

RECENT ADVANCES IN NEUROLOGY AND PSYCHIATRY

DWIGHT M. PALMER, M.D.,

Chairman, Department of Neurology and Psychiatry,
The Ohio State University

The last few years have witnessed notable advances in the fields of Neurology and Psychiatry. World War II has served as a vast experimental laboratory in these areas. Modern explosives and present day combat conditions resulted in a large number of brain injuries, some of which were the "open type" of head injury with exposure and laceration of the brain, but a larger number were of the "closed type" of head injury in which the brain is damaged but not exposed. In the field of psychiatry, World War II made it possible to evaluate the psychiatric status of between ten and fifteen millions of Americans who were supposedly in the prime of life. The amazingly large number of these who were found unacceptable for military duty was one of the most alarming pieces of information to come out of the war. Those who were taken into military life were subjected to the rigors of that abnormal existence, and in the process many thousands broke under the strain. It is now well agreed that the major factor in those breakdowns was the conditioning of the personality before induction into military service rather than the actual war experiences, terrible though they may have been.

The large number of neuro-surgical cases that were seen in the War has resulted in many improvements in technique and management. One of these is the use of the substance, fibrin, in neuro-surgery both as a "glue" for severed nerves and in the form of sheets to cover the brain after it has been exposed by injury or after operation. The use of the metal, tantalum, in the repair of nerves and to fill in skull defects is becoming well known. The tissues react much less to tantalum than to other metals which have been used in the past.

The operative procedure of prefrontal lobotomy has been employed in more and more cases in recent years. In this operation an attempt is made to free the cortex of the frontal lobe of the brain from some of its thalamic connections. The functional correlation is a loss of stereotyped emotionally-directed behavior and a turning of the patient's interest away from himself.

The war resulted in a very large number of cases of the interesting condition known as causalgia. This condition was first described at the time of the Civil War but comparatively few cases are seen in civilian practice. Causalgia follows injury to a peripheral nerve, particularly the median nerve, and is marked by burning pain, increased sweating and the signs of vasoconstriction. Studies have shown that this is due to increased sympathetic activity and that it can be relieved by blocking or cutting the sympathetic pathway to the involved area.

The subject of epilepsy is receiving increasing consideration. Much work has been done with the electroencephalograph in studying the brain activity which determines the convulsive and related phenomena. Several new drugs of an anticonvulsant nature have appeared, one of which, Tridione, seems to be particularly effective in treating the petit mal type of the disease. Petit mal Epilepsy is characterized by lapses of consciousness which last 5-30 seconds. During this interval the patient is immobile and out of contact with the world. The attack ends suddenly and he goes on about his business. There may be as many as one hundred of these attacks a day.

The disease, anterior poliomyelitis or infantile paralysis, has been the subject of intensive investigation from many angles. A recent viewpoint which has gained support in recent months is that infantile paralysis is really a systemic disease which is quite widespread and that it is only occasionally and in the late stages that neural manifestations appear. Thus it is believed that the paralyzed

cases constitute but a small percentage of the actual patients with this virus disease. In the treatment of polio, the use of the drug, prostigmin, has been advocated but its value is not as well authenticated as an article in a recent issue of the *Reader's Digest* would lead the public to believe. This only serves to emphasize that lay magazines are apt to be poor sources of technical information.

Alcoholism continues to grow as a neuropsychiatric problem but receives comparatively little medical attention. Recently a treatment for the breaking of the chronic alcoholic habit has been detailed and tested. It is a form of conditioned aversion response in which the reaction is built up in the patient by giving him drugs to cause nausea and vomiting along with his liquor for several days. It should be understood that this treatment is used merely to break a vicious cycle and that its use should be followed by intensive psychotherapy.

Favorable reports continue to appear on the subject of shock therapy for a large variety of psychiatric conditions. Insulin shock is still used in many locations but the trend is definitely toward electro-shock with many variations in technique being introduced. Recently it has been shown that most remissions in the disease occur shortly after discontinuation of the treatment. During a course of treatment by shock therapy it is important for the doctor to be able to distinguish accidental, organic reactions which may occasionally occur. Otherwise the reactions may be mistaken for a part of the original illness reaction and the treatment may be unnecessarily prolonged.

The use of certain drugs to facilitate the investigation of the unconscious field of the mind is becoming more widespread. The procedure is called either narco-analysis or narcosynthesis. The drug permits the patient to talk about material that would be intolerable to him in the fully conscious state. For these procedures the patient is given a rapidly acting barbiturate drug by intravenous injection. The drug is given slowly until the patient is in a mild state of narcosis. Suggestion is then given much as in hypnosis, and then additional drug is given until the narcosis reaches a level in which the patient recalls his memories freely. As the patient comes out of the narcotic state he is given an opportunity to accept his unconscious material and suggestion treatment is used to help him formulate a more adequate synthesis of his reactions.

The recent war did not produce any new psychiatric entities but the conditions under which it was fought gave a new coloring to the basic picture of psychoneurosis. In former wars, particularly in World War I, the common picture was that of hysteria. The First World War was characterized by trench warfare and by dog-fighting aerial combat on a small scale. World War II was fought under much more terrifying conditions—massed aerial attacks against highly concentrated air defenses, precision bombing with tremendous explosives culminating in the atomic bomb, huge battleships, numerous submarines, rocket missiles and flame-throwers. In this type of warfare the predominant psychiatric reaction was that of anxiety rather than that of hysteria. Speaking in general terms, anxiety is a deeper psychopathological reaction than is hysteria. There is ample evidence to indicate that modern warfare has become so threatening to life as to be incapacitating to thousands of young Americans. It is not out of place to state, that while it is possible that there may be no limit to engineering genius, there is reason to think of a limit to which the human mind may be traumatized by war. Modern warfare has become so terrorizing as to approach that limit, and men's minds may eventually break down under the abnormally threatening environments which they have created.

It has been said that, "Those who do not learn History's mistakes are condemned to repeat them." There is a distinct possibility that if the world does not heed the mistakes uncovered by World War II we may never be given another opportunity. It is a mistake to attempt the construction of a democratic society of adults when those adults were reared in homes where democracy was not

practiced. Children must learn to emancipate themselves from their parents before they can live without paternalism in government. And they must also learn to curb their selfish drives in order that they may live in a cooperative society. It is also a mistake for a people to fix their allegiance on purely material things, that is to be guided by a purely materialistic philosophy. Material things are individual and personal, while non-material, spiritual values attract group allegiances. A country that relies on purely material values is composed of a multitude of striving individuals and it will lack the common purpose which comes out of a spiritual faith. A nation of individuals may well fall before a nation which has a common goal based on a group idealism.

REFERENCES

- American Journal of Psychiatry, January, 1946 issue (Vol. 102, No. 4).
Journal of Nervous and Mental Disease, May, 1945, issue (Vol. 101, No. 5).
Yearbook of Neurology, Psychiatry, Endocrinology for 1945. Chicago, The Year Book Publishers, 1946.