield considers another aspect of health provisioning, that of medical training for ethnic minorities. He suggests that, despite the fact that sponsorship of ethnic minorities does little to change power structures in the medical profession (who would expect that it might?), there is an abundance of talented people among the minority communities who could develop the necessary medical skill if only they were given the same opportunities that more affluent and well-connected members of society had.

The final paper, by Wardwell, considers two dissenting groups from orthodox medical practice: osteopathy and chiropractice. The marginalisation of these two practices by the American Medical Association is interesting, since it shows how institutionalised medicine helps to define medical orthodoxy in the political arena.

This book has a number of interesting chapters, but suffers the problem that many edited volumes do: some lack of coherence. The absence of any real introduction is inexcusable. Despite this, the volume provides an interesting and broad-ranging comparative view of health provisioning and planning, which is far from comprehensive, but which presents a number of interesting case studies and ideas. It is

likely to be of interest to health service providers and planners, social scientists and medical anthropologists.

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Marie Stopes, Eugenics and The English Birth Control Movement. Edited by Robert A. Peel. Pp. 110. (The Galton Institute, 1997.)

This short but informative volume comprises a series of lectures given to commemorate the seventy-fifth anniversary of the establishment of Britain's first birth control clinic by Marie Stopes. The papers discuss Stopes' life and work and the foundation of birth control in Britain, as well as the work of the Marie Stopes Organisation today. Throughout the book the authors attempt to redress the negative image Marie Stopes has obtained today in the popular press. This book will appeal to those interested in the development of birth control in England and social historians of the era.

Marie Stopes (1880–1958) was a complex individual working in a highly contentious field. Her reasons for supporting contraception were varied and not all of them have become acceptable to public opinion in the late twentieth century. However admirable her desire for women to be able to enjoy sex free of the fear of pregnancy as well as to improve the quality of life for women and children in large families, it is not so attractive to suggest, as Stopes did, that birth control should be used to prevent our 'race sliding . . . toward the utter deterioration of our stock'.

Since the central theme of the book is Stopes' life, two of the lectures are of a biographical nature. In the first of these, 'The evolution of Marie Stopes' June Rose presents an overview of Stopes' family, childhood and work as a paleobotanist; her life 'before she became known to the world as a ''sexpert'' '. The scene is set for Stopes the trail-blazer. She appeared to have gained the confidence to take on the world in her later life from a strong, career-oriented mother and a highly successful academic career. In the Galton Lecture, Richard Soloway describes Stopes' somewhat turbulent relationship with the Eugenics Society. Stopes was a eugenicist throughout her life, believing that 'constructive birth control' could be a useful 'instrument of racial reconstruction and progress'. She joined the Eugenics Society in 1912 but the relationship became fraught. Initial problems stemmed from the belief of many orthodox eugenicists that contraception was dysgenic, in that it was leading to smaller families among the educated and more successful sectors of society. Stopes was also described as a 'quarrelsome person' who was difficult to work with. Eventually she had to separate from the Eugenics Society to form her own Society for Constructive Birth Control and Racial Progress and later, the famous mothers' clinics.

Two lectures concerning Stopes' work look at her correspondence and at the day to day running of the clinics. The sources of Lesley Hall's 'Marie Stopes and her correspondents: personalising population decline in an era of demographic change' is the huge number of letters Stopes received from the general public after she became established in the field of sex therapy and birth control. These are, as the conference's organiser John Peel points out in his introduction to the book, a unique and 'extremely

valuable resource for historical and sociological research'. Hall's chapter is amusing, tragic and fascinating; it seems that contraception and, indeed, sex were extremely confusing issues for the average man and woman between the wars. Stopes replies were generally kind and straightforward and the more likeable side of her personality becomes apparent. In 'Marie Stopes and the mothers' clinics' Deborah Cohen also provides us with a more favourable impression of Stopes. This paper is concerned with Stopes' practical work in birth control. Although Stopes preached that birth control was good for eugenics, it appears that in her clinics she was more concerned with the idea of 'the happiness of the individual woman'. The clinics were set up to provide advice and help for any woman, 'regardless of wealth or social standing', perhaps preventing contraceptions eugenicists would have encouraged.

The final paper, 'Marie Stopes International Today', by Patricia Hindmarsh, describes the excellent work of the organisation throughout the world. With the eugenic overtones no longer present Marie Stopes' work can be seen for what it always was; innovative and important.

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Nature and Society. Anthropological Perspectives. Edited by Philippe Descola & Gisli Pálsson. Pp. 310. (Routledge, London, 1996.) £45.00, hardback; £14.99, paperback.

The main theme of this volume is the place of nature and the environment in anthropological theory as well as social discourse. The editors admit that they are raising well-worn issues concerning conceptualisations of nature as well as the old nature–culture dichotomy, itself a philosophical touchstone of familiar binary oppositions such as mind–body, subject–object, etc. However their argument is that an attempt should be made to reinstate the study of ecology in a discipline that has recently been more concerned to view itself through post-modernist intellectual lenses. The resulting book is not only comparative in its ethnographic perspectives but also, to some extent, eclectic in its theoretical approaches: case-studies are presented from such areas as Amazonia, Japan and north-west Europe, while ethnobiology is juxtaposed with sociology of science and classic as well as recent developments in social theory.

As Descola and Pálsson point out, one common theme in the papers is the claim that a simple nature–society dichotomy prevents a 'true' ecological understanding. Most obviously, a dualist paradigm is not good at accommodating alternative 'ethnoepistemologies', not least in ethnographic contexts where nature–society dichotomies mean little or are remote from those assumed in western academic contexts. In addition, some authors criticise the dualist paradigm through a more general attack on creating oppositions between persons and environments.

Papers present multiple perspectives as well as styles in the ways they address issues in the study of ecology and the environment. The reader is therefore left to do much of the work of assessing degrees of comparability and compatibility between approaches and ideas. Overall, the contributors have produced a volume of a high standard that deals with some of the most basic issues in anthropology: relations

between 'selves' and 'others' in ethnography; the moral bases of relations to the environment seen in comparative perspective; the usefulness of natural scientific models in analysing the social world. Its readership should be broad within anthropological circles but also beyond.

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The Race Gallery. The Return of Racial Science. By Marek Kohn. Pp. 322. (Vintage, London, 1996.) £7.99, paperback.

The idea of 'race', which both fascinates and discomforts us, has been formally banished from the realm of science since the 1950s. Kohn's book explores the flow, ebb and renewed flow of 'race science' during this tortured century. The current decade, he says, is a transitional time in human affairs. The unsettled political and intellectual climate of the age threatens a new divisiveness. Old tribalisms are resurfacing; molecular genetics is redefining human differences.

In the eighteenth century, the German naturalist Johann Blumenbach identified Caucasians as humanity's front-runners. Echoing Carolus Linnaeus, the great taxonomist, he proposed four other races: Mongolian, Malay, Ethiopian and American. The 'Great Chain of Being' emerged: a hierarchical chronology of living forms with a progressive history that culminated in Caucasians.

There were two problems, however. First, physiognomic boundaries between races were manifestly blurred; variation was continuous. But taxonomic imperatives, coupled with nineteenth-century Romantic notions of the spirit, the *Volksgeist*, of each people, enabled the notion of racial separateness to prevail. History was the story of racial struggle; anthropology the study of racial variation. Second, how might progressive change occur in nature? Darwin offered a partial solution via the undirected process of natural selection. His erroneous assumption of inheritance by blending of parental characteristics was resolved by Mendel's demonstration of all-or-none heritability of pea characteristics. These seemingly non-negotiable Mendelian genes fostered the conservative eugenicist idea that human genes would breed true if racial mixing were avoided.

Decades later, in the 1930s, genetic mutation was elucidated, allowing new insight into the continuities of natural variation and population genetics. But by then, the agenda of early twentieth century race science was otherwise preoccupied. The National Socialists in Germany had now only to impose a totalitarian project to consummate the already thriving ideas of race science. The State had a prime duty to Nature's biological laws, declared Hitler.

Kohn thus charts the rise of race science and its subsequent postwar repudiation. The United Nations strove for a newly proclaimed universality. Alongside, science changed its concepts and terminology. Categorical typology was replaced with clinal gradients and interconnectedness. But conservative organisations and journals of classical race science have persisted. (The book's title derives from a controversial classical typological display in the Race Gallery of Vienna's Natural History Museum—a now discontinued display that persisted to 1996.)

Psychology has been the oft notorious forerunner in the race debate, theorising about differences in measured 'intelligence' between racial groups. The debate has climaxed in the USA, where hereditarians attribute black–white differences to genes while environmentalists posit social determination. The topic is socially inflammatory, yet the science is elusive. What is intelligence? Are there different types of intelligence (linguistic, logical, visuospatial, etc.) suited to dealing with different configurations of environmental and social challenge? Can we measure such constructs across diverse cultures?

There are chapters on population differences in sporting performance, on the physical and physiological correlates of latitude, and on the attributes of Australia's aboriginal populations. Subsequently, Kohn examines several case studies, especially Europe's long-persecuted Gypsies, the Roma. An unofficial campaign of enforced sterilisations of Roma in Czechoslovakia over recent decades approximates to racial eugenics. There are pervasive assumptions of their intellectual deficiency, ineducability and criminality. The Roma are different in looks, culture, language and behaviour. They came to Europe 500 years ago from northern India. There are competing accounts of their class origins—warrior Rajputs or untouchables? The truth is not as important as the fact that perceived racial status hinges on the argument.

The tension in the modern racial science debate is encapsulated in the Human Genome Diversity Project: a controversial proposal to sample blood from the world's dwindling, genetically distinct, ethnic groups. The molecular data would help science to piece together the story of ancient human migrations. But the target groups fear exploitative western science: this is a 'Vampire Project' that would take their life-blood, patent their genes, and stigmatise their genetic novelty. In 1994 the HGDP objectives were restated in terms of elucidating human diversity, history and identity; the debate continues.

Kohn sees the shadow of molecular genetics over the future science of human diversity. Although an anti-race science majority currently prevails, the postwar vacuum created by replacing biological with cultural theories has left unoccupied space for a cosmetically updated race science. We should therefore seek, he says, an optimistic new synthesis of biology and culture, a recognition of the complex diversity of humanity. We cannot constrain the science, but we can shape its moral and intellectual milieu in a new Enlightenment.

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Physical Status: The Use and Interpretation of Anthropometry. Report of a WHO Expert Committee. WHO Technical Report Series No. 854. Pp. 452. (WHO, Geneva, 1995.) Swiss Fr 71.00.

This book supersedes a series of classic UN and WHO publications on how to make decisions with anthropometric data. Recommendations for the appropriate use of the measurements now routinely obtained in clinical intervention, research and population assessment are brought together in one volume. The lay-out is strongly problem-oriented. Uses and limitations of existing indices and reference data in assessing

individuals, populations and responses to economic and health interventions are discussed in depth. Underlying rationales are explicitly stated and critiqued, and a wealth of caveats and modifications are suggested. The report moves forward by advocating new indices and analytic methods, identifying crucial gaps in current knowledge, presenting new results from research into the predictive value of various anthropometric indicators for obstetric and neonatal risk, and recommending new reference data.

Several features will be of value to students and practitioners in human biology, public health and community nutrition. In contrast to similar volumes which focus only on young children and women, the potential of anthropometry for evaluating people across the lifespan is explored in systematic detail. Separate chapters on neonates, infants and children, adolescents, overweight and thin adults, pregnant and lactating women and the elderly present the reasoning behind current methods of data collection, manipulation and interpretation. Each follows a similar layout: beginning with a general consideration of the social significance of anthropometry in the group of interest and the conditional interpretation of indicators; progressing through screening of individuals, to targeting and assessing population interventions; interpreting associations between malnutrition and its likely determinants and consequences; management and analysis of population data; methods of measurement; discussion of the sources and characteristics of any available reference data; and ending with a set of recommendations. These chapters stand alone and can be read as manuals for working with each population group.

The timely summary of current research needs provides a rich source of ideas for structuring new and relevant investigations. Areas of theoretical and methodological uncertainty, current gaps in causal understanding and deficiencies of reference data are clearly noted and discussed. Identified as particularly pertinent are future studies of the relation between changes in skinfolds and body fat during and after pregnancy, the functional relevance of indicators for adolescents, new techniques for assessing fatness in overweight adults, genetic versus environmental influences on obesity, the functional outcomes of low BMI among adults, and the relevance of anthropometry and norms for body size and composition among the elderly in different populations.

The case is made for revising global reference data, which must be well-constructed and useful far into the future. The report explains the need for new growth references to improve the nutritional management of infants. Problems with current references for assessing older children's growth and the health benefits of anthropometric changes during pregnancy are clarified. The need to develop better indicators of visceral and total body fat and health outcome related cut-offs for adults, to assess the usefulness of BMI for identifying nutritional problems in younger adults and across different settings. The many problems inherent in developing references are detailed at length, and the advantage of a flexible, location-, resource- and issue-specific approach to choosing assessment cut-offs is a recurrent theme. Where the Committee was able to recommend the use of existing reference data not previously made widely available (children's arm circumference, skinfolds and BMI for age of adolescents and young adults, and cut-offs for adult BMI by height), these are tabulated.

The book is extremely well organised, the prose clear and elegant. Helpful summaries and recapitulations recur throughout. Quibbles are that there is no index of

subjects covered, and that the glossary is somewhat limited and uneven in its coverage. While 'adolescence' and 'attributable risk' are defined, there is no explanation of many other terms frequently used in the text, such as 'positive predictive power'. Information in some tables is hard to digest because they sprawl across several pages; choice of a smaller font might have had greater positive predictive value for information uptake! An opening review chapter called 'Technical Framework' presents basic principles of anthropometric interpretation in an approachable and concise way. It would be valuable introductory reading in any methods course. Students will find succinct statements on such fundamental issues as the difference between a standard and a reference, the definition of a 'healthy population', consideration of sensitivity and specificity, and problems inherent in attempts to couple indicators and applications. An Annex on 'Recommended measurement protocols and derivation of indices' (p. 424), and nomograms and tables for estimating BMI, are useful.

This is an important report, and should become required reading for anyone collecting or analysing anthropometric data. The Expert Committee have done their job well; it behoves the rest of us to pay attention to the important principles and outstanding problems laid out here.

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