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Mutism in the Soldier and its Treatment. By COLIN MCDOWALL, M.D., late Capt. (Temp.), R.A.M.C., Ticehurst House, Ticehurst.

MANY varieties of functional disturbance are found in men enlisted for the present war, and not the least interesting is mutism. In a hospital set apart for the treatment of nervous disorders many cases of complete loss of speech are met with, and these may be divided conveniently into three main categories as follows: Mutism arising in the field, in hospital, and previous to participation in active service.

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Loss of speech occurring in the field is nearly always due to close proximity to the explosion of a shell or mine. The man is frequently blown into the air or knocked over and buried, but this is not always the case. Men have described to me how one shell after another fell near them in rapid succession, and though not close enough to inflict any physical injury, yet the mental effect was so great as to produce a state of complete helplessness and subsequent loss of voice through fear. The men can tell when a shell is near them by the sound produced as it travels through the air, and some have described the sensation of being thrown up by a shell explosion. One patient, a warrant officer, said that he felt as if he was being distended with air. On the other hand, many can give no details of any kind. It would appear that the main effect of shell explosions in one's immediate neighbourhood is to produce a highly emotional state. It is not to be wondered at that men under heavy shell fire experience many emotions. They know only too well what a shell can do, for they have seen what shells have done, and they can judge to a certain extent if a shell is about to fall near them. They cannot say how near, but the uncertainty, danger, and noise put what they call "the wind up them." That is the soldier's expression for an emotional state characterised by fear.

It is not so easy to prove how great a part emotion plays in the production of mutism in those cases in which a man is violently thrown into the air or is knocked over by concussion. The actual explosion lasts only a minute fraction of a second, but the mental effect, if the victim retains his consciousness, must be intense. That he has no recollection of the explosion in no way disproves that he was momentarily conscious of it. On admission, at any rate, these subjects of mutism exhibit many signs of extreme emotion due to terror—tremor often generalised, rapid breathing, marked corrugations of the forehead, and a restless, shifty manner. There is another type of case in which dulness, apathy, and depression are the leading features, and this type is most frequently observed when deafness is a superadded symptom. These cases are of such frequent occurrence that they will be referred to again.

At a home hospital it is almost impossible to obtain reliable histories with details of the onset of the patient's trouble, and men are only too ready to attribute their condition to shell-shock, though subsequent inquiry may fail to furnish any evidence. My belief is that mutism, as seen in soldiers, is due to various causes, but all of an emotional character, and once a condition of speechlessness has been produced this state is prolonged by the inability of the man to overcome an inhibition, and thus regain the control of a voluntary mechanism which he does not understand. In most instances ignorance, and in many indifference, prolongs the trouble.

The symptoms accompanying mutism are not invariable, but the

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point of most importance is the condition of the respiratory apparatus. Frequently a case cannot hold his breath for more than twelve or fifteen seconds. The respirations are rapid and shallow. The man is unable to take a deep breath, and he cannot blow out a match a yard away. The volume of breath on powerful exertion is only poor. Such is the condition in a typical case, and it does not appear to matter how long he has been ill, as cases of six or seven months' duration have exhibited the same respiratory signs. This description, however, needs some qualifications. If a man is on the point of recovery his respiratory troubles are by no means so marked, and in the cases of home troopers, and indeed in all cases in which emotion could not be assigned as a causal factor, the respiratory disturbances are not present. Other, but not invariable, accompaniments of mutism, are inability to cough, whistle, and put out the tongue—the latter a suspicious indication of a not straightforward case. Some patients are unable to arrange the lips correctly for the production of certain sounds, and the tongue does not strike the teeth when an attempt is made to produce dentals. On recovery all have a certain amount of hesitation in their speech, and absence of this impediment must be considered a suspicious sign. The recurrence of mutism after some weeks and even months is quite common, and here, again, the emotional character of the cause is very evident.

The first series of cases will refer to mutism occurring in the field.

No. 62, an N.C.O., æt. 23. No history of previous nervous disorder or heredity. A clerk who enlisted in the second month of the war, he did little training, but was chiefly employed in an office. He went to France, and on the way up the line had to fall out twice with a weakness in the legs. He was in the trenches one month. They were shelled out of their first line of trenches, and retired to the second. He was told that he was buried, but he cannot remember anything about it. He lost his speech and hearing, and could not see with the right eye. His hearing returned in two days; a month later when he came to Maghull he was mute, but two days afterwards he spoke. He was lying in bed half asleep when someone bumped against the side of his bed. He uttered an ejaculation. Three months later he went home for the day, and as he got out of the train he saw another N.C.O., a great friend of his, who he thought had been killed by the same shell that blew him up. Naturally he was much surprised and hurried up to greet him. He put out his hand and said "How" . . . but could say no more. He continued to be mute for ten days, but suddenly recovered his speech when he replied "Good morning" to my salutation. He was very tremulous and speech was indistinct. The tremor quickly disappeared, but the stammering persisted for three months. Shortly afterwards he again lost his speech. He was incorrectly accused of having removed some writing paper from an office, and again he became very tremulous and his speech faint and hesitating.

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Such a history is quite a usual one following shell-shock and burial. Hearing returns before speech. The recovery of speech was spontaneous and could not be attributed to medical treatment. The circumstances attending the recurrence of mutism is interesting as demonstrating the relation to the obvious stimulation of the emotions. The unexpected meeting of the man he thought was dead, and the unfounded accusation of pilfering, were not the only painful factors acting upon him, as he had a family trouble about which he sought my advice. The subsequent history was uneventful, and there have been no relapses. His neurasthenic state has greatly improved. Here, then, we have a not quite simple case of shell-shock, for he had in addition an irritating mental factor, and when this was removed the risk of relapse disappeared. Although it is not usual to find such complications in mutism, the possibility of their existence should not be overlooked. Shell explosion of itself is sufficient to produce loss of speech, but under proper treatment a simple case speedily responds. When relapses do occur, or suitable treatment proves unsuccessful, the whole mental field should be sifted and the sources of irritation removed.

No. 54, private, æt. 21, went to France in February, 1915. On April 23rd he was blown up by a "Jack Johnson." He remembers hobbling away, but discovered that he was very shaky, and that he could not speak; but his memory of the shock is not very clear. When examined three months later he had no tremor, was mute, and could not whistle or cough. He passed out of my hands, but returned six months later looking very well and healthy. He was happy and cheerful, but still quite mute. He had various ill-defined pains: "his heart felt like a bruise," "there was pain at the angle of the jaw," etc. Breathing exercises were at once begun. He whispered clearly in twenty-four hours, and could phonate loudly in two or three days. He was discharged to his depôt, and did quite well for a few months, when on saying good-bye to a draft that was on its way to France, he found himself giddy and upset, and his voice became whispering and feeble. He was readmitted to Maghull, and regained his voice in a few days. In this case it may be interesting to mention that a few months before war broke out this man was working on a submarine. He accidentally made contact with the electrical apparatus and received a violent shock. He lost his speech on this occasion for three hours. It is therefore possible that suggestion had something to do with his attack of mutism following shell-shock. The only other point of interest is the long continuation of the functional disability—he was dumb fully nine months. When first he regained his speech he talked only during inspiration. This condition I have not uncommonly seen in other cases. It appears to me probable that he could have recovered the power of speech sooner if he had made a determined effort. Men have come under my care suffering from various functional troubles after they had passed through numerous hospitals with little or no improvement in their condition. They had often been told "you will get well now; this will be your last hospital." This is no doubt very

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sound suggestive treatment, but when not successful it becomes highly discouraging by repetition. So it is not difficult to imagine how heartily sick of hospitals these poor fellows become. They have no intelligent conception of their illness, no one takes the trouble to explain it to them, and so they drift on, tired of trying to bring back a faculty the simple rudiments of which they do not understand. But let them get into a hospital where the atmosphere is entirely different, and where they will come under new experiences, then they may be induced to make a stronger and possibly final effort. So far as my experience goes, nothing is easier to cure than mutism, and no class of case responds more readily to proper environment. For this reason they are always welcome in my ward. One recovered mute infects another with confidence and hope, more especially if the treatment adopted in each case is the same, and simple enough to appeal to the patient's intelligence.

Another man went to France after a year's training, and five months later was blown up by a shell. He says that he lost consciousness for a time; he found himself the same evening in a dressing station, but he could not speak, and his hearing was imperfect. He was trembling. After five weeks his hearing had become normal. When he came under my observation he had been dumb for six months, excepting that he had been heard to say "Dash" when he burnt his fingers, about a month before I saw him. Under the usual treatment he spoke loudly and with only very slight hesitation after an interview of about quarter of an hour's duration. It should be noted that in this case the patient could hold his breath tolerably well, and his breathing was not rapid. After recovery I suggested to him that he could have talked sooner if he had wished, and he admitted that he had not made a great effort to get well. He was happy in hospital, and having got quite used to dumb show the loss of speech had not been a great inconvenience. In fact, he had got into a groove, and was content to remain there. This type borders on the malingerer. In several respects he was rather an inferior man; a barman in civilian life, rough, uneducated, rather cunning, but at the same time dull and lacking in initiative.

No. 69, private. He was buried by a shell. "This is what has been wrote to me; I don't remember." He was unconscious for six hours, and then found that he was deaf and dumb. After five weeks the hearing returned to one ear. He came to Maghull seven months after the shell explosion. This was his eighth hospital in England. When questioned as to what treatment he had had he answered, "I had really no treatment, only experiments," although in various hospitals electricity and anæsthetics had been tried. He regained his speech for three days in a previous hospital after a game of cards, but when he came to Maghull two months afterwards he was quite dumb, and in a very perverse frame of mind. He professed himself heartily tired of hospitals, and had no faith in himself or any medical man. Under the circumstances it was thought prudent to leave him alone, and allow the hospital atmosphere to produce in the patient a more readily receptive mental attitude. Three nights later during sleep he was heard to call out loudly, "Take the wire off." He was dreaming of the events immediately preceding the shell explosion. He spoke to the nurse who waked him. The next day he spoke, but only on inspiration. He

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could fully expand the chest, and hold his breath for twenty-six seconds. For permission to quote this case I am indebted to Capt. Reeve.

I have included this example of mutism relieved during a dream, because, though not unusual for a mute to speak in a dream, on regaining consciousness he usually becomes silent again. Dreams are occasionally the cause of men losing their power of speech. One case lost it eight times, always as the result of the same dream. On each occasion he woke up agitated, breathless, sweating, and speechless.

Another example of deaf mutism occurring in the field may be given.

No. 60, æt. 19, a shipyard worker, of fair education (Standard VII.) Since childhood he had a lisp. No heredities. Within three weeks of arrival in France he was blown up and completely buried by a shell. He remembers the shell coming, but when dug out he was deaf and dumb. He also remembers being carried away. He was in a French base hospital for some months, and then in one at home for a month. He was able to whisper during the latter period, but could not hear. He again lost his speech by bumping into a man in the street. When he first came under my care he appeared very dull and stupid; the lips were kept open, but the complexion was florid and healthy. Treatment along the usual lines was adopted. He heard the raised voice almost at once; a few minutes later he could hear a whisper. His speech then received attention and he spoke almost at once, and at the end of twenty-five minutes he left the room with perfect hearing and only very slight hesitation in his speech. This case is probably an example of the type referred to by Lieut.-Col. Myers when he deals with the stuperose condition associated with shell-shock. The man looked very dull. A sudden noise produced an immediate blinking of the eyelids. I wrote on a piece of paper "You can hear"; but he shook his head and appeared quite indifferent to his position. He was then given a mirror and instructed to look at my eyes as reflected in it. The unexpected noise was repeated, and he saw his own eyelids react.

Such an experiment naturally raises the old problems. Was the man able to hear before? Is this condition the result of prolonged stupor? Was he a malingerer? Why did he not hear much louder sounds before? All these questions, excepting malingering, are very difficult to answer. I do not consider these men malingerers. Some patients describe how they heard sounds, but were unable to distinguish them, as they all felt like vague rumblings. These men do not realise that this is hearing. They are not accustomed to describe things accurately, they take or leave things as they find them; and if they cannot hear properly they are rather inclined to think that they cannot hear at all. Our patient had had a rather long railway journey the day before I saw him, yet he denied that he had heard the train moving or anything else, and I am prepared to accept his statement. His mental condition was distinctly one of apathy, and he appeared to be quite indifferent to

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external things, and wholly lacking in initiative and energy. Now that he has recovered his facial expression is entirely altered.

The second group of which I desire to speak comprises those who develop mutism in hospitals after return from overseas. This group nowadays exceed the former, and this is no doubt due to the fact that treatment is undertaken in special hospitals in France.

No. 104, a private in the R.E., married. He went to France in October, 1915, and was partially buried by a shell at Christmas, 1916. He was very shaky after the explosion, but would not report sick. Next day he was worse, and, although advised to do so, would not leave his company as his younger brother was in it. However, the following day he was obviously so unfit that he was sent to hospital. He could speak and hear. He returned to light duty, and then obtained leave to go home for ten days. Two days after arrival there one of his children became ill and died the same day. An inquiry was held, as it was thought that the cause of death was cerebro-spinal fever, and it was suggested that he had brought the infection with him. He was accordingly sent to an isolation hospital. He lost his speech suddenly as the result of "thinking." Two months later he came under my care. He was mute, the head was shaking, and there was marked tremor of the arms and legs. He was very emotional and depressed. He could hold his breath for fifteen seconds only. His efforts to blow out a match were unsuccessful, and he made facial contortions when urged to increased efforts. The breathing was improved by demonstrations, and then the sudden artificial contraction of the abdominal muscles, applied in the middle of a long expiration, produced a sound. He was very pleased, but became highly emotional. Next day he whispered, and on the following day he spoke, but with a very bad stammer.

This is a fairly typical example of mutism occurring as the result of strong emotion. We have, firstly, the shell explosion; next, the home-coming; later, the tragedy of his child's death; and lastly, the suggestion that he might have been the cause of infection. The fact that in the first instance he refused to leave his brother is evidence how strongly family affairs entered into his life.

No. 62, a private, æt. 24, single. He had been in France for eighteen months and seen a good deal of fighting. In August, 1916, he was wounded through the right side of the face, the bullet passing across the floor of the mouth, and making its exit in the side of the neck. The tongue was not injured. At the same time he received two other wounds, and when lying wounded, a shell exploded close to him, covering him with earth. When invalided to England he was able to talk, but not loudly. He was returned to his depôt, and his voice became quite strong again, but shortly afterwards it began to fade away, and ultimately he became mute. He said that he received no treatment; the desire to treat him was not absent however, as the experiment of

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throwing a bucket of cold water over him when he was in a hot bath was unsuccessfully tried.

When first seen at Maghull he was an anxious-looking man; his respirations were 24 to the minute; he could cough but not whistle, and he complained of a "feeling in the chest as if it were too tight." The day following treatment he whispered, and the next day he spoke but with a very bad stutter. Why the voice disappeared completely is not easy of explanation, but one can readily understand how a man, wounded very close to the organ which, according to popular idea, is the principal apparatus of speech, might readily become mute. Pain itself would make speech difficult, at least for a time. Probably the return to his depôt brought back all the old associations, and he was unable to overcome the resulting inhibition.

It would be easy to multiply examples of this kind, but one only need be given, an instance of deaf-mutism.

No. 85, private in the A.S.C., married, seven children, of whom five are in the Army. He gives his age as 48, but looks older. After working in France a year as a transport worker, he developed a "bad cold," and went into hospital. His work had been too much for him. His speech left him apparently as the result of coughing. Gradually his hearing became more and more affected until he seemed to become quite deaf. The man added: "I am nearly fifty now, and that was the age when my father became stone deaf." When seen he was apparently a deaf-mute. He could cough loudly, but not whisper, nor could he make a satisfactory effort to use his lips in the formation of sounds, and could not lip-read at all. In appearance he was very depressed and helpless. He gave a history of having been in the trenches, but not specially exposed to heavy shell-fire. In a month after his transfer to England he spoke in hospital. He stated that he could not hear properly, and could not carry on any form of conversation because of the impairment of hearing. He was sent home on ten days' leave, and on his birthday his speech suddenly left him, and the deafness became absolute. When examined two months later at Maghull the breathing was normal. After treatment he whispered in twenty-four hours, and two days later speech was normal. The following day he could hear a sudden noise, and recovery followed very quickly.

There are a few points in this case which may be noted. The speech was perfect before the hearing, and this held good for both occasions of his speech recovery. The very clear influence that suggestion played in the causation of his deafness is interesting. Lastly, the condition of his respiratory apparatus was normal. He had not been shell-shocked; apparently he had not been subjected to any disturbing emotions; but, as he said, "The work was too much for him." The special sense which had been his father's weak spot was adopted by the son as that offering least resistance.

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As to mutism occurring in soldiers without active service my experience is very limited. One man became speechless following an attack of bronchitis. He had suffered from aphonia before the war, and was a very neurotic subject with a bad heredity. In another case mutism developed after a boil on the face. Both these men were members of the R.A.M.C. No doubt they had heard a great deal about mutism, and probably had seen some cases in hospital. Neither showed anything unusual in breathing, and I have little doubt that the second man was not genuine.

This brings me to the subject of malingering. No one who has seen much of functional nervous cases will dissent from the aphorism that before any treatment is adopted malingering must be excluded. In mutism the opportunity for the malingerer is immense. A man may be genuine at the beginning, then suddenly discover that he can speak, but maintain his former silence; or he may simulate dumbness from the beginning. Deafness may also be simulated, but the task is more difficult though not impossible. A much commoner form of shamming is aphonia. Such a man, after months in hospital, was "cured" by one day's strict isolation.

No. 70, N.C.O., æt. 30, reservist and ex-policeman. He was called up at the outbreak of the war and went through all the earlier fighting. At Christmas, 1914, he was blown over by a shell. The last thing he remembers is the approaching of the shell. He became deaf and dumb. A few weeks previously he had lost his speech as the result of shell explosion, but he never left the trenches, and his voice returned. This is the man's own account. In France he had a variety of treatment; he was placed blindfolded close to a big gun when it was fired, and he had electric treatment and anæsthesia in hospital. He was admitted ultimately to Maghull. He could hear but not speak. He went to Liverpool with another soldier, and was the centre of attraction to a lot of people. His companion could talk, and was evidently soliciting sympathy by showing him off in the street. A detective, suspecting that begging was going on, asked for an explanation. This was accepted as satisfactory, and the same day our patient overstayed his leave, and when next seen was talking to a woman. Unfortunately for him the detective who had previously spoken to him was passing at the time dressed in mufti. He spotted our patient as the man who, a few hours previously, he had been told was deaf and dumb, and promptly arrested him. I saw him next day, and he gave the history of the events leading up to his arrest. He said that he met a woman and they had a quarrel; that she struck him on the chest; that he exclaimed "Oh," and at the same time his hearing returned. In the police court I had to admit that such a thing was not impossible, and so the man returned to hospital. Seven days later, for no apparent reason, his speech and hearing again left him. He said that his neck seemed to swell out. A few days later he again overstayed his leave and was arrested by the police. In the police-station, when being searched and his money taken from him, he said "Money." He returned to hospital and came under my charge. He was apparently unable to take long breaths or inhale

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cigarette smoke. Treatment was persevered with for a week with no improvement. Strict isolation was begun, and within an hour he whispered, and next day phonated perfectly. He explained that he had had to "keep pushing the apple down." When urged to make an effort to speak he had complained of pain in the larynx.

It is probable that the first stage of his condition was genuine. It is certain that after his return to hospital the loss of speech and hearing was simulated. The fact that he was apparently unable to take a long breath and was unable in my presence to inhale need not be regarded as contrary to the diagnosis of simulation, as he was commonly seen by others to inhale cigarette smoke.

It is difficult to give any satisfactory explanation of mutism and deafness. I have already said something about the former, but nothing about the other. Deafness corresponds to functional anæsthesia. It seems to be produced by a mental stimulus sufficiently powerful to deaden the central area for the reception of sounds. Functional deafness may engraft itself on a passing organic condition. Labyrinthine concussion is a recognised condition. Functional deafness is somewhat analogous to the state of amnesia frequently met with in soldiers returning from overseas. I have seen two instances where the amnesia persisted after the deafness was cured. No doubt cases seen at an earlier stage would show the alliance of the two conditions more clearly and more frequently. The loss of memory is an unconscious effort to blot out the horrors of the patient's past experience. Probably in much the same way, deafness is a successful but involuntary means to shut out the present. Then ignorance, lack of self-confidence, and initiative maintain the disability.

The forms of treatment of mutism are endless in variety. My own may be briefly described as follows: The patient is asked to take a long breath. He is then told to hold his breath; he fails, but very frequently persists that he succeeded. I then give him a cigarette which he is asked to inhale, when the patient at once discovers that he is incapable of holding his breath. He learns, possibly for the first time, that his respiratory apparatus is at fault. Exercises to promote correct breathing are then undertaken. The most important point is to obtain a good volume of breath without hesitation on expiration. He is asked to blow out a match at increasing distances; then to breathe freely, trying to say "Ah!" at the same time; then to sigh the sound "ow," and later the sound "ou." Three long breaths and three sighs, together with the correct mouth formation, produce the sentence "How are you"? Once deep breathing is established, a sudden squeeze of the abdominal wall will produce phonation. The immediate effect will be a display of emotion. Tears are frequently the precursor of speech. As soon as a man can whisper faintly but sufficiently for others to hear I bring in

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another patient or a nurse to show the patient that he can now be understood. The following day the same process is repeated, and as a rule the man will talk freely after the third day. The method of suddenly squeezing the abdominal wall has already been described in a French journal, but I have lost the reference.

Deafness is also dealt with on simple, common-sense lines. The patient is seated in a chair and holds a small mirror in his hand. I stand behind the man and instruct him to look at my eyes reflected in the mirror. After a suitable interview a sudden noise is made without any movement on my part. The patient will blink and the mirror will render him conscious that he has moved his eyelids. He is also conscious that the movement is a proof that he can hear. The whole performance is simplicity itself, and it appeals to the man's common sense and he is convinced, against his inclination in some cases.

In both these simple methods the principal agents are common sense and re-education. Lip-reading and the deaf and dumb alphabet should never be allowed.

Clinical Notes and Cases.

A Case of Porencephaly. By H. E. BOND, M.D., Dip.Psych.Med. (Cantab.), L.R.C.P. and S.(Edin.).

THE subject of this paper, R. I. M—, was admitted into the Jamaica Government Lunatic Asylum on April 13th, 1914, with a history of epilepsy. She was a well-developed woman, æt. 37, with a right-sided hemiplegia; the right upper limb was flexed at the elbow, wrist, and finger-joints, a very limited range of movement being left. The muscles of the limb were quite wasted. The lower right limb was equally affected as regards wasting and limitation of movement. She could neither spit nor whistle, and saliva was continually dribbling from her mouth. She was suicidal but not dangerous. Previous history: There was no instrumental delivery at birth. She started to have fits when sixteen months old. The paralysis was noticed at that time, and she attended school for a period, but, owing to the severity of the fits, had to be taken away. No one of her relatives had been insane.

During her stay in this institution she had fits periodically and suffered from recurrent attacks of pellagra. Apart from these she enjoyed fairly good health. For six months prior to her death there was a complete absence of fits, but she, however, gradually began to get very thin and emaciated, and had to be confined to bed up to the day of her death—September 2nd last.

Post-mortem examination revealed the following: The skull was very

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