VOL. II MARCH 1941 No. 3

EDITORIAL OFFICES
UNIVERSITY OF TEXAS SCHOOL OF MEDICINE
800 AVENUE B., GALVESTON, TEXAS

BUSINESS OFFICES
PHYSICIANS POSTGRADUATE PRESS
500 NORTH DEARBORN ST., CHICAGO, ILLINOIS

PRINTING OFFICES
ALAMOGORDO ROAD, EL PASO, TEXAS

DISEASES of the NERVOUS SYSTEM

(PUBLISHED MONTHLY)

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

EDITORIAL COMMENT

Brain-Damaging Therapeutics

Among the explanations advanced to account for the success of the various shock methods of therapy in the psychoses, that of actual damage to the brain has not received adequate attention. Cobb, indeed, warned against the use of insulin on account of its deleterious effects. It is known from the work of Ferraro and Jervis, and others, that prolonged insulin coma causes irreversible alterations in the ganglion cells, often distributed over large areas of the cerebral cortex, but concentrated particularly in the association areas. Furthermore, examination of cases recovering after intensive insulin therapy has yielded many examples of "organic" defects in the thinking processes. Recently, however, Wortis and Lambert, in a series of cases of prolonged insulin coma, reported a surprising percentage of recovery from the psychotic state.

The theory that insulin acts through withdrawal from the blood of the sugar essential for neural activity has been well substantiated through the work of Himwich. There comes a point in the process, however, where even the injection of large quantities of glucose cannot bring about a reversal of the coma. Then, according to Wortis and Lambert, the administration of whole blood may bring about rapid awakening, but with the schizophrenic process replaced by an "organic" one that may last for a longer or shorter period.

Whitehead and Neubürger find that metrazol shock therapy brings about changes somewhat resembling those in hyperinsulinism and it is well known that the administration of repeated shocks, especially if they occur close together, leads rapidly to confusion, forgetfulness, and disorientation. Probably, the convulsions bring about damaging but reversible changes in the brain, since metrazol has no effect upon the metabolism of brain cortex in vitro, and since non-convulsive doses of metrazol seem merely to alarm the patient without otherwise influencing his psychosis.

Before the shock methods were introduced, occasional satisfactory therapeutic results were obtained by the use of barbital narcosis, sodium amytal injections, and carbon dioxide inhalations. All of these substances have been found to reduce the oxidative processes in brain tissue. Most spectacular was the original observation of Lorenz and Loevenhart that, upon intravenous injection of sodium cyanide into a catatonic patient, the individual awakened from his trance-like state and talked for the first time in months.

All of the above-mentioned methods are damaging to the brain, but for the most part, the damage is either slight or temporary. The apparent paradox develops, however, that the greater the damage, the more likely the remission of psychotic symptoms. Surpassing the shock methods in terms of demonstrable injury is the Egas Moniz operation of prefrontal lobotomy where the subcortical nerve fibers are destroyed surgically. Immediate arousal from catatonic and depressive states has been reported, and the results are often permanent.

It has been said that if we don't think correctly, it is because we haven't "brains enough". Maybe it will be shown that a mentally ill patient can think more clearly and more constructively with less brain in actual operation.

WALTER FREEMAN, M.D.
Washington, D. C.