CONVULSION THERAPY IN WAR PSYCHONEUROTICS.

By RANKINE GOOD, M.B., Ch.B.,
Senior House Officer, Carstairs Hospital.

[Received March 22, 1941.]

THIS communication is a summary of convulsion therapy in a series of 40 cases admitted for psychoneuroses occurring in war-time. It comments on similarities and differences observed during treatment as compared with the convulsion treatment of psychotics, and discusses the psycho-dynamics of convulsion therapy. It is assumed that the reader is acquainted with the elements of convulsive treatment and the various phenomena which may result therefrom.

Material and Results.

The cases selected for treatment consisted of patients who did not respond or who were judged unlikely to respond to ordinary psychotherapy and whose symptoms necessitated treatment before their disposal from hospital.

With regard to the material, of the 40 cases treated between June, 1940, and January, 1941, 37 were members of the fighting services (Army or Air Force), one a member of the Polish Navy, one a member of the Mercantile Marine (a survivor from the torpedoed "Athenia"), and one a W.A.A.F. With the exception of the latter, they were all males. The ages of the patients ranged from 18 to 42 years. With no exceptions, the state of their physical health was excellent. A few had recently recovered from fairly serious illnesses, two having had meningitis a few months previously and one an appendicectomy nine months previously.

Of the 40 cases, 23 had been engaged in actual fighting, or had been subject to enemy action such as machine-gunning, bombing and shell-fire. With one very dubious exception, all cases had shown psychoneurotic traits in infancy and childhood, e.g. abnormal dependence on their mother, excessive solitariness, enuresis, nail-biting, excessive blushing and shyness in company, sedulous avoidance of aggressive acts, such as school fights, frequent and recurring nightmares. The vast majority of the cases showed that the condition for which they were admitted to hospital was at the most but an accentuation

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

of a pre-existing condition, e.g. one patient had a return of childhood enuresis, another had had a hysterical condition of his legs, while another said, " I was always nervous and got worse."

Purely for the purposes of description the cases were divided into the groups hysterias (18), anxiety neuroses (4), cyclothymias (7), schizoid types (8), and psychopaths (3) (D. K. Henderson's definition). Actually, one case might show symptoms belonging to more than one category, e.g. a schizophrenic showing conversion symptoms, or an anxiety-neurosis with conversion symptoms. Classification was made according to the basic underlying state. The reason for the inclusion of two frank schizophrenics into this otherwise psychoneurotic series was, first, that their admission had been sought under the belief that they were psychoneurotics, and, secondly, because of their interest from a psycho-pathological point of view. Those grouped under cyclothymia had the undoubted cyclothymic constitution, but differed from the frank manic-depressive in that suicidal thoughts were absent from the depression for which they were admitted.

With the exception of an occasional dislocated jaw, there were no complications save one I have never before witnessed in over 3,000 convulsions.

This patient, a man, aged 36, an hour after the termination of the convulsion (he had insisted on getting up, dressing and going about, and the exact time of onset was therefore uncertain) was reported to have a rash and to be spitting blood. This rash consisted of profuse petechiae on his face, neck, inner shoulders and upper chest on a dusky crimson background. The whole appearance exactly resembled a case of traumatic asphyxia I have seen. In his case the dusky crimson flush and petechiae extended down his chest almost to the xiphisternum within an area bounded by a semicircle centred at the supra-sternal notch. Physical examination at the time was negative, nor did subsequent examinations by X-ray, etc., reveal abnormality. The Rumpel-Leede, pin-prick and sternal percussion tests were negative. Specialist examination revealed no abnormalities save for an area of congestion in the nasal mucosa, from which the blood in the sputum was judged to have come. A moderately tightly buttoned neck of an undervest was the only explanation to account for the rash (producing excessive venous congestion), though I have never seen this complication arise previously from such an inadvertency and am very sceptical about it being the cause, all the more so since the area did not correspond with the neck of the undervest. The origin of it must remain in doubt as the patient refused further treatment. The rash disappeared within a week of its onset.

With regard to the results of treatment, it may be stated at once that these are as poor as they are in psychotics—but for entirely different reasons. The main reasons are given in the general considerations.

Excluding 8 patients still in hospital, only 11 returned to duty. Of these 11 only 3 were returned to full duties, the remaining 8 being regraded. Of the " failures," 3 were transferred to hospitals for psychotics and a return to duty in these cases is highly unlikely. Of the 11 who returned to duty, 7 were hysterics, 2 cyclothymias, 1 schizoid and 1 a psychopath. Of the 3 who returned to full duty, 1 was a hysteric, 1 a cyclothymic and 1 a psychopath.

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

Fairly representative of all the cases treated are the following four examples:

CASE 1.—Male, aged 32, admitted on July 6, 1940, when he presented a hysterical paralysis of both legs (and inability to walk) and a hemianaesthesia of his entire left side. This latter had permitted the lighted end of a cigarette to burn a small portion of his upper left chest and a small shallow ulcer remained as factual evidence of the occurrence. In addition to the hysterical symptoms, there were organic findings in the left leg suggesting an old poliomyelitis—diminished tendon reflexes and some wasting of the calf muscles which were not tender to pressure. The plantar responses were equivocal. To all his symptoms, organic and functional, he displayed complete indifference.

Mobilized at the outbreak of war, he remained in good health until January, 1940, shortly after he had been posted to an area which was repeatedly subject to concentrated enemy raids, when he began to complain of sharp pain in the left instep. Despite remedial measures, which included massage and exercise, he became permanently bedded in March of the same year. The affection spread to his hands and arms and ultimately he was unable to feed himself until (the patient himself did not notice any connection) his wife informed him that his discharge papers had arrived home, when an improvement in his arms set in.

On July 18, 1940, he was given 2·5 c.c. of cardiazol (intended to be a sub-convulsive dose) and convulsed, immediately afterwards displaying a strongly negative therapeutic attitude. He was instructed to observe that he could now use his legs, having drawn them up into the flexed position. He retorted that I had placed them in that position—which was quite true as I had done so immediately at the termination of the convulsion and before he had recovered consciousness. Despite this attitude, however (or more probably on account of it), and his very ill aspect, he was supported and forced to walk around the ward (his frequent vomiting and pleas to be allowed to rest himself being ignored) until he was able to walk unaided. He caused not a little consternation among his comrades the same evening by walking unaided into the dining-room for tea.

Some time before his discharge home on September 28, 1940, he began to complain of pain in his shoulders, for which nothing physical was found to account.

CASE 2.—While going out to post a letter on April 12, 1940, this unmarried female, aged 21, tripped and fell over an obstruction and came down heavily on the concrete floor. She "came to" in the sick bay three days later and remained therein until May 12, as she could not stand when she tried to get up. Even the effort of sitting up caused her to "have faints." Until her admission to this hospital on December 2, 1940, her history was one of invalidism. During this period, her hysterical inability to walk had been encouraged by the diagnosis (since rescinded) of subluxation of the third cervical vertebra. She was treated on this assumption for three months and was kept lying flat with her head and neck sandbagged on either side.

On her admission to this hospital one instantly became suspicious of a schizophrenia underlying her hysterical symptoms—her secretive, suspicious attitude and, under cyclonal narcosis, her grandiose talk concerning her mother's fourth footman. The tentative diagnosis was subsequently confirmed—she was a schizophrenic who presented hysterical symptoms.

Her inability to walk was removed by one cardiazol convulsion (she walked unaided the same afternoon to the hospital gates, a distance of approximately 300 yards, and back), but she was quite oblivious of the fact that she had been unable to walk before, and, after she had had a sleep, that she had been walking the same afternoon—of bad prognostic import, see below.

A few days later, in place of the inability to walk, there developed a persistent hysterical vomiting which yielded slightly to a further convulsion, but, the basic diagnosis of her condition now being clear, she was removed to a hospital for psychotics on January 15, 1941.

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

CASE 3.—This man, aged 24, was so nervous on his entrance medical examination on March 15, 1940, that he was regarded as physically ill and confined to the sick room three days later. Between then and his admission to this hospital on June 24, 1940, he had been in various hospitals, where his heart complaint was unsuccessfully treated by many physical measures.

He was a typical case of the effort syndrome, the onset of which he related to an attack of scarlatina when he was eighteen years of age, but there was no doubt as to its psychological origin. He had always been of a nervous disposition (" even if a football came near me, I was shaking in case it would hit me "), had been brought up very strictly from the viewpoint of morality, and his sexual relations (in a married life which he described as " very happy ") were characterized by a fairly severe degree of ejaculatio praecox after the birth of a first and only child four years previous to admission, until sexual relations were finally abandoned owing to an emission occurring before penetration. Even before it was abandoned coitus was rarely indulged in (six months to one year), because immediately afterwards he suffered from an attack of his effort syndrome. (From the age of 18 until enlistment he was treated every 2–4 weeks by his civilian doctor as a case of " mild myocarditis.")

After a convulsion with cardiazol on July 3, 1940, he remained free of heart symptoms until his dismissal from hospital on July 29. He began to walk, however, with a hysterical limp, and explained that this was due to his boot chafing an unduly prominent left os calcis which had never previously given him trouble. Further treatment was refused.

This man's volunteering had been compulsive. " I volunteered to get the thing off my mind. I never thought much of it before and, to tell you the truth, I don't know what made me go and do it."

CASE 4.—This man, aged 23, explained in a friendly manner at the first interview how his faith in doctors was entirely shattered save in the one who had diagnosed the (hysterical) paralysis of his right arm as a brachial neuritis and who had told him " that will become worse, and it will take a long time to get better." I would be well advised, therefore, to spare myself the task of noting the details of his case, and himself the trouble of relating his story for the fiftieth time. (Actually, this was not the exaggeration that it first might appear. From the onset of his paralysis the day before he was drafted to France at the end of June until his admission to this hospital on January 7, 1941, he had been seen by exactly 22 doctors and had been in five hospitals.) The correctness of the two pronouncements of the doctor whose judgments he favoured was, he said, obvious by his arrival at yet another hospital for treatment which, he was convinced, would not benefit him. Here he made a slight forward movement with his shoulder (the greatest he was capable of) in order to call attention to the powerlessness of his arm, and to demonstrate the dusky blueness of his hand compared with the normal colour of its functioning fellow. Although it was demonstrated to him under $3\frac{1}{2}$ c.c. of cyclonal that he could, of himself, turn over the pages of his pay-book with it and also undo and then tie his tie with the hand and arm which he previously thought almost powerless, the effect was transitory.

Before the administration of a convulsive dose of cardiazol on January 31, 1941, he had professed a willingness to get better, although he admitted that he might have more incentive to do so were he to be returned to " civvy street." But after the convulsion, as he was wiping the froth from his lips and the sweat from his face, using his " paralysed " arm, now of normal colour, with the towel I had given him, he uttered despairingly in reply to the question as to why he was in bed, " Because I haven't got the strength," and in reply to the further question, " For what ? " answered, " To get better."

Fundamentally this man seemed to be a borderline case of paranoid schizophrenia. (It is a very noticeable fact how quite a fair proportion of all the hysterics seen in this hospital show an underlying schizophrenic psychosis or a markedly

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

schizoid personality.) He invariably used the major portion of his interviews to deliver himself of philippics concerning the matron, who had, he said, grievously insulted him personally by distributing Red Cross cigarettes, the brand of which was not liked, to all his comrades in the same block. He was considering writing to the War Office about it. Every action she performed and her every utterance was construed by him as a personal insult, and it was with great difficulty that he restrained himself from " taking his hand to her." She was also the source of certain misgivings he now held with respect to women, including, he hesitated to mention it, his own wife and mother, whom he didn't care if he never saw again. The latter he had seen vividly in a picture (? hallucination) when, as his first injection of cyclonal was being administered, he burst out laughing at the curious sight of her cooking the dinner. He then went on to abreact in a somewhat violent manner certain imaginary experiences he had had in France. (Actually he had been in no fighting during the eight days he had been there.) " I have killed him —give him the bloody bayonet, man—what you've been taught to do. . . . James (a friend)—you're dead, James—I will have my revenge—I am swimming in their blood, James." He then requested a light for his cigarette, and on my approaching him with a lighted match started back affrighted and exclaimed, " That's a time-bomb ! " At other interviews (when he felt as if he were doped) he wondered if the pain he complained of at the back of his head were not influencing his brain. In one dream in which he felt a " turn " coming over him he shouted for unforthcoming help, and still in his dream awoke from the turn in an asylum which was frequently referred to by him in his conversations.

With regard to the " failures," the criterion of judging these was not their failure to respond to cardiazol therapy (actually all cases save Case 2 improved in varying degrees), but their probable inefficiency as members of the fighting services. Those were not returned who could be depended upon to relapse after a greater or less period after their return to duty. This estimation was reached from a combined study of their previous histories interpreted in relation to their present symptoms, and those in turn interpreted in relation to their personality as judged personally together with facts acquired from other sources, such as observations of the nursing staff.

To return to duty, relieved by cardiazol of the depression for which he was admitted, a man who had, in civilian life, regular attacks of an incapacitating depression two to three times a year would have been unfair both to the man and to the fighting service to which he was returned. Similarly with those cases where the precipitating factors of the neurosis were so trivial and the possibility non-existent of making any radical alteration in the patient's viewpoint as to rob these factors of their pathogenic power.

Similarities and Differences.

No difference was noted between the behaviour of psychoneurotics and psychotics in the latent phase between the administration of the cardiazol and the onset of the convulsion. Both types in this phase show evidence of intense unexpected fear before the onset of the convulsion cuts this short. No difference between the convulsions in the two cases is to be noted, nor are there any differences to be observed in the immediate post-convulsion behaviour. This

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

behaviour can almost invariably be classified into four groups : First, " primary narcissistic," in which, e.g., the patient derives intense enjoyment from stroking his own body ; second, oral, in which, e.g., the patient hangs on to the mouth-gag with great tenacity, spits or replaces the gag in his mouth after determined efforts to secure it once it has been removed ; thirdly, anal, in which, e.g., the patient may indulge quietly and ruminatively in coprophagia ; fourthly, phallic, in which, e.g., masturbation is indulged in. Any one of these activities may exist alone or co-exist with activities characterized by one or more of the remaining groups. Very frequently an aggressive component enters into these four activities, the aggression being directed either to the patient's own person (as, e.g., savagely plucking an elevated pustule from his own face, digging his fingers into his own arm, or determinedly masturbating), or against the person of a bystander (e.g., heavily stroking the sister's arm, to be followed by determinedly and repeatedly poking his finger-tips into her axilla, then taking her forearm and making it quickly revolve around the circumference of an imaginary circle, saying at the same time " Ccch- Ccch- Ccch- ! " after the fashion of an infant playing at trains—the performance being so commented upon by sister).

Also, as in the case of psychotics, the post-convulsion " confusion " has the same characteristics—the disorientation and the complete amnesia for the injection and often for the events preceding the injection for some time as elicited by the question, " Why are you in bed ?" In reply, an astonishing number of varied answers are given, and not infrequently afford valuable insight into the mental state of the patient, e.g. " I don't feel like getting up this morning," " Because I'm sick of the hospital." See also under Case 4. (This amnesia is remarkably like a hysterical fugue, and can be gradually filled up to the first muscular twitches by persistent questioning.)

The most noticeable difference in connection with this treatment of psychoneurotics as compared with psychotics is that in the former this period of post-convulsion confusion is of much shorter duration, the majority of them insisting on getting up well within half an hour of the termination of the convulsion and resuming normal occupations. It was confirmatory of an opinion expressed in a previous paper (Good (1), 1940) that the duration of this confusion (in psychotics) can be used as a prognostic sign, being most favourable to eventual " recovery " when of short duration. The theoretical significance of this is commented upon below, and a practical instance of it is noted under Case 2.

Most noticeable in the treatment of the two types of mental disorder was the presence of fear and anxiety. In all cases treated the presence of these could be demonstrated, and it may at first sight seem strange that those men who bore (at the time) with comparative fortitude and bravery the brunt of enemy action should so persistently resist the apparent trifle of an intravenous injection, of which previously they had received not a few, but of a different admixture. The presence of anxiety can be easily demonstrated in those cases in which it might at first be thought absent, e.g. it may become evident *after* the

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

injection and during the amnesic period when the patient forgets the injection has been given—he may excitedly and fearfully exclaim that he is for no injection, or its presence can be unmasked by unintentionally administering a dose intended to be convulsive in its effects but which proves to be sub-convulsive. The almost invariable refusal of further treatment in the 40 cases after the first injection (even though they often admitted that it helped them) is a most certain measure of this fear.

Psycho-dynamics and General Considerations.

Starting with no preconceived hypothesis as to the mode of action of cardiazol, in so far as it applied to mental disorders, the hypothesis advanced by the originator of the treatment (an essential biological antagonism between epilepsy and schizophrenia) had to be discountenanced early, chiefly on two considerations. The first was that some psychoses (e.g. manic-depressive) reacted much better to this treatment than did schizophrenia (which does poorly), and the second fact was that very good results were obtained in a few cases treated entirely with sub-convulsive doses. (The reason why all patients were not so treated was referred to in a previous paper—Good (2), 1940.)

From a study of approximately 200 psychotics treated with convulsive therapy, the conclusion was reached that a psychological explanation for the results of this treatment was necessary. This hypothesis is to the effect that the psycho-dynamics of the therapy consist of a displacement of the anxieties associated with the revival of a primal psycho-pathological situation (reactivated by the precipitating factors of the illness, such as bombing) on to the cardiazol situation. It would seem not so much a hypothesis as a description of actual fact, e.g. anxiety over the possible effects of masturbation, anxiety over being a mental adultress, anxiety about being an outcast remote from any hope of salvation, anxiety about being a possible victim of a homosexual assault, all changed to anxiety concerning treatment and their original anxiety was forgotten. It is obvious how the dissociation of affect so resulting will have an eminently beneficial effect on the mental state of the patient, in that whereas before treatment the anxiety was associated with an (unconscious) conflict (which conflict was reactivated by the precipitating factors of the illness and which reactivation gave rise to the production of symptoms), the anxiety now becomes displaced and related to a concrete situation (the cardiazol situation) after the manner of the creation of a phobic symptom. Further, from the study of the psychotic cases, there appeared to be little doubt that the anxiety experienced as the result of the administration of cardiazol was closely akin to, if not identical with, primal anxiety.

These points seemed amply borne out from the study of the 40 cases treated in the present series, and received unexpected confirmation in a way not hitherto forthcoming.

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

Until his return from active service in France, this man throughout his 39 years of life had been subject to a fairly frequent and recurring nightmare in which he invariably found himself in the " bathroom " (lavatory) ferociously and savagely assaulting an old lady by repeatedly knifing her. (In his associations to this, he said the old lady was not like his mother. He called his mother " the old lady.") From this dream he invariably awoke bathed in perspiration and filled with the most intense and indescribable horror. After his experiences in France, in May–June, 1940, this dream gave place to a second recurring dream in which he was either about to be taken prisoner (as had happened in reality), or else was ferociously assaulting an enemy soldier by repeatedly bayoneting him (this had no basis in actual fact). Accompanying this second dream there was precisely the same affect with its physical concomitants—the intense and indescribable horror as he lay bathed in perspiration. The third dream had again precisely the same affect as the first two, and it occurred a few days after his first injection of cardiazol when, the snowy weather preventing the execution of the normal hospital routine, he had lain down one afternoon and dreamt that sister and some orderlies had come in upon him to prepare him for a further injection. He had started up determined to resist to the uttermost, but sister had ordered, " Knock the feet from him." As he was struggling, a tall, fair doctor (again the patient's associations led him to deny the first thing he had thought of, for he didn't think the doctor was like me) appeared to give the injection, but the patient continued to resist against it. Things in the dream then became jumbled, but he remembered something being sprayed on to his face in order to quieten him to permit of the injection being administered. At this point the patient, filled with the same horror, half awoke and(in reality) came rushing downstairs, half-dressed, vociferously protesting that he was for no injection until he became fully aware of his surroundings, when he calmed down, though still very much shaken.

Besides lending support for the theory of displacement of anxiety to the cardiazol situation, his dream is indicative of the major points which loom large in the treatment of all psycho-neurotics in the fighting services. His second dream is a typical " battle dream " which is so frequently encountered during the treatment of psychoneurotics, particularly those suffering from an anxiety neurosis. In the second place, the dream is interesting in that it is demonstrative of the extent of the psycho-pathological material which would have to be worked through (some psychic conflict in connection with his mother which had occurred in infancy) before one could produce anything in the nature of a radical cure which would prevent a return of his neurotic symptoms—which were not first manifest, as he had originally stated, after his war experiences, but had occurred four years previously as a result of a driving accident. Most important of all in connection with the treatment of war psychoneurotics, of which he was fairly typical, the dream indicates how the working through of this psycho-pathological material would be entirely prevented by the resistance of the patient to treatment—not only to cardiazol but to psychotherapy generally, of which the incident in the dream was symbolic. His attitude generally was one of uncompromising non-cooperation which, in his case, was quite conscious, as was also his desire to be quit of the army. It was indeed in the endeavour to overcome his negative therapeutic attitude that convulsion therapy was used as a last resort when, owing to his unresponsiveness, other methods of treatment had failed. With the refusal of further cardiazol treat-

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

ment one was therefore at an impasse and had to abandon him as a psychotherapeutic possibility.

It must not be thought that he was alone in his attitude among the cases treated with cardiazol. He was very much the rule rather than the exception.

Examples of the negative therapeutic attitude (the determination—conscious or unconscious—to retain symptoms, or, on their removal, to substitute them by others) were given in Cases 1, 2 and 3.

Yet another example of this attitude may be given from still another patient. To hear the drowsy murmur of admission from the depths of cyclonal narcosis (after a lengthy period of treatment with ordinary psychotherapy, towards the end of which he had retailed a dream in which he refused to go through an operation—nature unknown—by myself) that " I've done my bit. I'm only fit now for ' civvy street,' " yet to persist in treating his paralysed arm with cardiazol as a last resort, is perhaps not only submitting cardiazol to a very unfair test, but also transgressing one of the primary tenets of psychotherapy as applied to psychoneurotics, viz. that without the patient's co-operation and will to get better no treatment can be of any avail.

This is the undoubted crux of the therapy, irrespective of what line of treatment is adopted. Thus while cardiazol does have its definite uses in the treatment of psychoneurotics by demonstrating, e.g , the correctness of the diagnosis and, in a few cases, expediting the removal of symptoms, before formulating any fixed opinions as to the relative inefficacy of cardiazol therapy, it is well in all fairness not to blame the lack of beneficial effects of the drug, but to consider first if the mental state of the patient is lacking in the desire to be made well enough to function again as an efficient member of the fighting services.

Nevertheless, with regard to the successful cases, it will be observed that, if the previously-mentioned hypothesis of anxiety be the correct one, the improvement produced as a result of convulsive therapy is, at the most, but a very superficial one, and can in no sense be justifiably spoken of as a " cure," though it might be referred to with some reason as a " remission." It would appear that this remission is dependent upon the continuance of the anxiety state the patient is left in as the result of treatment, the anxiety state perhaps not being patently demonstrable as such mentally (albeit the anxiety is easily revived), though manifesting itself in the psychosomatic sphere by, e.g , undue sweating or a persistent raising of the blood-pressure beyond its previous normal—phenomena hitherto unexplained on purely somatic grounds alone.

Although, as previously stated, the number of cases returned to the fighting services was so small, it should be borne in mind that all cases treated with the exception of Case 2 improved in varying measure concerning the symptoms for which they were admitted.

Finally, it may be remarked that, as was the case in psychotics, the phenomena of a permanent amnesia (as distinct from the universal and immediate

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press

post-convulsion amnesia) was met with, though only in one case. And, again as was the case in psychotics, no reason was found to attribute the phenomena to other than a psychologically motivated occurrence, a very marked and pre-existing affectively-toned relationship being demonstrable between the patient and the thing forgotten—the permanent mislaying of a bullet picked up as a souvenir from in front of the Maginot Line. The occurrence of such an amnesia, therefore, is not to be construed as a worsening of the patient's mental condition but as exactly the opposite. The forgetting is, in fact, indicative from the theoretical point of view of the reinstitution of repression which, from its previous incompleteness, permitted the production of symptoms. A quantitative measure of this repression is, I think, to be found in the duration of the post-convulsion confusion, and provides a theoretical explanation of why, in psychotics, the shortness of the immediate post-convulsion confusion may be justifiably regarded as a favourable sign. It would also explain why in psycho-neurotics no elaborate description of the aura experienced as the result of the administration of cardiazol is forthcoming despite persistent questioning—their repression as compared with psychotics is so strong that the recollection of the aura is quite blotted out, unlike the situation in psychotics, where (in those patients whose co-operation can be secured) a relationship can sometimes be demonstrated between the aura and the probable psychogenic factors of the psychosis.

Summary.

All cases treated, save one, in a series of 40 selected cases of war-time psychoneurotics improved in varying measure as a result of convulsion therapy, though the ultimate prognosis as to the return of these patients to duty is poor. This, in practically all cases, is not due to the inefficiency of treatment, but to the negative therapeutic attitude of the patient. The best results are achieved in those cases where the effect of the removal of the symptom on the patient is most impressive, e.g. hysterical inability to walk. Similarities and differences between convulsive treatment of psychoneurotics and psychotics are described. The psycho-dynamics of the therapy are discussed and the theoretical significance of certain phenomena are considered.

I am indebted to Col. C. D. Bruce, Superintendent, Carstairs Hospital, for permission to publish these cases, and to Dr. J. D. Sutherland, Assistant Physician, Carstairs Hospital, for his constructive criticism of the script of this paper.

References.

Good, R. (1940), *Journ. Ment. Sci.*, **86**, 491.
Idem (1940), *ibid.*, March, **86**, 260.

https://doi.org/10.1192/bjp.87.368.409 Published online by Cambridge University Press