

admit of transmission of an autosomal or partially sex-linked dominant gene, there being in each instance a "vertical" distribution of affected persons, of whom all had one affected parent so far as could be traced.

From the available evidence, we must either ascribe to this clinico-pathological entity alternative aetiological factors of such diversity as heredity and environment or agree with McMenemey (1940) that "both endogenous and exogenous factors may be involved in any given case with pathology of the Alzheimer type". It may be that, in the ostensibly hereditary cases, environmental factors determine the timing and degree of expression of genetic factors.

An interesting feature of this case was the acne rosacea which appeared simultaneously with the mental symptoms and was never present in the healthy twin. Lewis (1934) has reported discordance for acne rosacea and acromegaly in uniovular twins, whereas Hutchinson (1891) and Lesser (quoted by Siemens, 1926) describe hereditary cases of rosacea. The discordance of monozygotic twins for two genetic characters would favour the possibility of somatic mutation having occurred in one twin. In such a circumstance a gene with pleiotropic effects must be envisaged or disturbance of the gene complex by mutation allowing for the expression of a linked gene. Such mutation occurring in one of identical genotypes must be determined by environmental factors.

We have recently observed the association of Alzheimer's disease with rosacea in a second case. A third case of Alzheimer's disease, an emaciated patient, showed widespread bullous eruptions and skin atrophy which, together with the cerebral lesion, were confirmed at necropsy. These cases are of interest, since Schottky (1932) believed that hereditary impairment of the primitive ectoderm was probably a factor in Alzheimer's disease. The

validity of this theory could be tested by clinical scrutiny of the ectodermal structures and skin biopsy in early cases.

### Summary

Monozygotic twins discordant for Alzheimer's disease and acne rosacea are described. Neuropathological findings in the affected twin are reported.

Environmental factors are, of necessity, postulated to account for the discordance.

The significance of the findings is discussed in relation to aetiological factors in Alzheimer's disease.

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The neuropathological examination of this case of Alzheimer's disease was carried out by the late Dr. William Forbes.

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### CORRECTION

In the paper on "The Effect of Temporal Lobectomy upon Two Cases of an Unusual Form of Mental Deficiency", by D. W. Liddell and D. W. C. Northfield, in the November, 1954, issue, the E.E.G. in Fig. 6, page 270, should be transposed with that in Fig. 7, page 272.

