

## Pointers

**Hazards of Therapy:** Carcinogenic action of new therapeutic agents cannot be predicted from their chemical structure, and co-operation between laboratory workers and clinicians is of paramount importance in avoiding this potential danger (p. 129).

**Acrylamide Poisoning:** Six cases in Britain. Clinically characterized by peripheral neuropathy and a midbrain disturbance. Prevention is relatively easy (p. 134). Leader at p. 125.

**Fructose Intolerance:** Genetically determined metabolic disorder which may present in infancy, childhood, or adult life. It is prevented by excluding fructose from the diet (p. 138).

**Pulmonary Valve Closure:** Delay, causing splitting of second heart sound, observed in eight patients with renal failure. Splitting disappeared after correction of oedema. It seems a useful sign of fluid overload (p. 141).

**Role of Glucagon:** Blood glucose levels affected more by its glycogenolytic action than by its insulin release action (p. 145).

**Coronary Occlusion and the Thyroid:** Blood fibrinolytic enzyme system is probably influenced by thyroid hormones (p. 147).

**Fat Embolism:** Lipaemia found in series of patients followed after trauma, one-third of whom had fat embolism. Use of clofibrate in a second series reduced lipaemia, suggesting that the cause of embolism may be metabolic rather than traumatic (p. 149).

**Behçet's Syndrome:** Occurrence of aortic aneurysms emphasizes the general nature of this syndrome (p. 152).

**Case Reports:** Hepatic murmurs and anaemia (p. 154). Jaundice after carbamazepine (p. 155). Myelomatosis diagnosed by electrophoresis of C.S.F. (p. 156).

**Spare-part Surgery:** Recent advances in the use of inert, dead, or living foreign materials to replace or repair diseased or missing organs (p. 157).

**Paediatric Neurology:** Management of children with progressive neurological handicap (p. 162).

**L.S.D.:** Risk of foetal abnormality (p. 124).

**Gastritis:** Description of the two distinct and probably unrelated types and their clinical significance (p. 164).

**Scottish Council:** Meeting (*Supplement*, p. 17).

**"Better Medical Care":** Edinburgh Conference (*Supplement*, p. 18).

**Overseas Affairs:** Service overseas discussed (*Supplement*, p. 20).

**Consultant Merit Awards:** Results of ballot (*Supplement*, p. 22). Leader at p. 128.

**Medical Management Services:** B.M.A. Council's resolutions (*Supplement*, p. 23).

## Teaching the Behavioural Sciences

One of the most persistent criticisms of the medical curriculum has been that it paid too little attention to the teaching of psychiatry and of the psychological aspects of health and disease. As late as 1960 an international survey submitted to the World Health Organization could state that "in the United Kingdom and British Commonwealth psychiatric teaching in general is still hardly a legitimate part of the medical curriculum, in spite of the repeated requests for improvement, which have come from both faculty and undergraduates."<sup>1</sup>

There has been no lack of proposals how to incorporate into medical education the great advances in the study of normal and abnormal behaviour as well as in the treatment of mental disorders. The memoranda submitted to the General Medical Council by the Royal Medico-Psychological Association<sup>2</sup> in 1965 and the British Medical Association<sup>3</sup> in 1966 both emphasized the need for the teaching of behavioural sciences in the preclinical curriculum side by side with anatomy and physiology. A W.H.O. Expert Committee had made similar recommendations in 1961.<sup>4</sup> Possibly the first teaching programme in Britain based on these principles was the "Sheffield Plan,"<sup>5</sup> introduced from 1956 onwards. Psychiatric teaching in the clinical curriculum there was said to have two tasks: to bring home to the student the ubiquity of psychiatric problems, and to enable him to acquire some familiarity with psychiatric illness comparable to his knowledge of physical illness.

The objectives of psychiatric education and students' interest in psychiatry were discussed in a series of articles in an educational number of the *B.M.J.* four years ago<sup>6-9</sup> as well as elsewhere. Has anything come of this campaign? Surprisingly, more than might be expected from the usually slow pace of change in medical education. Several new chairs of psychiatry have been established in this country during the last few years, and in the 1967 Recommendations as to Basic Medical Education of the General Medical Council<sup>10</sup> psychiatry has for the first time been given the status of a major clinical subject. The need for the study of human structure and function being combined with the study of human behaviour has been stated more explicitly than before. A clinical clerkship in psychiatry with obligatory residence in hospital has been declared essential. The total period of clinical clerkships recommended is "not less than 18 months," an extension by three months over the 1967 Recommendations. In some medical schools a three-months clerkship in psychiatry is being introduced.

The incorporation of a new major subject into both the preclinical and the clinical course will require more than minor readjustments here and there. The General Medical Council Recommendations cannot be implemented without substantial changes in the curriculum. The Advisory Committee of the new Nottingham Medical School<sup>11</sup> has wholeheartedly adopted the new policies and recommended that the teaching of the behavioural sciences should run as a thread throughout the

preclinical and clinical courses. It should be the responsibility of a subcommittee of the curriculum committee chaired by the professor of psychiatry, with representatives from the departments of psychology, physiology, the social sciences, and community health. It will be interesting to watch how Nottingham, unfettered by established traditions and vested interests, will tackle this task. Here is a rare opportunity for starting something new and exciting.

Now that an official policy on the teaching of the behavioural sciences and psychiatry has been laid down, the problem of what to teach and how to teach it is in the forefront of discussions. Deeply established attitudes in the teachers, as in anyone, tend to influence their predilections. Psychiatrists are, like other doctors, the products of their medical education, which taught them mainly to recognize and to treat physical diseases. H. J. Walton and J. Drewery<sup>12</sup> have shown that there are several distinct types of psychiatric teachers differing in their preferences for the subjects to be emphasized in the teaching of medical students. A. C. Woodmansey,<sup>13</sup> for instance, wants the teaching to be focused on child and family psychiatry because it looms large in general practice and is fundamental to prevention. Such teaching, he argues, requires the student to have first-hand experience in diagnostic-therapeutic interviews and to be taught the principles of psychotherapeutic management. Similar views were expressed by M. Balint<sup>14</sup> and R. F. Tredgold<sup>15</sup> some years ago. Other teachers emphasize the descriptive aspects of mental disorders. Such diversity of approaches is inevitable and can be stimulating for the student provided no one approach monopolizes the whole of the teaching programme.

Differences in teachers' and students' attitudes to the organic and psychological aspects and causes of behaviour are unlikely to be due to their medical education only. Personality factors play an important part. This has been shown by Walton, Drewery, and G. M. Carstairs<sup>9</sup> in a study of students' interests in social and emotional factors of illness. Walton<sup>16</sup> has also studied the effects of different teaching methods. He set out to test experimentally the relative merits of teaching by lecture and seminar as methods of psychiatric instruction. Contrary to expectation, students taught by lectures did not gain more factual knowledge than students taught in seminar groups. In all other respects which mattered educationally, seminar group teaching proved superior. So students will in future be able to support their demands for fewer lectures and more seminars with experimental evidence—unless something is done about the quality of lecturing which should change students' attitudes towards

it. Psychiatric lectures came out with credit in another Scottish medical school when a multiple-choice examination was used as the measuring instrument.<sup>17</sup> In a recent American study<sup>18</sup> the response of newly graduated doctors to their psychiatric training received in medical school was assessed with the help of a questionnaire, but only 110 of 329 interns and residents replied. Of these, 20% considered psychiatry the poorest taught subject and 19% the least learned subject. Only surgery had a poorer rating. Though the results of this study are difficult to interpret, if only because of the poor response to the inquiry, they at least show that psychiatry was in good company.

## L.S.D. and Chromosomes

Despite the use of lysergic acid diethylamide (L.S.D.) both for therapy and for illicit self-administration our knowledge of its toxic effects is incomplete. In addition to the drug's acute and unpredictable hallucinogenic actions<sup>1</sup>—leading in some instances to permanent mental damage—it has now been suggested that L.S.D. has powerful cytogenetic effects. The great majority of people who take the drug are young, so that information on this action is needed with special urgency. Is L.S.D. as dangerous as thalidomide, and, if so, what is the evidence?

The first reports of genetic effects appeared earlier this year in *Science*. M. M. Cohen and his co-workers<sup>2</sup> in Buffalo added L.S.D. to cultured human lymphocytes in doses varying from 100  $\mu\text{g./ml.}$  to as little as 0.001  $\mu\text{g./ml.}$  for periods varying from 4 to 48 hours. The doses of 100 and 50  $\mu\text{g./ml.}$  killed the cells and arrested mitoses. All other treatments (with the exception of that with 0.001  $\mu\text{g./ml.}$  for four hours) resulted in at least a twofold increase in chromosome breakage compared with controls. The types of chromosome aberrations seen included dicentric and acentric fragments, chromatid exchanges, and chromatid breaks. Cohen's team showed similar damage to chromosomes in a patient who had been given L.S.D. 15 times between 1960 and 1966 in doses varying from 80 to 200  $\mu\text{g.}$  The study was carried out eight months after the last treatment.

More recently workers from Oregon<sup>3</sup> have found similar chromosome damage in eight users of L.S.D. who had received between 4 and 200 doses with a mean estimated dose of between 200 and 600  $\mu\text{g.}$  Again, chromosome and chromatid breaks and exchanges were seen. In two users there were repeated findings of a chromosome resembling the Philadelphia ( $\text{Ph}^1$ ) chromosome seen in cells of patients with chronic myeloid leukaemia.<sup>4</sup> L.S.D. has also been shown to cause abortion, stillbirth, congenital malformation, and reduced litter size in rats injected with the drug early in pregnancy.<sup>5</sup> The same study showed that some of the surviving progeny developed less well than did controls.

Much more work is needed to study the effects of L.S.D. on the chromosomes and on mutations, as well as to assess its teratogenic danger. At this stage, however, it can be stated with certainty that L.S.D., as well as being a potential risk

<sup>1</sup> Wld Hlth Org. Publ. Hlth Pap., No. 9, 1961.

<sup>2</sup> Royal Medico-Psychological Association. Memorandum on Medical Education submitted to the General Medical Council, 1965. London.

<sup>3</sup> *Brit. med. J. Suppl.*, 1966, 1, 116.

<sup>4</sup> *Wld Hlth Org. techn. Rep. Ser.*, No. 208, 1961.

<sup>5</sup> Stengel, E., *Lancet*, 1961, 2, 418.

<sup>6</sup> *Brit. med. J.*, 1963, 2, 575.

<sup>7</sup> Hill, D., *ibid.*, 1963, 2, 581.

<sup>8</sup> Ellis, J., *ibid.*, 1963, 2, 585.

<sup>9</sup> Walton, H. J., Drewery, J., and Carstairs, G. M., *ibid.*, 1963, 2, 588.

<sup>10</sup> General Medical Council. Recommendations as to Basic Medical Education, 1967.

<sup>11</sup> University of Nottingham. Report of the Medical School Advisory Committee, 1965. Nottingham.

<sup>12</sup> Walton, H. J., and Drewery, J., *Brit. J. Psychiat.*, 1966, 112, 839.

<sup>13</sup> Woodmansey, A. C., *Brit. J. med. Educ.*, 1967, 1, 183.

<sup>14</sup> Balint, M., *Lancet*, 1961, 2, 1051.

<sup>15</sup> Tredgold, R. F., *ibid.*, 1962, 1, 1344.

<sup>16</sup> Walton, H. J., An experimental study of effects on medical students of three methods of teaching psychiatry. Ph.D. thesis, 1966. Edinburgh.

<sup>17</sup> Ingram, I. M., Mowbray, R. M., and Drewery, J., *Lancet*, 1961, 2, 358.

<sup>18</sup> Castelnuovo-Tedesco, P., *Arch. gen. Psychiat.*, 1967, 16, 668.

<sup>1</sup> *Brit. med. J.*, 1966, 1, 1495.

<sup>2</sup> Cohen, M. M., Marinello, M. J., and Back, N., *Science*, 1967, 155, 1417.

<sup>3</sup> Irwin, S., and Egozcue, J., *ibid.*, 1967, 157, 313.

<sup>4</sup> *Brit. med. J.*, 1966, 2, 719.

<sup>5</sup> Alexander, G. J., Miles, B. E., Gold, G. M., and Alexander, R. B., *Science*, 1967, 157, 459.