ECT - Brain - Disability
Hypotheses

THE PSYCHICAL EXPERIENCES DURING THE SHOCKS IN SHOCK THERAPY[1]

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In this paper, which I regard as a framework, I shall describe the psychical experiences of patients undergoing shock treatment and shall attempt to estimate their significance; and I shall note certain facts to be observed in all the patients whom I examined. I shall try to relate the psychical experiences with the organic changes and to show that the bodily functions are reflected—like a mirror image—in the psyche, where they leave a lasting impression in contrast to the seemingly reversible organic events.

The paper deals with the use of insulin and triazol for the purposes of shock therapy; and I should like to make it clear from the outset that, according to my observations, they appear to belong to the same group as regards the effects which they produce. It seems to me that the distinction between them is that insulin is milder, less vehement and perhaps less profoundly effective, whereas triazol acts like a violent thunderstorm bursting suddenly and gives a far more vehement shock.

INSULIN

It would probably be best to begin my report with the history of a young schizophrenic. A young woman aged twenty (Case 1) came into this hospital in a stuporous condition with marked features of anxiety. She lay in bed for a long time without movements or any reactions. I will not give the whole very interesting history of this patient in detail, nor am I able to add the still more interesting account of the case given by the patient herself. I am hoping to make use of this material in a subsequent publication. She was from her childhood onwards very much attached to her father who died when she was a child; she did not like either her mother or her elder sister, who was

[1] I should like to thank Dr. Ernest Jones for his help and kindness since I have been in England, and to express my gratitude to the Committee of the Warwickshire and Coventry Mental Hospital and Dr. D. N. Parfitt for the opportunity of working at Hatton Mental Hospital and for permission to make use of the material published here.

an illegitimate child. Even as a child the patient was very serious, obedient, quiet and had a great sense of responsibility, especially towards her sister. When she was seventeen she went to a shop as an assistant and was over-anxious and conscientious; but after a time she felt dominated and suppressed by the owner, who happened to be her aunt, the sister of her mother. She was upset about the violent feelings which she felt a short time later. She wished to murder her aunt, her mother and her sister. She became depressed and shy and the whole world seemed to be strange to her. She felt incapable of taking her place in society and developed ideas of unworthiness. She identified herself with bad people, felt herself responsible for the unhappiness in the world and finally showed ideas of persecution and of being poisoned and had auditory hallucinations.

As a result of my examinations and from the plain history and the patient's self-description there is evidence of early infantile fixations with oral tendencies, homosexual phantasies, strong sadistic wishes, leading to homicidal phantasies, later converted into frank suicidal tendencies, a marked active masculine attitude, penis-envy and fear of castration. It seems to be clear that her psychosis resulted from her inability to deal with her sadistic, cannibalistic, homosexual and incestuous tendencies; at the same time withdrawal from reality occurred, so that not only was the patient no longer exposed to these dangers, but the id-forces had an easier opportunity of obtaining imaginary satisfaction. Because she could not banish all the hated objects from the real world, she retreated from reality herself. The primitive super-ego turned these hostile impulses against herself by producing psychotic features. Instead of hating she was hated; instead of being active she became inactive and finally stuporous. This picture of the facts was supported by a dream, which interestingly enough the patient had on awakening from an insulin coma, but which I am unable to describe in the present paper.

Some weeks after admission the patient began insulin treatment. After the first injection of insulin she experienced some slight giddiness, as if slightly under the influence of alcohol. It often happened that the patient was unable to sleep during the night before the injection was given. She was apprehensive, wondering how the next day would pass and what it would bring. In the early morning she tried to compose herself and to master her fears. She wished she were the nurse instead of the patient. After the injection she often thought it would be best not to occupy herself with her own thoughts in case

these should *harm* her. She felt that there were a lot of things which she *must* do, and that she *must* hurry, because there was so little time left—only between three-quarters of an hour and an hour. During the next fifteen minutes other changes too occurred; she could not see things as clearly as before, it took longer to recognize objects and people, the dimensions of her surroundings appeared to her to have changed, voices seemed to come from far away and objects became alarmingly large and merged into one another, she felt disturbed as if she were deeply intoxicated with alcohol. Doctors and nurses seemed to have supernatural strength, while she herself felt dwarfed and powerless. She felt in need of a kind protecting arm and of being understood. She usually wrote letters or occupied herself with reading or knitting after the injection, and when she began to experience the symptoms I have mentioned she felt compelled to cease her work. The desire to do this very tidily became imperative—everything should be in the best order before she went off—but it took her a long time, because she felt as if she were in a dream and that she could only move quite slowly. Her movements were in fact slower and mildly ataxic. Everything seemed to be far away and she could not judge their positions correctly. It seemed to her that it took many minutes to manage all this and to settle comfortably down. Objects became blurred. She felt as though she were suffocating and that these signs were the beginning of the suffering which was her punishment.

All this time she felt restless and very apprehensive—in danger; in her own words: ' it is quite possible that if God wants to take his hand from me he could do so, he can interfere at any moment.' She felt that she was completely helpless under the treatment and dependent on God and on the skill of the doctors to ' hurry her round '. She experienced a feeling of utter tiredness which would not have worried her if she had felt certain that the unconsciousness which was to follow was not going to last for ever. Each time she ' went off ' she realized that she might not come round again, in fact she used the expression ' going off ' instead of ' going to sleep ' because she felt nobody could be sure of ' coming round ', i.e. of waking up as they did after ordinary sleep.

Regarding her coma she gave the following explanation: ' The sleep under the treatment is different from normal. It is divided into two parts. Of the first part I have no knowledge at all. My brain must have been completely put to sleep, not only the conscious but also the unconscious mind. Everything seemed to be dead and out of action. It seemed as though I had been off the earth and in the

land of the dead. It was during the second part that I had the peculiar feelings.'

It is not easy to describe her feelings. While she was coming round there were at first once more fear, feelings of immobility, of numbness, of imminent danger; and then feelings of a struggle to free herself and to fight for her life occurred. She was frightened of losing this battle and of not coming round. Gradually the feeling that she was in a serious fight grew less. She became more assured and then the first feelings of *happiness* occurred. She became sure of victory and she described it thus: '.I must thank God that I have won the battle, thank him for the victory.' She said the second part of her sleep was truly a fight for life: that she now felt triumphant to have won back her life and her feelings. During the time she was coming round, things again seemed to be distorted, everything seemed enclosed in a yellow fog and far away, and people looked like giants. The size of things and people in comparison with herself made a big impression on her, everything was strange and she had to look round in order to recognize objects. After a time she could do so, but her impressions were peculiar. She had to touch things to find out their shape, position and the right distances. At length everything assumed its normal appearance again and produced a normal impression on her. She still felt weak and helpless like a small child, and she was delighted when the nurses attended to her. Indeed she insisted on expressing her affection by repeatedly hugging and kissing them. She found she could not speak as before and at first she was not able to make even coherent sounds, and when later she recovered the power of forming her words properly she remained unable to express even simple ideas. She behaved in a simple manner, and talked childishly at times. She took things not belonging to her, kept asking for objects which she noticed in her environment (even senseless ones) to be brought to her. She shouted and cried just like a child and became very impatient if she was not given what she demanded.

As the ability to do things returned she also became more and more elated. She said that her feelings on waking up from a treatment-sleep were definitely happier than on waking from a normal healthy one. Some days after the treatment began she felt that it was not the will of God to permit her to die. She again began to take an interest in her surroundings and did not see them in such a hostile and unfriendly light as hitherto.

Her condition improved daily, her spirits lightened, and she

became somewhat hypomanic. She occupied herself with reading and writing, and became sociable, trustful and talkative.

She said that her feelings about life were completely the reverse of what they had been before. In the afternoons after treatment she felt a little weak and noticed that she was not able to concentrate very well, but the most noticeable thing was that she felt very happy and enjoyed life. Her final remarks were: 'My feelings of terror after the last injections were much less severe, and I had so much more confidence in myself that I felt safe, and I was convinced I would win the battle. I was strong enough to face any danger now. I was not so conscious that I had won a victory, and I am sure that that is a sign of improvement.'

Before leaving the history of this case I must mention that on two occasions on consecutive days the patient could only be awakened from her coma with difficulty. When I began to examine her she was resistant, she sobbed and told me how ill she was, that the nurses did not understand her and so could not treat her rightly. This made her very unhappy. She knew that it must be difficult to treat her after her 'sleep' and she felt that after it she needed kind and tender treatment. She was upset that a nurse had said: 'Don't be so childish and stop moaning!' In this connection I should like to refer once more to the dream, or as the patient first called it the 'vision', she once had on waking from a coma. She insisted on calling it a vision, because the characters appeared so close and distinct. On waking she was convinced that she had really lived through the scene, and was amazed when she was told that the people had not been in the room at all. She felt that her eyes had been open and that she had seen things with her real and not with her mind's eye. Her insistance at first that what she had seen had been a vision seemed to me significant; for I am of the opinion that it is a sign of a normal personality to be able to recognize a dream as a dream, whilst a psychotic believes that his dreams are real experiences.

Although I have not described all my cases in so much detail, yet I can say of nearly all of them that they show a similar pattern of behaviour on coming round from the coma—that is to say that about half an hour afterwards they appear more vivacious, talkative, trustful and pleased with themselves. This state lasts in my experience for various periods of time. In the first stages of treatment it is usually of only short duration; later it lasts for hours, then weeks and months, and in successful cases even indefinitely.

Similarly in the pre-coma stage most of my patients experienced feelings of fear—partly a fear arising from the profound somatic changes and partly an irrational anxiety associated with ideas of guilt; in some cases this led to a desperate wish to make atonement and obtain absolution, punishment, castration and even death. In this state the patients implore their nurses to take special care of them. One hears such remarks as: 'Do you think everything will be all right to-day?' 'Oh! I hope I shall come round to-day!' and 'Holy Mary, Mother of God, forgive my sins!'

One patient (Case 2) would always beg his father to forgive him and would promise never again to be disobedient if only he would not punish him. This man usually awoke from his coma beaming with happiness, with his hands clasped in prayer. He said that after the injection he always felt very guilty and dreaded that his father might punish him. After his coma he always looked radiantly happy and himself said that that was how he felt. At the beginning of his treatment he showed the typical picture of a hunger riot after his injections (being noisy and excited and throwing himself about); but as treatment progressed and he had a few comas, a change could be noticed. Hallucinations vanished, he became quite sociable, and finally left hospital and resumed his former work to the entire satisfaction of his employer.

There was another patient (Case 3), who described his feelings after the injection in the following words: 'It is like a nightmare; it is a feeling of terrible fear; I have queer feelings like being in a storm at sea; I feel I have lost my faith in everything. I want to catch hold of something, but I cannot get a grip on anything. I just fall helplessly. It is such a relief to come round again; I feel the world is a wonderful place. My mind seems clear and happy. I was thankful that it was all over.'

I have not here attempted to describe all the patients who were treated with insulin during my period of observation, but have selected the more important features which were to be observed in nearly every one of the cases which I saw. This feeling of well-being after the coma was to a greater or lesser extent a prominent feature in them all.

Triazol

The first case in this group of patients (Case 4) was a woman, who was suffering from a puerperal psychosis. On admission she was excited and behaved in a bizarre manner; she held imaginary conversations, believed there were little animals on her bed (no history of alcoholism) and at intervals adopted the attitude of a katatonic schizophrenic. She was suffering from an abscess of the breast and the appearance of a toxæmia persisted after the abscess was cured. This chronic toxæmic state was cleared up by the usual methods of treatment, but the psychosis was unchanged, and so the patient received treatment with triazol.

It happened that this patient was one of those who during pregnancy had lost a close relation (her elder brother) but this paper is not the place in which to discuss the connection between the death of a beloved person during pregnancy and the incidents of a subsequent puerperal psychosis.

Her first injection produced headache and giddiness and aggravated her feelings of anxiety, leading her to clutch at the doctors and nurses and to stare around in terror. There was no change in her mental condition until after one or two fits had been produced. She then began to show some insight into her condition: she remembered some of the early details of her illness and her impulsive behaviour on admission, and she began to recall dreams she had had in the earlier part of her illness relating to a previous love affair. (One is tempted to suggest that what she described as a recollection of a dream may have been the recollection of an hallucination—viz. little animals crawling on her bed.) She also began to talk about the elder brother who had died during her pregnancy, saying that she loved him as if he had been her father, but that she felt very little affection for her mother and sister who were still alive. Later she began to take an interest in her surroundings and would try and help the other patients; she dropped her affected mannerisms and took a sensible interest in her appearance. She volunteered the opinion that her brother's death had played a big part in bringing about her illness. When she spoke of her husband it was usually in a tone of dissatisfaction about his financial circumstances, though there appeared to be no rational grounds for this.

She described her feelings immediately after the injections as follows: 'My sensations were most disagreeable; I felt bewildered and frightened. Everything seemed different and things whirled round me and made me giddy. I felt very tired and was terrified that I was going to die.'

When she came round she could hear my voice but could not understand what I was saying; she did not know where she was or

what had happened; neither could she form her words, nor, later, when she had regained the power of articulating, was she able to find the words to express herself. Nevertheless, once these unpleasant disabilities had worn off she felt very happy and after a short sleep she felt even better; the world seemed changed and she herself felt in the best of spirits. The improvement lasted for several weeks during which time the patient helped with the work in the ward and showed no sign of abnormal behaviour. A slight depression was noticed on the first occasion when menstruation returned, but the patient explained this by saying that she had hoped never again to menstruate and so to avoid the risk of another pregnancy, and she soon threw off the mood.

Her discharge was now under consideration. Her sister visited her and tried to persuade her to return to her old house and help her mother with the housework. Our patient resented this suggestion and a violent quarrel ensued. She then had a sudden relapse; she shouted and cried and became very excited and depressed; she showed great anxiety about the health of her mother, who she had been told was dangerously ill from worrying over her (the patient's) illness.

Her condition was little changed when I saw her on the following day. She wept continuously as she told me about her unhappy married life, how she hated her child and dreaded the prospect of returning to her home. She called me by the name of her former lover and said I was the only man she had ever loved and implored me not to leave her. She expressed hatred of her mother and sisters and said their suggestion was very humiliating. She had hallucinations referring to her brother and this lover. She accused herself of having taken too little care of the brother and so of being partly guilty of his death (which had in fact been due to an accident at his work).

This psychosis was obviously based on conflicts of psychological origin which could not be controlled when the patient's physical health was impaired. 'Cerebral toxins had so weakened the ego that it could not any longer cope with its difficulties; only so long as it was unaffected by external factors such as toxins could it maintain the balance between the conscious and the unconscious forces.'[2] The importance of the part played by the mother is made clear by the acute onset of the relapse on the day following the patient's refusal to

[2] Ernest Jones, 'Psycho-Analysis and Psychiatry' (1929), *Papers on Psycho-Analysis*, Fourth Edition.

help her—the feelings of hatred combining with those of guilt at having, by reason of her illness, nearly killed her.

The next patient was a woman of thirty-nine (Case 5). She was stuporous on admission and there was the following history.

Before a pregnancy which had terminated in the birth of a stillborn baby six months earlier she had been in good health, cheerful and sociable; during the pregnancy she became depressed, wept constantly and was incontinent during the night. After the confinement she had gone about carrying a roll of cloth as though it was a child. A few days before admission she attempted to hang herself and to set fire to her house. She wandered from her home and was then brought into hospital. She lay in bed for months, refusing to take food, to speak or to move; she covered herself with the bedclothes so that it was impossible to make any contact with her. After four months, insulin treatment was started; there were ten comas without producing any change and the treatment had then to be terminated on account of a rise in temperature. A course of T.A.B. injections was similarly ineffective, and finally triazol was begun. The first injection produced a severe anxiety state; she looked around as though trying to ask 'what was happening'. She seemed to have been shaken out of her lethargy. She had a desperate look and clutched at the bedclothes and the nurses. Then came the fit. Even after her first fit it was plain that she had been changed; she began to eat a little, to speak in a whisper and to take some interest in her surroundings. After the fourth injection she was so far improved that it seemed justifiable to stop the treatment.

She gave the following account of her impressions during the treatment: 'I have never in all my life felt such a terrible feeling as after the injection. It was just as if the whole world was going to disappear; everything lost its form and colour, got dark and vanished. I had a fearful feeling that I was lost and was going to die. Now I feel I am a new person, entirely changed, as though I had been born again. The world seems gay and full of pleasure and I look forward to going back to my work. My feelings after the "sleep" are very silly, things seem strange and larger than before and I feel tiny and helpless; I can hear people speaking but I cannot understand what they say nor can I find or form my own words. Later on it becomes a pleasant sensation, the difficulties disappear and after a sleep I wake up again feeling perfectly happy.'

She had been completely changed by the treatment. She was now

sociable and cheerful and often said that she could not understand why she had been so queer before; the only explanation she could give was that the father of her child, after promising to marry her, had left her.

The next patient was a woman of twenty-seven (Case 6). She was a hard-working woman and had lived happily with her husband for years. Some months before admission she had attended her neighbour's confinement and this experience had altered her former strong wish to have a child of her own into a dread of becoming pregnant. Not long afterwards she missed a period. She rapidly became anxious and depressed, neglected her housework and sat gazing out of window. She complained that her house and her clothes and she herself were filthy; she spent hours washing herself.

She was admitted to hospital in this condition. After her first injection of triazol she was very frightened; she fought with the nurses and shouted 'I do not want to die'. After four fits her behaviour after the injection was completely changed; she lay quietly in bed and tried to show with a smile that she was not frightened. Her behaviour after all the fits was typical of these patients—that is to say, she was contented, happy and at times hypomanic. Altogether she had eight fits, and improvement was very marked after the first four; menstruation recommenced, there was no pregnancy, and she left hospital without any signs of depression or obsessional thoughts.

Case 7 was a girl of twenty-eight. She had been in hospital the previous year and was discharged after a course of insulin. Her illness dated with the onset of menstruation, which was not until she was twenty-one. Up to that time she had been a cheerful active girl. After this she became subject to fits of depression during which she left her work and stayed in bed, calling continually for her mother. At other times she became excitable, threatening and abusive. Once she disappeared from home and found employment as a barmaid; while she was away her mother was taken to hospital for an operation. The girl had done well at this work, but had to come home after two months to nurse her mother. After coming home she gradually relapsed into her depressed condition. The mother recovered quickly and before long their positions were reversed, the daughter again becoming dependent on the mother.

She received eight triazol injections and had seven fits. After her first injection she became very excited, cried and shouted for her

mother, and then suddenly became deathly still and pale for a few moments before the fit started. She described her feelings after the injection in the following words: 'I felt hot flushes all over me, I thought I was sinking and would lose contact with everything. Things lost their shape, I could see nothing clearly; then they all disappeared and the last thing I remember was feeling myself alone and miserable in a dark place where it seemed I must die. I called for mother because I wanted to have her near me. When I first came round everything seemed to be a strange dull grey. Gradually I became aware of the walls and ceiling and at length objects took on their normal colours and at last I was able to recognize people. During these first moments I felt very strange—just as if I had come back from far away. After a sleep I wake up completely changed, I always feel happy and talkative and full of activity and feel a longing to do something. I cannot understand how an injection can produce such a wonderful effect; before it life seemed sad and dreary, after it it seems wonderful and worth anything one has to suffer.'

Case 8 was a woman aged thirty. Until seven years ago she had apparently led a normal life; there had then been a rather sudden onset of aggressiveness and violence. She became incoherent in her speech and was diagnosed and sent to a Mental Deficiency Colony. Her behaviour there was satisfactory for seven years. She then suddenly refused to eat or speak, cried continuously for her mother and became katatonic. Shortly after admission here she received an injection of sodium amytal and under its influence talked a lot saying repeatedly: 'I am very unhappy, I do not want to live and I do not want to go back to the colony.' She received triazol treatment.

Her anxiety state after the first injections was terrible. She screamed and yelled for her mother and shouted: 'Lord!—Where is the Lord?—Lord forgive me!—I will never do that again!—Do not punish me, Lord!—Come on, Lord!—I will have you, Lord!—Come near to me, Lord!—Come and make love to me!' After her first fit she was again restless and for a long time disorientated. She touched everything and looked at it from all sides, moaning just like a child. After the fourth fit an improvement was noticeable; she was less anxious and occasionally smiled; she was also quieter before the fits, though she still shouted: 'Lord, I am going to die!—I must die!—I am dying, Lord!—Help, Lord!—I am dead!'

All she could say herself of her own feelings after the injection was: 'I always have a dreadful feeling of dying; I am so afraid I shall not

be able to see my mother again; the only thing I can remember is shouting for her. After coming round I feel all peculiar until I go to sleep; then when I wake up again I am quite different and very happy.'

This patient had twelve fits; she was changed from a neglected, unsociable, depressed and stuporous woman into a happy useful person.

Case 9 was a girl aged twenty. She was an old-established typical case of katatonic schizophrenia. She underwent nineteen triazol fits. After the eighth injection it became possible to make some contact with her. She showed a little insight into her condition; gradually she became more cheerful, talked and did a little work; she admitted hearing voices but was not worried by them. The most marked feature was her hypomanic state; she was anxious to go back to her work and convinced that she could do it. Some weeks after the end of her treatment a change in her personality was noticeable again; though she continued working and reading and looking after herself, her manner was shy and distant. By the end of two months she had relapsed into her former condition.

Her behaviour after the fits seemed to be the most typical example of what may be expected. She would open her eyes, gaze around, look closely at her hands and fingers, put a finger in her mouth, suck it as if she liked the taste and then study them as if they were something she had never seen before. She felt the different parts of her body and, sitting up, looked at herself as if she were something strange. She made sucking movements with her mouth and then began to suck the bedclothes. Her speech and hearing were disturbed; she could only mutter incoherently and could not understand what was said to her, though she appreciated the sound and the direction from which it came. After a time her speech would become clearer and she responded to simple questions and orders, such as 'Give me your hand', but it was not until much later that she could recall her own name. She was not able to give me any description of her own sensations during treatment.

In this whole group of cases there were three who showed no improvement, indeed, one of these seemed to have been made worse by the treatment. This latter was a woman of thirty-nine (Case 10), a schizophrenic who was admitted to hospital for the third time in a depressed condition with paranoic ideas of persecution and auditory hallucinations. During treatment it seemed that her fear was increased

and she accused the doctors and nurses of trying to kill her. She described her feelings after the injection in the following way: 'I did not feel I was in the room at all, it seemed as if I were suspended in a dark room into which yellow rays were being flashed; I had queer sensations all over my body, I was very frightened and felt I had to die and was sure I would be killed by the injection.'

Case 11 was a woman of forty-one. She had had many previous admissions, and came in again in a very neglected state with the diagnosis of dementia præcox. Eight injections of triazol produced no effect. The fits were often long delayed but there was no obvious sign of fear while she lay quietly in bed, and even when the convulsed twitching started she remained smiling and would simply say: 'I am quite all right, Sir, I feel very well.' After coming round her behaviour was the same as before, she seemed to be completely untouched and dull.

Case 12, aged thirty-eight, was rather less depressed after treatment than she had been before, but her hallucinations were unaffected after twenty triazol fits. She was married to a man who refused to support her and the children. Nobody visited or wrote to her while she was in hospital and it seemed that she had, in fact, a very unhappy life. She described her sensations: 'I have queer trembling feelings all over; there is a peculiar feeling of fear as if I were just going to die, then I seem to go off to sleep and when I wake up I am all alone. My body seems strange to me; all the colours are different and I cannot recognize the room.' Her behaviour after the fit was very similar to that of Case 9. She would put her hand on her genitalia, making masturbatory movements. When asked her name she repeated the question again and again and then gave her Christian name—later adding her maiden name.

Discussion

I shall now attempt to summarize and systematize the different stages through which the patient passes during this treatment. There are two groups of sensations: those occurring between the injections and the shock which represent a 'regression' and those occurring after the shock which represent 'restitution'.

The following stages in the process of regression can be observed in this series of patients: (1) Giddiness and ill-defined feelings of apprehension [3] (Cases 1, 4, 5, 6, 10, 12); (2) Sensations of hot flushes

[3] Cf. D. N. Parfitt, in *Proceed. of the Royal Soc. of Medicine*, Vol. 31, December, 1937.

(Case 7); (3) Excitability (Cases 2, 6, 7, 8); (4) Disturbances of appreciation of shape, distance and size [4] (Cases 1, 5, 7, 10); (5) Abnormal sensations of colour [5] (Cases 5, 10); (6) Feeling of unreality (Cases 1, 3, 4, 7); (7) Distortion of auditory impressions [6] (Hypacusis) (Case 1); (8) Acute physical distress (Cases 1, 5); (9) Feelings of guilt and fear of punishment [7] (Cases 1, 2, 8); (10) Sexual excitement [8] (Cases 8, 12); (11) Feeling of confusion [9] (Cases 1, 5, 7, 10); (12) Feelings of loneliness (Case 7); (13) Feelings of destruction of the world [10] (Cases 5, 7); (14) Fear of death [11] (nearly all cases).

Similarly, in almost every case the patient passes through another series of changes during the process of restitution: (1) Feelings of fear (Case 1); (2) Feelings of confusion [12] (Cases 1, 7, 8); (3) Feelings of unreality (Cases 1, 5, 7, 8); (4) Disturbances of appreciation of shape, distance and size (Megalopsia) [13] (Cases 1, 5); (5) Disturbance of appreciation of colour [14] (Cases 1, 7, 10, 12); Sensation of fog [15] (Case 1); (6) Aphasia, motor and sensory [16] (Cases 1, 4, 5, 9, 12); (7) Feelings of loneliness [17] (Cases 1, 12); (8) Feelings of being a helpless child (Cases 1, 5, 8); (9) Feelings of euphoria [18] (nearly all cases).

I feel that in this paper I am only able to indicate the nature of the problems which my observations raise; much further work will be

[4] Cf. L. Benedek, 'Insulin Schockwirkung auf die Wahrnehmung', Monogr. Karger, 1935.

[5] Cf. M. Grotjahn in *Bulletin of the Menninger Clinic*, Vol. II, p. 144.

[6] Cf. Benedek, *op. cit.*

[7] Cf. A. E. Bennett, in *Bulletin of the Menninger Clinic*, Vol. II, p. 99.

[8] Cf. Grotjahn, *op. cit.*

[9] Cf. P. Schilder, *Psychology of Schizophrenia.*

[10] Cf. Grotjahn, *op. cit.*

[11] Cf. S. E. Jelliffe, in *Journ. of Nerv. and Ment. Dis.*, Vol. 85, p. 575; Grotjahn, *op. cit.*; Schilder, *op. cit.*

[12] Cf. Schilder, *op. cit.*

[13] Cf. Benedek, *op. cit.*

[14] Cf. Grotjahn, *op. cit.*

[15] Cf. Benedek, *op. cit.*; R. Bak, 'Regression of Ego-Orientation and Libido in Schizophrenia', this JOURNAL, Vol. XX, 1939, p. 67, where one of his patients on awakening from an insulin coma speaks of a sensation of fog as identifying him with the universe.

[16] Cf. Schilder, *op. cit.*; Benedek, *op. cit.*

[17] Cf. Grotjahn, *op. cit.*

[18] Cf. Grotjahn, *op. cit.*

necessary before the connection between all the different facts can be elucidated, classified, evaluated and arranged in proper order.

A psychotic is a person who has abandoned reality because it was too difficult and too dangerous, and whose hypercathected narcissistic libido has attracted to itself nearly the whole of the libidinal forces; by means of this regression a phantasy world is created, in which childhood and all unsatisfied wishes become alive. 'May it not be . . . that the turning away from reality is exploited by the upward drive of the repressed in order to force its subject-matter into consciousness?' [19] In this phantasy world thoughts are experienced regressively as in dreams—as pictures and voices. 'It may be . . . that in [hallucinations] something that has been experienced in infancy and then forgotten re-emerges—something that the child has seen or heard at a time when it could still hardly speak and that now forces its way into consciousness, probably distorted and displaced owing to the operation of forces that are opposed to this re-emergence.' [20]

The outer world, from which the libido has been withdrawn, in contrast to the excessively cathected inner world, is experienced as something strange, hostile and reproachful, with which the patient is hardly able to establish any relationship.

In a psychosis not only the id but also the primitive super-ego which denies the ego contact with the outer world, gains a victory over it (the ego). Not only is the ego damaged but the super-ego also shows signs of impairment. The ego now builds up a world of phantasy and hallucinations; and suppressed wishes, probably from a very early date, are allowed to enter consciousness. Just as the picture of the real world is distorted by the psychotic mind, so the ideal world or super-ego must be fundamentally modified. This new world is modelled on the same pattern as the usual one; hallucinations and phantasies are the mechanism by which it strives to maintain contact with reality. Thus, even a psychosis may be regarded as an attempt, albeit an unsuccessful one, at retardation of function.

Thus the psychotic ego can be explained as the result of a fundamental disturbance in libidinal cathexis. It is the outcome of a conflict with the forces of the id and super-ego, which compels the ego to retreat from its position in relation to reality and to seek refuge in a phantasy world, in which the suppressed id-forces have freer entrance

[19] Freud, 'Constructions in Analysis', this JOURNAL, Vol. XIX, 1938.

[20] Freud, *ibid.*

and where the over-vindictive super-ego continues to exert its strict influence.

It would seem that the physical changes undergone by the patient during shock therapy are experienced by him in the following way. Following the injection, a series of changes in organic functions occur, with which are associated abnormal bodily, visual and auditory sensations, and the patient is forced to take notice of the outer world as something distorted, changed and unfamiliar to him. He is filled with dread that it is now going to overwhelm him and in this desperate moment his small remaining libidinal cathexis of the outer world is wrenched slowly away with the approach of unconsciousness. This complete severance from reality, so ruthlessly brought about, fills him with an agony of fear as though he knew the question was one of life or death. It is as though it were the Day of Judgement and final punishment awaited him ; he is hanging over an abyss of death, and at last, at the end of this regression, the coma occurs, in which he is subjected to the most drastic loss of his ego that can be experienced during life. On the threshold of the coma he passes through the experience of death. During these few moments he is, as it were, drawn from his narcissistic shelter by the cataclysm and forced to recognize reality ; and so a partially normal ego is established, which reacts to the situation with all the anxiety which might be expected in a healthy person. He shouts for help, he prays for forgiveness and clings to the nurses in an attempt to save himself.

The cries one hears during the treatment—' God, don't punish me ! I will never do it again ! Where is God that he may forgive me ? God, let me die ! God, I am going to die ! '—show plainly a terrible fear. This fear, and especially the fear of death, causes, for the first time since the beginning of the illness, a recognition and turning towards parents, God or the highest super-ego, and represents the beginning of a break-up of the rigid narcissistic cathexis. The patients try in imagination to reach back to the real world ; in reality they cling to those around them or to the bedclothes, as if to protect themselves. Their eyes assume a vacant expression, as if they were looking into another world, and suddenly after a few convulsive twitches the fit overwhelms them.

There are two *psychological* explanations of the convulsive movements seen in the fit. One is that they represent the efforts of the patients in a titanic struggle against some danger and the other is that they are an expression of the sudden release of forces up till now fixed

and chained. Possibly the dramatic picture of an epileptic fit is a combination of the two. However, in actuality, so long as life is not extinct, psychical experience at some level must continue and it seems likely that the patient experiences as a dull foreboding these shattering events during the depth of the coma.

After awakening from the shock the patient comes round very like a new born child ; he feels as though he were born again to a life for which he has just successfully fought against the destructive forces of death. He comes round with a new uncathected ego and during the short time that follows he lives through in a condensed form the development of a normal libidinal cathexis.

There are three factors contributory to the feeling of happiness experienced by the patients on coming round from their shocks. The most important of these is the satisfaction which they feel in proportion to the extent to which they have achieved a re-cathexis of their libido ; of less importance is the sense of relief that they have been freed from their feelings of guilt and escaped an experience of castration such as the shock presents to them ; and finally there may be a reactive pleasure of physical well-being at the re-establishment of cortical functions.

The ego is freed from the fetters which had come to bind it down ; it is as free as it was when it started life and it forms a new libidinal cathexis which produces a normal ego-structure with a normal cathexis of the id and super-ego. The pathological contents will be replaced by normal ones ; instead of rebellion there will be co-operation, and the patient will be able to look at new fields instead of at distorted pictures.

After these violent attacks the super-ego is freed from its duty of punishing the ego ; it can adopt a more tolerant attitude, and so the ego feels encouraged to pursue a positive course. The ego has now an additional force with which to resist the attacks made upon it by the id-forces.

The patient comes back from his fits breathless and cyanosed ; gradually he recovers his senses and powers, and in a short time regains his normal position, reproducing the process of development through which he passed during the early years of his life. He also shows a similarity to a young child in his experience of vision : to begin with there is marked photophobia, then his eyes wander round vacantly, after a time one notices that he is trying to focus on different objects, one can see him trying to decide what they are, but at first he is powerless to associate them properly.

Again, there is at first no perception of noise ; after a time sounds are heard but cannot be localized, nor until much later understood.

Even his own body is a new experience to the patient at this stage. He looks with interest at his strange hands, he fingers them, rubs them and licks and sucks them. He does the same thing with other objects, and when he has made a satisfactory contact with any object he repeats the process over and over again.

The power of speech is recovered from its regression in similar stages. At first the patient makes sounds, then syllables and then words, which at first he uses without regard to grammar or syntax and with a strong tendency to perseveration. He cannot understand the meaning of simple questions until they have been repeated many times ; he then repeats them himself, as if trying to get hold of their meaning, and even so his first answers are usually wrong. The women had especial difficulty in recalling their married names ; when asked they would at first give either their Christian or maiden names and only after some time could they give the proper answer. The patient's ability to carry out simple orders (such as : ' Look at my fingers ! ' or ' Shake my hand ! ' or ' Open your mouth ! ') develops slowly.

The abnormal colour sensations seem to be related to definite affective states. And in this connection it is interesting to recall Lenz's observations [21] that lesions of the cortex in the region of the calcarine fissure may, when they heal, be associated with abnormal colour tones.

It is not possible to give any definite time-relationship between these different reactions ; they varied, not only in different cases, but in the same case on different occasions.

The patients' whole attitude suggests a longing for affection, a sense of loneliness—as one of them described it : ' I feel smaller than a child.' In only one case was any sign of masturbation noticed.

The disturbances in appreciation of colour, shape, size and distance, which were described by the patients in both treatments as being disagreeable and strange, are especially interesting, and I should like to refer to Schilder's views.[22] He says that positive erotic relationship is impossible without proximity, approximation and finally contact, while remoteness in space is incompatible with any close libidinal attachment.

[21] Quoted by Benedek, *op. cit.*

[22] Schilder, *op. cit.*

The patients describe their feelings during the regressive period, terminating in the loss of their ego, as a fear, an actual experience, of death, and the restitution as a return to life re-created. Jeliffe goes only one step further when he says : ' The coma brings the individual practically into an intrauterine bath of primary narcissistic omnipotence.' [23] After even a few shocks a change in the patients' personality can be noticed : they may become friendly and sociable, less inhibited ; they may enjoy talking, or working, or playing games ; sometimes they are even slightly hypomanic. Hallucinations often disappear. Their barriers have been broken down, they can face reality again and look back at their previous phantasy world from a more sane angle ; they show definite insight into their past condition and will often say : ' How silly I used to be ! '

One of the most important happenings is the establishment of a new and often satisfactory transference, which is brought about by the triazol shocks in the same way as has been described in hypoglycæmic shocks by Bychowski, and by Orenstein and Schilder.[24] One has the impression that the primitive destructive impulses which rendered the sick ego incapable of dealing with reality are also somehow changed by the shock treatment. Perhaps this process can be thought of in terms of the description of a fit which I have already given as a wild assault by the aggressive and sadistic impulses, which, after an orgy of fury, achieve the satisfaction which has previously been denied to them and so lose a part of their force.

In this connection it is interesting to note that in some cases the results of insulin treatment are accelerated and improved if hypoglycæmic fits occur [25] or if it is supplemented with triazol fits.[26] In these cases insulin coma alone was not able to produce the final reduction of cathexis essential before a reconstruction of the ego could

[23] Jelliffe, *op. cit.*

[24] G. Bychowski, ' Psychoanalyse im hypoglykämischen Zustand ', *Internationale Zeitschrift für Psychoanalyse*, Bd. XXIII, 1937 ; L. L. Orenstein and P. Schilder, in *Journal of Nerv. and Ment. Dis.*, Vol. 88, October–December, 1938.

[25] Cf. S. W. Gillman and D. N. Parfitt, in *Lancet*, September, 1938, p. 633 ; also Sakel.

[26] Cf. K. M. Bowman, J. Wortis, H. Fingert and J. Kagan, in *Amer. Journal of Psychiatry*, Vol. 95, p. 787 ; F. Georgi, in *Schweizer Arch. fur Neur. und Psych.*, 39/49 ; L. A. Finiefs, in *Lancet*, 1938, p. 776.

be started. These psychotic egos needed a stronger force, which such a fit provided, for their disruption.

The partial satisfaction of these destructive id-forces makes easier the reconstruction of a normal ego. Each successive treatment continues the disruptive process until eventually it is no longer possible for the old psychotic ego to be reconstituted, although the wish to do so persists at first, and at the same time the new-born ego forms a progressively stronger and further-reaching cathexis with each new experience. The reconstruction of the ego step by step is shown in our case histories, as the patient's behaviour and his relation to reality, to his environment, become more normal with each shock. After a time an interesting change is to be noticed. When the new ego has been developed and cathected along right lines in relation to reality, the shocks lose their psychical significance : there are scarcely any of the old feelings of death and rebirth or of fear of punishment. The description given by Case I may be quoted : ' I was strong enough to face any danger now. I was not so conscious that I had won a victory, and I am sure that that is a sign of improvement.' Similarly the triazol patient after a few fits faced the subsequent treatments more calmly.

The problem arises whether it was the fear of death or merely the feeling that they were being severely punished which was responsible for the improvement. Bennett (*op. cit.*) thought that it was the satisfaction of the patient's demand for punishment by the shock treatment which led to the feeling of deliverance. To test this assumption a few patients were given doses of triazol only sufficient to produce a feeling of fear and restlessness without any fit. Under this treatment the patient showed no improvement and in fact some slight deterioration. It seems to be established, therefore, that the essential part of the treatment is the (biological) threat to existence associated with the progressive retreat of the libido, culminating in the coma or fit.

It may be asked whether a personality that has passed through so many contradictory experiences of death and rebirth can remain stable. Experience up till now seems to show that the early and less severe cases do preserve their improvement, but that those of long standing or in which the personality has already deteriorated are inclined to relapse. It would seem that the psychopathology of the acute and chronic schizophrenic differs in that in the former there is a disturbed relationship of the psychical material while in the latter there is not only a wrong relationship but the psychical material itself

is in some way changed. Consequently, whilst in acute cases a rearrangement may produce a permanently satisfactory stable ego, in the chronic cases it cannot be expected that a rearrangement alone can produce the same result—a satisfactory balance. There are also some cases in which one cannot reconstruct the ego even for a short time. Another group of cases which show no improvement under treatment are those like Case II, where the shock is incapable of breaking up the psychotic ego. These patients feel none of the apprehension or fear of death which has been described. This case, for example, after the injection merely lay in bed smiling as though nothing was happening to her, until the very onset of her convulsions.

It follows from this explanation of the psychical mechanism of shock treatment that patients undergoing it need special attention and probably some form of psychotherapy. The new ego we are trying to build up has to pass through all the stages of a normal childhood, and, just like a child's ego, it is at first hesitant, insecure in its object cathexis, very sensitive and especially in need of affection and encouragement. At first the patient's surroundings should be made as easy and agreeable as possible ; his growing capacity for transference should be extended,[27] his euphoria may be encouraged. While there does not seem to be much opportunity for effective psychotherapy during the stages preceding the shock, it does seem to be of some good effect after it and to be of the greatest importance in the period between successive shocks. Such treatment must go much further than Larkin's proposal,[28] and more work will be necessary to discover the most effective form which such treatment should take. There can however be no doubt that anything which is likely to disturb the reconstruction of the ego will have an unfavourable influence on the course of treatment. Can it be an accident that Case I, following two occasions on which she had been roughly spoken to, could only be brought out of her coma with difficulty ? It seems more likely that it was because of her unwillingness to face a world of difficulty and disappointment.

While actual birth is experienced as a trauma, these experiences of rebirth have the effect of annulling a trauma. Any experience which interrupts continuity constitutes a trauma. Birth is the first big

[27] Cf. Schilder and Bychowski, *op. cit.*

[28] E. Larkin, in *Journal of Mental Science*, Vol. 87, 1938.

trauma ; death is the next which breaks the law of the conservation of energy. Rebirth sets in motion once again the cycle of events which we call life and so triumphs over death.

In conclusion I should like to try to show the relationship between the bodily changes and the psyche during the shocks. During their coma the patients are restless ; they twitch, groan and roll about. They have tonic or clonic spasms, they perspire and salivate freely. There are signs of vasomotor disturbances and there are changes in the composition of the blood. All these signs point to a disturbance of the hypothalamic region. As the coma deepens, all connection with the cortex is gradually suspended, until a picture is finally produced which resembles a decerebrate rigidity (Sherrington).

The convulsions, rolling-movements and other motor phenomena are the result of the withdrawal of control over the subcortical and mid-brain centres.[29] In this connection I will quote Küppers' description : ' Damage to the thalamo-cerebral connections leads to a decrease in schizophrenic automatism whereby the personality is able to regain normal control over the thalamo-cortical apparatus.' Thus the psychical events have been shown to correspond to the organic changes.

A grown psychotic personality has been forced back by the shocks to its primitive level and gradually rebuilt. Just as the cortical control of a new-born child is incomplete and only gradually achieves its effect, so the new-born ego appears in its first rudiments, and slowly develops over months and years its complete contact with the outer world. In the same way as the functional blocking of the cortex produced by the coma disappears in successive steps from the more primitive to the most recently developed centres, so does the reconstruction of the ego after the shocks progress through the stages of childhood to maturity.

As was stated at the beginning of this paper, the hypoglycæmic coma, from start to finish and including the epileptic fit with which it is often associated, is experienced in the same way as a triazol shock, except for the difference in the intensity of the exciting forces : *the essential features in both being the intense fear and experience of death, with the subsequent experience of rebirth and the associated euphoria.*

[29] E. Küppers, in *Deutsche Med. Wochenschrift*, 1937, I, 377 ; Pfister C. Palisa, in *Arch. für Psych.*, Vol. 108, p. 633.

PSYCHO-PHYSICAL PROBLEMS REVEALED IN LANGUAGE : AN EXAMINATION OF METAPHOR

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I propose to deal in this paper with one aspect of psycho-analytical treatment, namely, the value of understanding the metaphorical language used by articulate patients. Words both reveal and conceal thought and emotion. In psycho-analytical treatment our task is often that of getting through barrages of words to the sense experience and the associated thoughts. But words too can reveal the union of these and we are greatly helped if we believe this and can recognize the revealing phrase. Metaphor fuses sense experience and thought in language. The artist fuses them in a material medium or in sounds with or without words. The principle is metaphor.

Metaphor has been a subject of debate and investigation from Aristotle to our own time. One of the latest exponents expresses himself thus : ' The investigation of metaphor is curiously like the investigation of any of the primary data of consciousness ; it cannot be pursued very far without our being led to the borderline of sanity. Metaphor is as ultimate as speech itself, and speech as ultimate as thought.' [1]

One explanation of metaphor has been that it reveals the divine in man and that his spiritual qualities and aspirations find expression in language that has a concrete significance. For example, ' My spirit flew in feathers then ' is according to this view witness to the soaring aspiration of the soul which is forced in language to the mundane illustration of a feathered bird in order to illustrate a quality of the spirit.

Psycho-analytical research however endorses the views of those who from the definition of metaphor as ' a transference of a word to a sense different from its signification ' [2] maintain that the displacement is from physical to psychical and not *vice versâ*. ' No word ', says Grindon, ' is metaphysical without its having first been physical.' [3] Locke said : ' We have no ideas at all, but what originally came either

[1] John Middleton Murry, *Countries of the Mind.*

[2] Aristotle, *Poetics.*

[3] L. H. Grindon, *Figurative Language : its Origin and Constitution.*