With proper choice of ultrasonic dosage they have rendered mice monoplegic by destruction of one half of the spinal cord without demonstrable injury to the skin or subcutaneous tissues which transmit the converging ultrasonic beam. Similarly, focal lesions have been produced in basal ganglia of living cats using a stereotaxic technique.

Histologic studies show that fibre tracts of C. N. S, are more vulnerable than aggregates of cell nuclei or vascular structures. The destructive action of ultrasound is apparently a result of mechanical strain combined with a rise of temperature at the focus of beam. Trypan blue staining and radioautography using P_{32} have been employed to identify lesions one hour after irradiation. The authors conclude that the technique offers a useful method for investigation of nature of blood-brain barrier and for placing discrete lesions within human brain at predetermined sites.

BOOK REVIEWS

PSYCHOPHARMACOLOGY. EDITED BY NATHAN S. KLINE, PP. 165.

Publication No. 42 of the American Association For The Advancement Of Science, Washington, D. C., 1956.

The present volume is based on the material presented at a symposium organised by the section on Medical Sciences of the A. A. A. S. and of the American Psychiatric Association at Berkeley on December 30, 1954. It deals mainly with two new drugs, chlorpromazine and reserpine, which seem to many investigators as harbingers of a new era in psychiatry. The monograph contains valuable information on the use of these drugs in the treatment of mental diseases. The authors have succeeded in emphasizing that these drugs can be considered not only as therapeutic agents, but also as research tools which might throw considerable light on neurotic and psychotic dynamics.

There are ten chapters in all. The first seven chapters deal with the clinical applications of chlorpromazine and reserpine in psychiatric disorders. The eighth chapter discusses their pharmacology and emphasizes the fact that these drugs, though structurally dissimilar, resemble each other and are members of *groups* of drugs and have many congeners. The last two chapters are devoted to the antagonism between mescaline and chlorpromazine and the mechanism of action of LSD25 and serotonin.

It is rather surprising to find a large number of mistakes in writing the structural formulae in the monograph. Leaving aside the chart of Sandoz Ltd., there are only nine formulae out of which seven contain some mistake or other. The heterocyclic nitrogen of the indole ring in reserpine and yohimbine (page 135) and in serotonin (page 151) lacks the hydrogen atom. The secondary alcoholic group at C^{17} in the alicyclic ring E of yohimbine (page 135) has been wrongly depicted. The methoxy groups in mescaline (page 148) have not been properly written, though they have been correctly

shown in the same compound on (page 156) and in the trimethoxybenzoic acid fragment of reserpine (page 135). In epinephrine (page 150) the carbon atom containing the methylamino group lacks the hydrogen atom. Likewise the iminazole ring of histamine (page 151) lacks the hydrogen atoms and one double bond. The primary amino group of mescaline (page 156) has also been wrongly depicted. In addition, a few typographical errors as sympathominetic (page 151, line 5) have been overlooked.

Whether so sweeping a term as psychopharmacology is warranted or not, there is no doubt it is a thought provoking subject and opens new vistas for a fruitful co-operation between the neurophysiologist, the pharmacologist, the chemist and the psychiatrist. Monographs like this are "bound to accelerate the trend toward making mental hospitals therapeutic, rather than custodial, institutions."

K. N. S.

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