sufficiency and reduces his dependence on others and thus removes one of the most harmful factors responsible for mental ill health. It is unfortunately true that on missions and settlements the Aborigine becomes over-dependent and lacks any sense of his own value. This, of course, varies from place to place and one of the happier exceptions is the Roman Catholic Mission at Port Keats, where they have recently built a most impressive hospital without any outside assistance.

In the two years from June, 1966, to May, 1968, there were 72 new psychotic patients, mostly schizophrenics, and excluding depressives who have been grouped together owing to the difficulty in subdividing the depressive states in the Aboriginal population. Total depressive syndromes in the same two-year period amounted to 47. Of the remaining 64 patients seen, 5 were alcoholics, and 23 suffered from personality or behaviour disorders, including a number of children showing evidence of retardation. Only 36 were classified as neurotics. The figures for behaviour disorders in childhood and for intellectual retardation are quite unrealistic because such children were frequently not being presented as psychiatric cases. Since the arrival of a clinical psychologist and since we have been making direct enquiries of the schools an increasing number of children needing guidance is coming to our attention.

The 5 alcoholics were all referred through the gaol. Most were showing acute symptoms following withdrawal of alcohol. It certainly does not give a true picture of the problem amongst the Aborigines, especially those who are fringe dwellers or whose mission or settlement homes are near enough to Darwin or any of the other towns for alcohol to be readily obtainable. There is a considerable problem of drunkenness in these areas and it leads to fighting, especially in the Aboriginal camp on the settlement. Until 1966, the Aborigine was not permitted to buy alcohol. He is thus in the very early stage of experimenting with his new freedom and the European community can hardly be said to set him a good example. It is difficult, therefore, to draw a line between heavy drinking as a newly acquired novelty experience and true alcoholism. Certainly, one of the five patients treated who were originally referred from Fannie Bay Gaol, Darwin, and who had been getting into trouble for drinking for a year or so, only needed to be returned to his original home where alcohol was not obtainable. He has shown no symptoms suggestive of any craving for alcohol since his return home.

A group of potential patients which has hardly come my way clinically as yet but which is aligned with the alcoholics, is that of the petrol sniffers. These are usually teenage youths, often sharing their experience, just as two or three alcoholics may drink together, and under the toxic influence of the petrol fumes carrying out antisocial acts sometimes directed against authoritarian figures. Thus, if young enough they come to the attention of the schoolmaster, or if older they may be reported to the police. So far they have been treated by disciplinary methods and rarely brought to the attention of the psychiatrist.

With the rapid increase in business interests in the Northern Territory — the new bauxite mining project at Gove with its envisaged town of 1,000 population — the new prawning industry at Groote Eylandt — and many other likely sources of much more interaction and association between the European and the Aboriginal population, it seems to me inevitable that we can expect an increase in the neurotic syndromes. Alcoholism may also present a very real problem. More time will need to be spent at the outlying settlements so that the psychiatrist and psychologist can do more than just treat the cases of mental disorder that occur. A programme of education will need to be planned to assist both the Aborigines and the Europeans who are going to be most associated with them. It is only through increasing understanding of the background and mode of thinking of the Aboriginal that we are likely to bridge the gulf between his concept of the world and ours. If each race could understand what is important to the other, and why, the future problems of mental health in the Aboriginal community would be considerably reduced.

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**COMPARISON OF UNILATERAL AND BILATERAL E.C.T.**

Few people doubt any longer the efficacy of E.C.T. in certain forms of depression. Unfortunately, the inconvenience of this method of treatment together with its side-effects often create an iatrogenic syndrome that in milder cases gives rise to a degree of disability greater than that due to the original illness. It was not surprising that the advent of the antidepressant drugs was greeted enthusiastically even though they proved in general to be less effective agents in combating depressive illness.

The side-effect of E.C.T. that creates most problems for the patient is disturbance of memory. Although in many the memory improves considerably within two or three weeks of the end of the course of treatment, minor difficulties often persist much longer. (Practising Psychiatrist, 1965).
Lancaster, Steinert and Frost (1958) declared that unilateral E.C.T. was as effective therapeutically as bilateral E.C.T. and yet produced less memory disturbance. Similar views were expressed by Cannicott (1962), Martin et al. (1965), Zamora and Kaelbling (1966) and Cannicott and Waggoner (1967).

During 1968, a number of papers appeared that reinforce these earlier views and demand urgent consideration. Zinkin and Birtchnell (1968) presented a number of stimulus items to patients either a few minutes before or one to two hours after E.C.T. Fifty patients were given unilateral (right-sided) and 52 bilateral E.C.T. The patients given unilateral E.C.T. showed significantly less anterograde and retrograde amnesia. The therapeutic effectiveness of unilateral E.C.T. both in regard to relief of symptoms and the number of treatments required was confirmed.

Valentine, Keddie and Dunne (1968) compared unilateral and bilateral E.C.T. and also the effects of convulsions induced by a pulse current of low power (bidirectional pulses of about one two-thousandth of a second duration, 750V peak-to-peak with a repetition rate of 21.5 per second for 5 seconds), with a sinusoidal current of high power (peak 260V, duration 1 second). Before each treatment, the patient was given a list of five paired associates and was asked to recall these after each treatment when full orientation had been re-established. Those patients given unilateral pulse current were able to name the day of the week correctly in a median time of 2½ minutes after treatment whilst the patients given bilateral sinusoidal current required a median of 30 minutes. Similar differences were apparent with the paired associate test. When the various groups were compared, it was noted that as far as post-treatment confusion and memory disturbance were concerned, those given unilateral pulse current faired best, those receiving unilateral sinusoidal current and those given bilateral pulse current showed little difference, whilst those given bilateral sinusoidal current suffered most severely. It was noted incidentally that spontaneous respiration began more quickly and consciousness was more quickly regained after unilateral E.C.T.

The patients were able to differentiate between these forms of treatment and many commented favourably on the newer techniques.

The comparative effects of pulse current and sinusoidal current have been studied previously by Ottoson (1960) and Cronholm and Ottoson (1963) who also concluded that pulse current was markedly superior to sinusoidal current.

In a further study by Halliday and colleagues (1968), bilateral E.C.T. was compared with unilateral E.C.T. given in some patients over the dominant and in others over the non-dominant hemisphere. Each group of patients showed a similar therapeutic response though there was some suggestion of a higher relapse rate in those receiving unilateral E.C.T. over the dominant hemisphere. There was a marked difference in the post-treatment recovery time, the unilaterally treated patients having the advantage. The patients in the dominant hemisphere group did less well than those in the non-dominant hemisphere group. They showed impairment on tests depending on verbal ability whilst the non-dominant group showed impairment on non-verbal tests. After three months, the impairment of verbal learning tests in the dominant treated group persisted whilst the non-verbal learning impairment in the non-dominant hemisphere group had disappeared. The bilaterally treated group showed impairment which persisted on both groups of tests; the degree of impairment tended to be greater than in either of the unilateral groups.

These studies comprise a strong body of evidence indicating that E.C.T. given unilaterally over the non-dominant hemisphere is as effective therapeutically as the traditional bilateral form and is free of side effects, notably memory disturbance. A strong case also exists indicating that pulse current has advantages over sinusoidal current. It is difficult to see that the administration of bilateral E.C.T. can be justified any longer, except perhaps in those cases where there is doubt about the patient's sinistrality. Indeed, it might well be argued that the continued use of bilateral E.C.T. is unethical and a source of potential medico-legal hazard.

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