

- (2) VOLAVKA, J., MEDNICK, S. A., SERGEANT, J. & RASMUSSEN, L. (1977) Electroencephalograms of XYY and XXY men. *British Journal of Psychiatry*, **130**, 43-7.
- (3) BENEZECH, M. & BOURGEOIS, M. (1976) Le syndrome médicopsychosocial des polygonosomies (syndromes XXX, XXY, XYY, etc.). *Encéphale*, **2**, 305-15.
- (4) PATY, J. (1974) Les potentiels évoqués visuels en clinique humaine. *Bordeaux Médical*, **8**, 1087-106.
- (5) FISHER, R. A. & YATES, F. (1943) *Statistical Tables for Biological, Agricultural and Medical Research* (eds. Oliver and Boyds), Edinburgh.
- (6) PATY, J., VINCENT, J. D. & FAURE, J. M. A. (1976) Mécanismes neurophysiologiques d'états de déconnexion sensorielle sophronique. *Médecine Interne*, **11**, 2, 117-23.
- (7) McCALLUM, W. C. (1973) The CNV and conditionability in psychopaths. *Electroencephalography and Clinical Neurophysiology*, Supplement 33, 337-43.
- (8) HILLYARD, S. A. (1973) The CNV and human behaviour. *Electroencephalography and Clinical Neurophysiology*, Supplement 33, 161-71.
- (9) TIMSIT-BERTHIER, M., KONINCK, N. & DARGENT, J. (1970) Variation contingente négative en psychiatrie. *Electroencephalography and Clinical Neurophysiology*, **28**, 41-7.

INHERITANCE OF ALCOHOLISM

DEAR SIR,

We have read Cadoret and Gath's paper, 'Inheritance of Alcoholism in Adoptees' (*Journal*, March 1978, **132**, 252-8) with considerable interest. Nonetheless, we do not feel that their findings support their conclusions.

Leaving aside the fact that only 84 parents of the original 173 adult adoptees and only 45 of the adoptees themselves could be interviewed, we would like to question the separation of primary from secondary alcoholism in this study. This distinction presupposes an absence of predisposing psychological factors, but the authors themselves clearly have some doubts on whether a diagnosis of primary alcoholism in patients with a previous history of childhood conduct disorder can be justified. We also note that in one adoptive family, where the adoptee was an alcoholic, alcoholism in the biological parents was known to the adoptive parents. One can only conjecture to what extent this knowledge was relevant to the adoptee's ultimate development, and we feel that in such a case a genetic factor might well be out-weighed by environmental contributions. Hence, if this case is omitted and all alcoholics—primary and secondary—included, one finds that one alcoholic came from six families with alcoholism and seven from families without such a history. The difference using the odds ratio measure of association (Fleiss, 1973) is not

statistically significant ($P < .2$). If the two probable alcoholics are added, one compares two such alcoholic adoptees from six alcoholic families with eight from non-alcoholic families. Again the difference is not statistically significant ($P < .1$).

The highest degree of statistical significance claimed in this paper ($P = 0.0006$) is based on the pooling of data on first and second degree relatives of adoptees with primary and secondary diagnoses of alcoholism. However, since secondary alcoholism is stated not to appear to be associated with any particular diagnosis in the biological parents, the validity of this procedure must be open to question. Examination of Table 1B shows that of 6 cases where adoptees had alcoholism as a secondary diagnosis, depression appears as the primary diagnosis in 4 and 'bipolar mood swings' in a fifth, suggesting the presence of a confounding variable which Cadoret and Gath do not consider: a genetic loading for affective illness. But what then is to be learnt from the absence of affective disturbance in the biological parents of the secondary alcoholics?

In their quest for satisfactory data, the authors in some instances had to base the diagnoses of biological parents on 'vague remarks alluding to behavioural problems'. If such uncertainty surrounds the diagnoses of first degree relatives, what reliance can be placed on the diagnoses of second degree relatives? And can we be certain that all of these were known to the authors?

The aetiology of alcoholism is complex and varied depending as it must on a host of environmental factors, not the least of which are the availability of alcoholic beverages, attitudes of relatives and friends to drinking and the cultural determinance of patterns of drinking behaviour. In a study of this kind it is impossible to control the influences which have moulded the drinking behaviour of the adopted out individuals. However, until this is done, we contend on present evidence that cultural and environmental factors have far greater impact than any genetic predisposition, apart, possibly, from certain qualities of personality conducive to abnormal drinking behaviour.

F. A. WHITLOCK
J. PRICE
M. J. WESTON

*Department of Psychiatry,
University of Queensland,
Clinical Sciences Building,
Royal Brisbane Hospital,
Brisbane, Queensland 4029*

Reference

- FLEISS, J. L. (1973) *Statistical Methods of Rates and Proportions*. New York: Wiley Interscience.