Personality and Behaviour Therapy

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Introduction

Most psychiatrists will probably agree that the diagnosis and therapy of neurotic disorders is not as advanced as one might have hoped after so many years of research and application. In 1952 I reviewed the evidence for the effectiveness of psychotherapy with adults; the conclusion was that the data published to date failed to show any beneficial effects of psychotherapy. Levitt in 1957 carried out a similar review for work with children, and came to a similar conclusion. These findings are in full agreement with the pessimism with which Freud in his later years regarded the therapeutic possibilities of his own techniques. Dr. H. I. Weinstock, the chairman of the fact-finding committee of the American Psychoanalytical Society, has recently stated that "no claims regarding the therapeutic usefulness of neurotic treatment are made by the American Psychoanalytical Society", and in this country Glover (1955) has explicitly disavowed any claims for therapeutic usefulness of psychoanalytical methods. Schmideberg (1958) can be quoted in a similar vein, and several psychotherapists like J. Wolpe (1958) and A. Ellis (1955, 1957) have become so disillusioned with the effects of psychoanalytical therapy that they have turned to other methods which on comparison were considerably more successful.

On looking for better methods we may with advantage consider the usual way in which science helps in the solution of practical problems. Pure research builds up a systematic scheme uniting established *facts*, *laws* expressing in a quantitative manner the relations between these facts, and general *theories* explaining these facts in terms of a general framework from which deductions can be made in relation to situations not hitherto studied. Considered in this way, it is clear that psychotherapy and psychoanalysis have not followed this method at all. So far from deducing methods of treatment from experimentally established facts and laws of general behaviour, Freud tried to reverse the process and to deduce these general facts and laws from the process of psychotherapy itself.

Freud had some justification for his procedure because academic psychology offered him little that would have been helpful in his task. Modern psychiatry is more favourably placed because it has available a great wealth of fact and theory relating to the acquisition of neurotic responses and symptoms. I am referring to modern learning theory, built up by Hull, Spence, Mowrer, Miller and many others on the firm foundation of Pavlov's original work. If we agree that neurotic symptoms are *learned* responses rather than being innate or due to lesions of one kind or another, then it seems to me to follow almost without argument that if we are to look for an answer to the problems of the causes and cures of neurosis, we must turn to modern learning theory and attempt to apply its laws to the problems of psychiatric practice. Such a procedure holds the exciting promise that it may result in a *rational* system of diagnosis, treatment and prophylaxis, to take the place of the purely *notional* or at best *empirical* procedures now found (Eysenck, 1959).

The Causes of Neurosis

In attempting to carry through such an application of modern learning theory to neurosis I would like to begin by postulating that neurotic symptoms are *learned patterns of behaviour* which for some reason or another are *unadaptive*. The paradigm of neurotic symptom formation would be Watson's famous experiment in which, by a simple process of classic Pavlovian conditioning, Watson and Raynor (1920) caused a phobia for white rats in an 11-months-old boy ("little Albert") by standing behind him and making a very loud noise whenever the infant reached for the animal. The animal was the *conditioned stimulus* in the experiment, the loud fear-producing noise was the *unconditioned stimulus*, and the sympathetic fear response, as predicted, became conditioned to the CS (the rat). In this way a phobia for rats and indeed for all furry animals was experimentally set up.

If we can extrapolate from this laboratory experiment to live situations, we would postulate that maladaptive conditioned fear responses can arise either from single traumatic events, i.e. events causing extremely strong sympathetic reactions, or from the repetition of subtraumatic stimuli causing somewhat weaker sympathetic

reactions. As an example, consider the case of the patient who complained that he was always impotent when attempting to have intercourse with his wife at home; he did not experience any impotence elsewhere. It appeared that as a young man this patient had been surprised by an irate husband in the process of seducing his wife; the husband thrashed the patient within an inch of his life, i.e. he produced a very traumatic sympathetic response. According to learning theory any accidental stimulus which attracted the attention of the patient in the period of a second or so before the onset of the unconditioned stimulus would acquire the properties of a conditioned stimulus producing a sympathetic reaction. The choice of conditioned stimulus under these circumstances is purely fortuitous; as it happened the patient's gaze rested on the wallpaper of the room in which he received his punishment. By an unlikely coincidence the wallpaper of the bedroom in his home had exactly the same pattern on it. The sequence now becomes clear. The conditioned stimulus situation: amorous disposition plus sight of wallpaper, produces the conditioned response, i.e. sympathetic arousal; this inhibits the parasympathetic arousal necessary to produce erection. It is clear now why no impotence was felt elsewhere, and as a final proof of the hypothesis a change in wallpaper produced the immediate cessation of the symptoms.

Anyone reading through the thousands of histories in the literature from this point of view will be surprised to discover in how many cases a simple conditioning paradigm will fit the facts much better than the complex, circuitous and improbable explanation given by analytically trained observers. Wolpe and Rachman (1961) have recently re-analysed Freud's case of "little Hans" in this manner, and it is extremely instructive to see how easily all the pieces fall into place once we accept the conditioning paradigm.

The Persistence of Neurosis

Granted that neurotic symptoms are *created* through a process of conditioning we may yet wonder why they do not *extinguish* rather quickly when no reinforcement is forthcoming. It is well known that conditioned responses extinguish readily when not reinforced; why are neurotic symptoms an exception to this rule? The answer to this problem comes in several parts. In the first place, it is almost certain that many conditioned autonomic responses do in fact extinguish relatively quickly; it is those which do not so extinguish which cause the patient to complain and which therefore come under observation.

In the second place, it should be noted that conditioned responses extinguish only when the conditioned stimulus is presented repeatedly without the presentation of the unconditioned stimulus. Now consider the case of the typical neurotic phobia, say that of little Albert's fear of white rats. If he were a Pavlovian dog, strapped in his stand in the laboratory, we might be able to present him with series of white rats and extinguish conditioned response by failing to provide the unconditioned stimulus, i.e. the loud noise. But little Albert is a free agent, and given his conditioned fear of white rats he will *avoid* any contact with them, thus making impossible the extinction process by making it impossible to associate the conditioned stimulus with the absence of the unconditioned stimulus; in other words he will refuse to do what is sometimes called "reality testing".

In the third place there is a further mechanism to be considered. If little Albert sees a white rat he will have a strong and unpleasant sympathetic reaction. He quickly withdraws from the situation, and this withdrawal is followed by reinforcement in the form of a lessening of the conditioned sympathetic fear response. Thus through a process of secondary reinforcement little Albert will build up a strong avoidance reaction, leading him away from the conditioned stimulus, thus making it even more difficult for a process of extinction to occur. We thus have a vicious circle which protects the conditioned fear response from extinction.[1]

Personality and Neurosis

The argument so far presented is quite general, applying to everyone indiscriminately. It is well known, however, that people differ profoundly with respect to their conditionability, i.e. the *speed* with which conditioned responses are formed, the *strength* of these conditioned responses and their *resistance* to *extinction*. Similarly it is well known that people differ profoundly with respect to their *autonomic lability*, i.e. the *speed of reaction* of the autonomic system, the *strength of reaction* of the autonomic system, and the speed with which the autonomic system *returns to its original level.* I have argued elsewhere that these two great classes of phenomena are related closely to two major dimensions of personality (Eysenck, 1957). It appears that speed of conditioning, strength of conditioning and slowness in extinction are characteristic of *introverted people*, while poor conditionability in

[1]There is no space here to treat of another consideration, viz. Solomon and Wynne's (1954) principle of "anxiety conservation and partial irreversibility."

all aspects is characteristic of *extroverts*. If we take the personality dimension of *neuroticism*, we would argue that towards the neurotic end we have *strong* reaction and long *persistence* of autonomic reactions, while towards the normal end we have a weaker arousal and a stronger damping effect. It would seem that a conjunction of introversion and neuroticism would be most likely to result in all sorts of conditioned anxiety and fear reactions, phobias, &c., and indeed the evidence is strongly in favour of such a deduction. People in what I have called the dysthymic group, i.e. those high on neuroticism and on introversion, have indeed been found to be exceedingly quick in the formation of conditioned responses, and it is significant that individuals in this group make up three-quarters or more of psychiatric patients who are diagnosed as neurotics. These personality characteristics of autonomic lability and quick or slow conditionability are assumed to be *constitutional* features of the individual, but they can of course also be manipulated experimentally. Central nervous system depressant drugs have an extrovertory effect and decrease conditioning, while stimulant drugs have an introvertory effect and facilitate conditioning. Similarly, barbiturates *decrease* autonomic lability while adrenaline *increases* it. Other environmental features also have effects on these dimensions; thus for instance brain damage and old age would appear to reduce the speed and effectiveness of conditioning.

The Cures of Neurosis

In this section I shall concentrate on dysthymic disorders, i.e. conditioned fear and anxiety reactions of one kind or another. We have seen how these responses are acquired through a process of conditioning, and how they are resistant to the process of extinction. The task of learning theory is to suggest to us methods for breaking down this resistance to extinction, and for reducing the conditioned maladaptive responses to subthreshold level. Many such methods are in fact available, and I can only touch lightly on some of them. The first and most obvious one, but also probably the least useful, is *physical manipulation* of the environment. Thus removal of the wallpaper in the case quoted above completely cured the impotence. Unfortunately, it is rare for such obvious solutions to present themselves.

Equally obvious, but rather more useful, is *aversion therapy*, i.e. the conjunction of symptom and some form of punishment. I refer to the well-known work of Liversedge and Sylvester (1955), Sylvester and Liversedge (1960) and Beech (1960) on writer's cramp, in which they have shown that the administration of electric shock whenever the cramplike movements complained of occurred served to extinguish the latter. Similar is the procedure used by Freund (1958) to cure homosexuality by associating stimulation produced by photographs of nude males with drugs producing vomiting. A similar technique was recently used by Raymond (1956) in a case of fetishism. Alcoholism has frequently been treated in this fashion.

Positive conditioning is another method of great fruitfulness; the classic example of its application is probably enuresis. Gwynne-Jones (1960) has made an impressive analysis of the literature. Conditioning treatment appears to be decisively superior to any other method hitherto tried.

Much more unusual than the preceding methods is that of *conditioned inhibition* or "negative practice". According to this theory massed practice of any activity sets up a fatigue-like state of inhibition which dissipates during subsequent rest periods. Such dissipation acts as a reinforcement for the prevailing state which is one of *not* carrying out the activity in question; this prevailing state, being reinforced, becomes conditioned to the stimuli available at the time, and we obtain conditioned inhibition i.e. a habit of *not* reacting in the manner practised to the stimuli which were present during the practice period. An excellent example is Yates and Gwynne-Jones' work (Eysenck, 1960) on tics; they demonstrated that by causing patients voluntarily to practise their tics as quickly and as strongly as possible, they succeed in diminishing and in some cases completely extinguishing the tic. Here is a method which would appear to have great possibilities for the future.

Last among the methods briefly reviewed, but first from the point of view of general importance, I would place that of *reciprocal inhibition*, as described by Wolpe (1958). In this method the essential feature is the elaboration of a conditioned response antagonistic to the symptom which is to be abolished. The difficulty here, as we have seen before, is the impossibility of causing patients to undergo "reality testing". Wolpe has shown how to make use of the concept of "stimulus gradients" in this connexion. Such gradients can be of many kinds. Thus, little Albert, when fully grown, may have a fear of rats which amounts to ten points on an arbitrary scale. His fear of rats as shown in a film might only be seven points. His fear of rats shown in a

drawing might only be three points. His fear of hearing the word "rats" spoken might only be two points, and his fear of imagining a rat way off in the distance might only be one point. Somewhere on this continuum the therapist can find a reaction weak enough to start breaking into the vicious circle so that he can build up a positive conditioned response which will generalize to those levels hitherto inaccessible. In the case of little Albert such a gradient might be created by simply increasing the distance of the rat from the child (Jones, 1924); with the rat in the other corner of the room the infant was in fact not much worried and would accept a piece of chocolate. By gradually bringing the rat nearer and nearer, and each time giving him a piece of chocolate, it was found possible finally to extinguish the phobia completely. Wolpe (1958) in his experimentally ingenious and theoretically important series of experiments has shown that this principle can be applied to many types of severe adult neurosis with similar effects. His book discusses the methods used in great detail; it ought to be required reading for every budding psychiatrist.

The Value of Symptomatic Treatment

Throughout this paper I have stressed entirely the treatment of *symptoms* without alluding to any underlying *complex* or illness. The reason is that *as far as learning theory is concerned there is no illness and there is no complex.* We are dealing entirely and exclusively with maladaptive habits formed through a process of conditioning, and capable of being extinguished through one of the several methods outlined above. It is this stress on the symptom and its abolition which distinguishes behaviour therapy most decisively from psychotherapy with its stress on hypothetical underlying complexes and disease processes (Yates, 1958). The analytic psychotherapist might reasonably ask two questions. In the first instance he might wonder just how successful behaviour therapy was in getting rid of symptoms, and in the second place he might wonder whether there was not likely to be a recrudescence of symptoms even after apparently successful therapy.

The answer to the first question is not known. What is obviously required is a properly controlled experimental comparison, with cases assigned at random, in which one group was treated by means of behaviour therapy, and another by means of psychotherapy. No such experiment has yet been done, and only comparisons of published data are possible. The difficulties and pitfalls involved in such comparisons are well known; I shall here give only my own impression of what the data suggest to me. In the first place, then, it seems that behaviour therapy is most successful when it deals with monosymptomatic disorders such as enuresis, writer's cramp, tics, phobias, &c. For these disorders it is possible to assess very accurately the success or failure of the treatment in quantitative form, and it seems likely to me that the accuracy of the criterion is responsible for the marked *demonstrable* superiority in success of treatment. In the second place, however, it should by no means be assumed that the more usual and less clear-cut psychiatric disorders cannot be treated with considerable success as well. Wolpe (1958) has shown that in a group of over 120 cases the rate of success of treatment was considerably greater, and the time taken was much less, than in typical psychoanalytical treatment. The highly significant differences he has published cry out for a proper experiment to be set up in which these claims could be impartially evaluated.

In the third place it does not seem as if the fears of the analysts were justified in so far as recrudescence of symptoms is concerned. A survey of the literature has shown that even those behaviour therapists whose analytic background made them particularly sensitive to this problem, entirely failed to discover the expected return of the symptom. Indeed the facts point in the opposite direction. Once a major symptom has been extinguished, there is an all-round improvement with respect to other symptoms, a lessening of anxiety, an improvement in social, sexual and work relations, and quite generally a transfer from a *vicious* circle to a *beneficial* one. Here also of course the literature is by no means sufficient to come to a definite conclusion (Yates, 1958). However, the findings are striking enough to make one doubt very much the universal validity of the Freudian argument, and to demand more proof than has ever been given so far of the validity of this belief. The evidence I have been able to see certainly supports the contrary interpretation.

Summary and Conclusions

In this brief paper I have outlined the basic tenets of behaviour therapy, its relation to personality study and the deductions made from learning theory to the treatment of neurosis. I have tried to show in what way learning theory can help in suggesting new types of treatment, and I have tried to indicate the relative success or failure of these treatments when compared with analytic psychotherapy. The general conclusion I think

must be that here we have a method of treatment which is rational, deduced from an existing body of information along rigorous lines, and also responsible for a large number of successful applications. It will be clear that this method is a genuine alternative to psychotherapy as usually practised, and it will also be clear that in my view it is a superior method. Time seems to be ripe for experimental and clinical trials to be held in an attempt to assess the relative merits of these two methods.

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The following paper was also read:

Cybernetic Aspects of Conditioning and Treatment.—Dr. W. ROSS ASHBY (Bristol).

Meeting
March 8, 1960

THE following papers were read:

The Bereavement Factor in Depressive Illness.—Dr. FELIX BROWN. To be published in full in the *J. ment. Sci.*

Grief and Mourning in Infancy.—Dr. JOHN BOWLBY. To be published in the *Psychoanal. Study Child*, 1960, **15.**

Meeting
April 12, 1960

A DISCUSSION was held on **Enuresis.**

The opening speakers were Dr. EMANUEL MILLER, Dr. SAMUEL DIMSON and Dr. H. GWYNNE-JONES.

The paper by Dr. H. Gwynne-Jones forms the basis of a chapter in the book: Behaviour Therapy and the Neuroses, edited by H. J. Eysenck, 1960. London; p. 377.