BEHAVIOUR THERAPY IN RELATION TO CONTEMPORARY PSYCHOTHERAPY

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At the end of the 1950's two books appeared, the first by Wolpe (1958), a psychiatrist practising in South Africa, and the second, two years later, edited by Eysenck (1960) professor of psychology at the Maudsley Hospital. These books, publicizing for the first time the possibility of treating the neuroses on a basis of scientific discovery and experimentation, aroused considerable enthusiasm. A leading article appeared in The Lancet entitled "Pavlov or Freud?" quoting Eysenck's view that learning theory offered an aetiological explanation and method of treatment which could supplant psycho-analysis. In 1963 a new journal Behaviour Research and Therapy devoted entirely to this subject was founded.

The origin of contemporary psychotherapy can be traced to Breuer's observation that hysterical symptoms could be relieved by making the patient re-experience, under hypnosis, painful memories and feelings that had been forgotten. From this, through the genius of Freud, stemmed the remarkable flow of observations and deductions which resulted in psycho-analysis as a systematic description of the effects of family and community life upon man's behaviour.

But while psycho-analysis as a system of thought was gaining acceptance throughout Western culture, pessimism over its therapeutic effectiveness began increasingly to be voiced. It was the tragedy of psycho-analysis that this pessimism did not encourage further experiment. Two factors prevented this. First, as results of shorter treatment disappointed, individual analyses were extended until they came to be measured in years rather than in months. Secondly, the closed nature of the psycho-analytical circle which limited its membership to those who had themselves undergone this time-consuming and expensive procedure prevented the infusion of fresh ideas from without. It produced by its own conditioning process such a stultification within the hierarchy that those who by their dissatisfaction were drawn to more radical experiment were almost always forced to leave the society.

Simultaneously, a separate discipline of mental processes was

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developing, based on Pavlov’s brilliant researches. In America this new branch of physiology was linked with the behaviourist school of Watson, and from these origins the science of learning theory developed. But while its discoveries were exploited for political and commercial ends (as in advertising and brain-washing) its therapeutic possibilities were virtually ignored. Psycho-analytical theories held the field in the treatment of neuroses and although there were many pioneers in other techniques, they made little impact on the general psychotherapeutic situation.

**Neurosis as learned behaviour**

Both Freudians and behaviour therapists are agreed that neurotic behaviour is learned. Both hold neuroses to be responses which the individual has learned to make to certain stimuli and that there is in most cases a possibility of unlearning these responses, i.e. of learning new responses to similar stimuli.

Dollard and Miller (1950) point out three characteristics of the neurotic: he is miserable because of his conflicts, he is stupid about certain aspects of his life, and he has symptoms of illness which he regards as undesirable. Any theory of neurosis has to explain how this has come about; if a response is disadvantageous to the person making it how has he learned to make this response rather than one which is to his greater advantage? The theoretical models put forward in explanation are most readily understood if we follow the usual behaviourist classification of the neuroses in three groups. The first includes all those characterized by anxiety; in these there is fear and avoidance where none is warranted by the external situation. Such cases are held to exemplify a state of excess conditioning, like Pavlov’s dogs unable to stop salivating when the bell is sounded even though they know no food will be forthcoming. The second group includes those cases where conditioning appears to be deficient, e.g. in an enuretic child’s failure to acquire bladder control and in the behaviour of psychopaths who have failed to acquire the social conditioning which will enable them to live happily within a community. Hysterical behaviour also comes under this heading; typically, such behaviour is governed by the immediate rewards of manipulating behaviour at the sacrifice of long-term gains. The third group includes cases of faulty conditioning, most clearly seen in sexual perversions and fetishes where sexual fulfilment is attached to an object both biologically unrewarding and socially disapproved.

**The theoretical basis of behaviour therapy**

*Learning theory*

The scientific study of behaviour has produced a vast literature
and corpus of experimentation, much of which is summarized in Broadbent's (1961) readable and accessible review. Pavlov's original theories of conditioned reflexes and Watson's association of ideas are both types of contiguity theories. They hold that learning follows a simple connection in space and time between an original (unconditioned) stimulus which produces a reflex and a conditioned stimulus which comes in time to produce the same response. Pavlov's dogs salivated as a simple reflex in response to food; after a bell had sounded several times when they were given food they came to salivate at the sound of the bell.

The second main group are the reinforcement theorists. They explain learning in terms of responses to a stimulus being repeated if they are rewarded and avoided if they are punished. The rat given food if he turns left along a T maze and not if he turns right soon learns to turn left every time he wants food. This is known as operant conditioning in contrast to the classical conditioning of the Pavlovian type. The two theories were combined by Clark Hull in his classic book The Principles of Behaviour to produce the basic formula: Performance = Habit × Drive. In other words, habits will only be seen in action when sparked off by a suitable drive and the result will then depend on the strength of the drive.

One important addition must be made to this basic formulation before it can be applied to the learning and unlearning of habits. This is the concept of reactive and conditioned inhibition. All learning, that is all formation of the stimulus-response connection, produces some degree of inhibition, perhaps through fatigue or boredom, which acts as a negative drive opposing the original positive drive which produced the activity. This fatigue or staleness dissipates with rest; as for example after practising a golf shot for a certain time we become stale and inaccurate, and then after a rest can return to the same practice with new zest and improved performance.

The genesis of neurotic behaviour

One of the early problems in learning theory was to explain avoidance learning. If we are hungry we have a drive to eat which will reduce the hunger, and if we are in pain we have a drive to carry out an action which will remove us from the pain. We can teach animals to choose one alternative in a maze by giving them an electric shock if they take the other just as we can teach humans to pay their income tax by punishing them if they fail. On the original theory a positive reward or punishment is needed on a number of occasions to produce a habit, but once the rat avoids the punishing alternative the unpleasant state never arrives and the reward produced by ending it never appears. To solve this problem the concept
of secondary drives was introduced, of which the most important is anxiety. It was postulated that while skeletal responses, or as we might think of them, deliberate actions, require to be rewarded if they are learned, autonomic responses such as salivating, sweating, and gastro-intestinal motility become attached to certain situations by a process of simple association, i.e. by classical conditioning. Unpleasant responses like anxiety will produce a drive just as hunger and thirst in other circumstances and their disappearance will reward the individual just as food does a hungry animal.

On this basis the genesis of certain types of neurotic behaviour, particularly the phobias, can readily be understood. A patient with cat phobia may, because of unfortunate childhood experiences, have become conditioned to experiencing acute anxiety when in the proximity of cats. Withdrawal from the frightening object will always be rewarded by a reduction of anxiety and therefore this behaviour will be reinforced and the habit strengthened. The housebound housewife whose agrophobia gives her panic attacks as soon as she starts to walk out alone has the reward of complete relief when she turns back, so that re-entering her house is always rewarded and leaving it always punished, and the neurosis becomes self-perpetuating. Because this condition is at the autonomic level knowledge that cats are not really man-eating or that there are no unforeseen pitfalls in a walk to the High Street has no effect on the anxiety, and de-conditioning becomes a major problem.

The acquisition of wrong habits usually depends on the fact that a reward or punishment following immediately after the act may outweigh the effect of a much greater punishment or reward following at a longer time interval. The importance of the time interval is well known to animal trainers and much childhood misbehaviour can be understood when it is seen that an immediately rewarding situation can cancel the effect even of quite devastating punishment following much later. In sexual experience the sovereign reinforcer is the orgasm. When this follows homosexual or fetishist fantasies it once again creates a self-perpetuating cycle, providing an immediate reward for the fantasy whereas punishment or other social difficulties, if they do follow, appear only with a much greater time lag.

Techniques of behaviour therapy

The reduction of anxiety

Animal experiments have confirmed our everyday experience that the usual process by which habits, both desirable and undesirable, are lost is singularly ineffective in extinguishing anxiety. Wolpe (1958) formulated the principle that anxiety in certain situations could be reduced if responses antagonistic to anxiety could be made to occur in these same situations. To this principle he gave the
name reciprocal inhibition. Several responses have been found to be incompatible with anxiety and can be used therapeutically. Of these the most important is relaxation, which over the centuries has been advocated for tense, anxious people. Wolpe in his technique of systemic desensitization uses it as the reciprocal principle with which to inhibit anxiety. Systemic desensitization, which has become one of the most important of behaviourist techniques, involves the presentation of anxiety-evoking scenes to a patient who has been first made to relax as deeply as possible, sometimes with hypnosis. The scenes are presented to the patient (he is usually asked to imagine them) in a series starting from those involving so little anxiety that the relaxation can inhibit it and working up gradually to those situations in life which have previously developed intolerable anxiety. The method is directly comparable to desensitization of allergies by gradually increasing doses of allergen, and requires prior construction of 'hierarchies' of anxieties starting from situations in which it is minimal and working upwards. This technique has by now been used on many hundreds of patients and Lazarus (1964) has reviewed the details of the technique in the light of experience.

Other responses used for reciprocal inhibition include assertive, sexual and feeding responses. Assertive responses have been mainly employed in real life situations, the patient being instructed to express his aggression or resentment instead of allowing his anxiety to inhibit it. Sexual responses have been successfully used in cases of impotence by instructing the patient to remain in the situation for only so long as he can enjoy sexual feelings and to remove himself (e.g. to refrain from attempting intercourse) as soon as sexual pleasure begins to be replaced by anxiety. The use of feeding responses in overcoming a child's fear of rabbits was reported by Jones (1924) 40 years ago and the box of sweets in the doctor's drawer is, of course, an attempt to utilize the same principle.

Aversion therapy

The second main type of behaviour therapy uses punishment as an aid to learning. Aversion therapy has been used for many years in the treatment of alcoholism, using apomorphine or emetine to induce nausea, but results have been disappointing and inconsistent. Critical scrutiny in the light of animal experiments has shown that aversion therapy as practised could not be expected to obtain satisfactory results. In the last five years great advances have been made as a result of closer adherence to established laws of learning and the substitution of electric shock as a method of punishment, facilitated by the introduction of a simple apparatus (McGuire and Vallance 1964).
Punishment may be administered in various ways as an adjunct to learning. In conditioning an alcoholic to dislike alcohol, the drink and shock may be administered together as in classical Pavlovian conditioning; they may be presented together and the shock continued until the subject rejects the drink; he may be forcibly administered both shock and drink repeatedly; he may be given a choice, e.g. between whisky and lemonade, and punished if he takes the whisky; or he may be offered the whisky a short time before the shock is administered in such a way that rejection of the drink within the time limit will prevent the shock occurring. Both animal and human experiments give clear guidance as to which method is preferable. Whereas some of the alternatives give unstable learning and rapid extinction of the newly acquired habit, anticipatory avoidance learning, the last alternative mentioned, is a method providing easy acquisition of the new habit and a high resistance to extinction (Feldman and McCulloch 1965).

Newly learned habits are also more resistant to extinction if reinforcement is only partial (Humphrey's paradox). In the case of an avoidance training scheme some attempts to avoid should be allowed to succeed while others should be made to fail, i.e. despite making the right response the patient should sometimes receive a shock. In this way the 'cure' is more likely to be long-lasting than if every right response (e.g. rejection of whisky) is allowed to prevent the shock from following. In this context the studies of disturbed children come to mind which have shown that inconsistent parents may produce more intractable neuroses in their children than merely punitive parents.

The acquisition of desired responses

Techniques under this heading are variants of operant conditioning comparable experimentally to rewarding animals for making right responses. Clinically, operant conditioning has been relatively neglected and has been used mainly in dealing with schizophrenics and delinquent children for whom there are rational or ethical objections to using other techniques.

A fascinating off-shoot is its use in effecting minor alterations in the behaviour of normal subjects without their being aware. If in conversation one person accompanies every expression of opinion by the other with an approving remark such as "you are quite right", it will be found that his expressions of opinion tend to increase in number. It has on the same basis been plausibly maintained that the reason why patients undergoing Freudian analysis seem to produce the sort of material of which Freud spoke, while patients undergoing Jungian analysis seem to produce quite different types of material, is due to a process of operant conditioning on the part
of the analyst who shows interest in certain types of material while ignoring other types, so that the patients wishing to win approval follows these unconscious indications.

The results of psychotherapy

The concept of cure

Rival techniques of therapy must be judged by their results. But what are the results of conventional psychotherapy? An opening shot in the battle between behaviourists and psycho-analysts was a review by Eysenck of studies showing that within two years of the onset of the illness two-thirds of neurotics will have improved whether or not they have had treatment. Since that time several other studies have appeared, e.g. that by Giel et al. (1964) in which 94 out of 100 neurotic outpatients were followed up for a period of five years. They found that 70 per cent had recovered or were much improved and that no relationship could be demonstrated between this outcome and whether they had had inpatient or outpatient treatment or no treatment at all! The popular assumption that psycho-analysis is a cure for neurosis has been shown to be one not held by many leading psycho-analysts (Eysenck and Rachman 1965). Again, it has been suggested that where conventional therapy is successful this is due not to free association and interpretation but because of a learning situation accidentally created, and that the results would be greatly improved if the therapists were consciously instead of unconsciously utilizing behaviour therapy. Finally Szasz (1961) has impressively argued that psychotherapy is a cure for which there is really no disease.

In physical illness we properly speak of cure in the case of bacterial endocarditis treated with penicillin since we know that without antibiotics death from the disease was inevitable. We are happy to talk about curing pneumonia even though a six-month follow-up might show that, if left untreated, 80 per cent of patients had recovered spontaneously. We hesitate to speak of cure in the case of medical treatment of a peptic ulcer but do not question that it has a place even though remission and relapse are to be anticipated. Only when we come to tonics and placebos is it conventional to query whether we would not be doing more good by leaving the patient untreated.

Applying the same rules to mental illness, the fact that after two or five years some neurotics will have recovered from the more disabling effects of their difficulties is clearly not a reason for withholding treatment. But the burden of proof does remain on psychotherapists to show that they are producing earlier remissions or ameliorations which would not otherwise have occurred. Malan (1963) in an attempt to overcome these difficulties from a psycho-
analytic point of view has given a good account of what is involved and has shown the limitations of published comparisons between treated and untreated neurotics. Further light has been shed on the problem from quite a different standpoint. Eysenck’s work on dimensions of personality has shown that neuroses characterized by anxiety have a tendency to spontaneous remission whereas those due to faulty conditioning have a tendency to spontaneous relapse. Probably a satisfactory assessment of the benefits of therapy will only come from refinement in diagnosis and more detailed knowledge of the different types.

But perhaps the most important and neglected aspect of ‘mental illness’ is the presence or absence of motivation to change. In the analogy between physical and mental illness it is often overlooked that whereas in physical illness the doctor’s aid is invoked to restore the status quo, in a case of mental illness (certainly in the case of neuroses) it is the status quo which needs to be changed. It is not an episode of illness which is to be terminated but a whole way of life to be altered. The study of motivation to change is the most neglected aspect of neurosis, perhaps because it is the most difficult. In conventional psychiatry it is emphasized only in the diagnosis of classical hysterical states. However, behaviour therapists are paying increasing attention to the rewards derived from maladaptive behaviour and the circumstances under which these will outweigh punishment (e.g. Burchard and Tyler 1964). Thorpe (1965) has stressed that in the conditioning treatment of homosexuals while the therapists may alter the patient’s orientation to heterosexuality in hospital its permanent fixation will depend on how his behaviour is rewarded or punished when he returns to his own environment. Effective therapy may be vitiated by lack of suitable after-care and may be compared with healing a duodenal ulcer by medical treatment in hospital and then returning the patient to his home and the stresses which originally precipitated it.

A behaviourist interpretation of conventional psychotherapy

Works such as those of Sargent (1957) or Frank (1961) have documented the obvious truth that there are many ways of changing people’s behaviour. However, we cannot all hold seances or revivalist meetings in order to manipulate our refractory patients and an orthodox psychotherapist will begin with a warm consulting room, a warm personality and a comfortable chair or couch. In this friendly and permissive atmosphere the patient will be encouraged to reveal those aspects of himself of which for so many years he has been ashamed. This is the prerequisite of conventional psychotherapy and is obviously explicable in terms of learning theory; fear and anxiety evoked by the approach of certain situations are
extinguished by having them aroused, as the patient talks about them, in the presence of the therapist who evokes the parent-child relationship. Permissiveness, warmth and comfort extinguish anxiety. The transference situation, in which the therapist refuses to act out the role assigned to him, teaches the patient to have different expectations of people's responses and provides him with a new pattern of emotional relationship. The permissiveness allows reality testing by the expression of attitudes and emotions which have hitherto been held back by anxiety about the consequences.

Interpretation is also important but only partly for its content, which as we have seen can be influenced by the most passive analyst by a process of operant conditioning. Sargent describes a man analysed successively by a Freudian and a Jungian; with the first he appeared to dream Freudian dreams and with the second Jungian dreams. Interpretation is a continuing demonstration that the therapist knows more than the patient and is therefore entitled to his role of the omniscient parent. For this reason the interpretation must be acceptable (otherwise the analyst will lose rather than gain face) and timed so that any anxiety aroused will be small enough for the patient there and then to tolerate, just as in Wolpe's systemic desensitization the increasing doses of anxiety produced by fresh steps in the hierarchy must not exceed the patient's growing tolerance.

This analysis gives inter alia a clear explanation of why patients whose neuroses are characterized by anxiety are much more readily helped than those in whom the need is for the acquisition of socially more acceptable behaviour.

The published results of behaviour therapy

Behaviour therapists have given a great impetus to rational consideration of results. Wolpe in his original book presented a series of cases for which he claimed a 90 per cent success rate, a great improvement on the "two-thirds cured or greatly improved" which was the best figure obtainable from previous reports. His treatment times were also much shorter than full analysis, the median duration being 23 interviews spread over ten months. Many other series have been published since that time, one of the most interesting being an analysis of 77 patients who had received behaviour therapy at the Maudsley Hospital (Cooper et al. 1965). These patients were matched with a control group and an attempt at independent assessment was made. Sixty-one per cent of patients receiving behaviour therapy showed improvement compared with 44 per cent of controls, the duration of treatment in both cases averaging five months. More important than the overall results was the differential response of patients according to neurotic syndromes; phobias, particularly monosymptomatic, gave greatly superior results to obsessionals.
Even more impressive are the published results of sexual deviations treated by conditioned avoidance therapy. Since successes recorded by conventional therapy are almost nil, those of Barker *et al.* (1961), McGuire and Vallance (1964) and Feldman and McCulloch (1965) among others are extremely encouraging. It seems certain that as more experience is gained in these techniques much more can be expected in the treatment of hitherto intractable behaviour disorders. Best of all are the results in treating nocturnal enuresis in children. Many investigators have demonstrated that this specific method of conditioning has a success rate of over 90 per cent, incomparably better than any other.

Summarizing published results it may be said that behaviour therapy has established itself as a method of treatment which compares favourably with alternatives as regards effectiveness and duration. In the treatment of certain types of neurotic illness it offers hope where little existed previously.

**Conclusion**

General practitioners by the nature of their practice must be eclectic, drawing their techniques and selecting their referees from the whole field of medicine. For this reason an appreciation of the new outlook in psychotherapy is important, and an acquaintance with behaviour therapy, with its more critical attitude towards results and its basis in the science of learning theory is especially relevant. Both in this country and in America behaviour therapy is still confined to a few centres and has aroused little interest in orthodox psychiatric circles. This is regrettable. "Behaviour therapy is a technique, not a discipline" and it is to be hoped that it will not develop as a closed school but that all practitioners of psychotherapy will be encouraged to incorporate its techniques in their armoury.

Behaviour therapy is in the forefront of developments appearing in psychotherapy along with such important insights and techniques as transactional analysis (Berne 1961), Ellis's rational psychotherapy (itself quoted by Eysenck 1964, and receiving important verification from recent learning theory research), family therapy (e.g. Hayley 1964) and last, but by no means least, the work being carried on by general practitioners throughout this country and abroad deriving from the original inspiration of Balint (1957) at the Tavistock Clinic. Above all it gives hope that in addition to bringing improvements in techniques of psychotherapy it will provide a greater understanding of its limitations. The borderland between therapeutic change and brain-washing or compulsory social reconditioning is still indefinite, however clearcut the distinction is at extremes. Genuine desire on the part of the patient to change his ways is still the prerequisite to
any therapy. But, as Szasz (1961) has shown, in the West permission to be a non-conformist in society can often be purchased by the expression of a desire to be made to conform (i.e. accepting the label of 'patient'). Perhaps it will only be with much greater clarification of this concept that meaningful statistics of success in psychotherapy will be obtained.

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