4
Investigations in Dementia

A. Psychological Testing

Measure your mind's height by the shade it casts:
   Robert Browning (1812–1889)

The role of psychometry is to assess in quantitative terms the behavioural changes that might be found in patients. The term behaviour when applied to demented patients refers largely to aspects of intellectual and memory function. As might be expected in an area so very individual, the measurement of personality function, and more particularly dysfunction, is far from satisfactory for general clinical purposes.

The concept of dementia has been discussed at length in Chapter 2, where it was emphasized repeatedly that the diagnosis, in the present state of knowledge, is a clinical matter. Patients do not present as demented to clinicians but come with complaints suggestive of deteriorating intellectual function, impaired memory and changed (usually for the worse and apparent in many instances only to friends and near relatives) personality, and the clinician satisfies himself that they fit the criteria for the dementia syndrome. The clinician then refers the patient to a psychologist who is invited to contribute usually to three areas in which the clinician is primarily interested:

1. Quantification, i.e. putting figures to, and establishing a baseline for future reference of, those changes detected in the clinical assessment of intellectual and memory function.

2. Testing and measuring areas of specific dysfunction in the patient's behaviour which might provide further information towards a differential diagnosis and clues to a possible aetiology. This is analogous to the role played by laboratory investigation and is further taken up below.

3. Measuring and establishing the areas of preserved function so that
while the patient’s disabilities are recorded, a note is made of his strengths and abilities which are made use of in management and basic rehabilitation.

It is necessary to be realistic about the limitations of psychometric assessment. Lishman (1978) has provided a clear, concise account of the role of the clinical psychologist in organic psychiatry. When it comes to dementia, it must be plain that it is necessary to interpret psychometric test results in conjunction with clinical and other laboratory data. As Lishman puts it, no single test will differentiate brain-damaged patients from others without some degree of overlap, and reliance on these tests alone is likely to produce misleading information.

The reason given by Lishman for this is that in their standardization, tests might have been employed on clear-cut cases whereas clinicians seek out special psychometric assistance when they are most in doubt. As we have repeatedly stressed, the diagnosis of dementia is based on clinical criteria but the ‘final arbiter’ of the cause of a dementing process is pathology and psychometric evaluation is at the same disadvantage as are all other investigatory procedures.

However, when the psychologist with his tests becomes an ally of the clinician, the partnership can become a considerably more powerful one. The clinician has the advantage that he is the arbiter of the diagnosis but the psychologist has as his stock-in-trade standardized tests which are numerically scored. Norms have been laboriously worked out, can now be read off tables and applied to the behaviour of the individual patient. Also these tests can be repeated with the expectation of reliable results even in the hands of another psychologist at another institution. Equivocal findings can be confirmed and the first readings can always be used as a base or a frame of reference.

Psychologists also have another advantage over the conventional clinician in that they can concentrate in greater detail on single areas of suspected dysfunction. The range of psychological tests is vast and even though only a few that we shall presently describe are used as first-line tests, several others are available as reserves and can be brought into play if a specific need arises. In this way minor memory or dysphasic difficulties can be explored in greater detail.

The principle upon which neuropsychological testing and interpretation are based is essentially a simple one. It is assumed that verbal and symbolic activity is a function of the parts of the dominant (usually the left) hemisphere and temporal and visuospatial activity is dependent on the non-dominant (usually the right) hemisphere. Left parietal lobe lesions, for example, are associated with difficulties with arithmetic, digit span and sentence learning: right parietal lesions with picture arrangement and memory for designs. On the tests of learning and retention the impairment obviously depends on the nature of the test material — verbal material is mainly affected by left-sided lesions (especially left temporal) and visual material by right-sided lesions (particularly right parietal).

The first edition of this book carried details of various psychometric tests