

# THE CAUSES AND CURES OF NEUROSIS

AN INTRODUCTION TO  
MODERN BEHAVIOUR THERAPY  
BASED ON LEARNING THEORY  
AND THE PRINCIPLES  
OF CONDITIONING

H. J. EYSENCK & S. RACHMAN

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*An Introduction to Modern Behaviour Therapy  
Based on Learning Theory and the Principles  
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by  
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and  
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## INTRODUCTION

THIS book is an introduction to post-Freudian methods of diagnosing and treating neurotics. For convenience of reference these methods are known collectively as 'behaviour therapy', a term which indicates their derivation from modern behaviourism, learning theory, and conditioning principles. Almost half a century ago John B. Watson pointed out that 'psychology, as the behaviourist views it, is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behaviour.' Behaviour therapy attempts to extend this control to the field of neurotic disorders, and in doing so it makes use of experimental laboratory findings, and of theories based on these.

It will be seen that in this way it proceeds in a manner which is exactly opposite to that adopted by psychoanalysis. Like all other applied sciences, behaviour therapy bases itself on existing knowledge of a fundamental kind and attempts to derive methods of treatment from these along lines of deduction which are as rigorous as possible. Freud, on the other hand, explicitly rejected academic psychology and tried instead to build a new general psychology on the basis of his experiences in treating patients. We shall have occasion in the course of this book to examine the relative success of these two methods of procedure.

In speaking about 'cures' in the title of this book we have intended not only to follow alliterative convenience, but to indicate our firm belief that it is in principle possible, and in many cases feasible even at this early stage of development, to eradicate completely specific neurotic disorders from the behaviour repertoire of the patient. Freud, it will be remembered, became very pessimistic towards the end of his life about the therapeutic possibilities of psychoanalysis, and declared that he would be remembered as the originator of a method for investigating mental life rather than as the creator of a

## INTRODUCTION

method for treating neurosis. We believe that the general failure of psychotherapy to effect cures, a failure which has led many people to abandon the use of this term altogether in connection with mental illness, is not due to the impossibility of achieving cures but rather to erroneous methods of setting about this task. We would agree that the evidence available to date is conclusive only with respect to certain types of disorder and that for many others the evidence suggests promise rather than definitive achievement. In view of the short period during which behaviour therapy has been practised at all widely this is, of course, inevitable. Nevertheless, the methods described in this book have already been widely adopted by psychiatrists and clinical psychologists, particularly in England and the Commonwealth, and there is evidence also of considerable interest in the United States. The routine use of these methods is undoubtedly not yet feasible; it must await further improvement of techniques and definitive evidence of superiority over other available techniques. We are sanguine enough to believe that these developments are only a matter of time and that within the next decade or two behaviour therapy will be firmly established as one of the most important, if not *the* most important, weapon in the hands of psychiatrists and clinical psychologists.

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## Chapter I

### THE NATURE OF NEUROSIS

IN this book we are concerned with the problem of the *diagnosis* and the *treatment* of neurotics, as well as with the problem of the reasons why they develop their neurotic disorders. Problems of nosology, aetiology, and therapy may be approached along three different lines. The first of these we may call 'notional'. By this is meant that the proposed solution is based on a notion or a hunch, that it has not received empirical verification, and that its propagation owes nothing to proof but much to persuasion and emotional appeal. Solutions of this type may be highly systematized and may often be susceptible to disproof only with the greatest difficulty. Phrenology, or the belief that character may be read from the bumps on a person's head, may be a good example of a notional theory in psychology. It hardly needs saying that notional solutions to problems are pre-scientific and of little practical importance, although very occasionally later research may be able to substantiate some of the hunches or notions underlying these approaches.

Much more useful is a second category which we may call 'empirical'. Here we are dealing with methods which have originated in some notion or belief, or which may have been discovered by chance. They are characterized by the fact that there is some empirical support for their validity and usefulness. In psychiatry, electro-shock is a method of treatment which clearly fits into this category. Empirical methods may be practically useful and valuable, but they fall short of what scientists would be willing to accept as truly scientific because as long as the rationale of the methods is not known it is likely to prove inconsistent and only of partial value.

The third category may be called 'rational', meaning by that simply that the answers to practical problems are derived by a rigorous process of deduction from certain general laws or principles, independently established and constituting the main body of theories, axioms, and postulates of the science in question. It is this last method which alone deserves the name 'scientific', and the whole history of applied science is evidence that no problem can be considered solved until it is brought into direct relationship with a rational system of thought in this manner.

We may ask ourselves what precisely is the present position in the field of psychiatry and clinical psychology, as far as the treatment and diagnosis of neurotic disorders are concerned. The following three statements would probably present a true picture of the situation. (1) With the exception of electro-shock, the only method of treatment at all widely used is psychotherapy. (2) In practically all of its manifestations, psychotherapy is based on Freudian theories. (3) With the exception of intelligence testing, psychological contributions consists almost entirely in the administration and interpretation of projective tests, usually along psychoanalytic lines. We thus find a situation in which psychologists lay stress on *projective tests* in diagnosis, and on *psychotherapy* in treatment. In relation to both there is considerably evidence that they belong to the *notional* group of methods, having no empirical support and not deriving in any way from the main body of psychological theory.

It is not the purpose of this book to document these criticisms or to deal at any length with current practices, except incidentally. Evidence for the brief statements made above will be found in the Handbook of Abnormal Psychology (Eysenck, 1960a), Critical Essays on Psychoanalysis (Rachman, 1963), and in many other books and articles quoted in these sources. Here we shall be concerned entirely with the development of a completely different type of approach to the problem of neurotic disorder, one which stems from Pavlov and modern learning theory rather than from Freud and 'dynamic' psychology, and which has been attracting a great deal of attention, particularly in England, but also, in recent years, in the United States. We call this approach *rational* because its methods and theorems are derived from the large body of knowledge which has been

accumulated by experimental psychologists over the past fifty years or so, and which, in its systematized form, we call learning theory or, perhaps better, behaviour theory. The exposition of these methods of treatment is the primary purpose of this book: they will be referred to by the generic term "behaviour therapy".

We may perhaps begin by very briefly stating the main points which characterize modern behaviour therapy and the theories on which it is based. In the first place, we regard neurotic behaviour as being *learned* behaviour. In this way, it is set off from innate or instinctive behaviour, on the one hand, and behaviour due to lesions of one kind and another in the central autonomic system, on the other. This hypothesis will not be readily disputed by many psychologists or psychiatrists because the importance of learning and conditioning in the growth and development of neurotic behaviour is probably admitted nowadays by almost everyone who has had any experience in this field; we do not believe that psychoanalysts or orthodox psychiatrists would in any sense disagree with this stress on the importance of learning and individual experience.

As nearly all human behaviour may be said to be learned, how do we distinguish neurotic behaviour from other types of behaviour? The answer must be that neurotic behaviour is *maladaptive*; the individual who adopts neurotic behaviour patterns fails to achieve what he is trying to do and succeeds in doing what in fact is highly disadvantageous to him. Mowrer (1950) refers to this as the 'neurotic paradox'. 'Commonsense holds that a normal, sensible man, or even a beast to the limits of his intelligence, will weigh and balance the consequences of his acts: if the net effect is favourable, the action producing it will be perpetuated; and if the net effect is unfavourable the action producing it will be inhibited, abandoned. In neurosis, however, one sees actions which have predominantly unfavourable consequences; yet they persist over a period of months, years, or a lifetime. Small wonder, then, that commonsense has abjured responsibility in such matters and has assigned them to the realm of the miraculous, the mystical, the uncommon, the preternatural.' Maladaptive habits thus present a paradox and seem to go beyond the simple rules of learning

theory; it will be our task to show that in actual fact learning theory can encompass such activities.

We believe that the paradigm of a fully developed neurosis can be postulated to be something like this (Eysenck, 1960*b*, 1964*a*). In the first instance, we have a single traumatic event, or else a series of sub-traumatic events producing unconditioned but strong autonomic reactions, mainly of the sympathetic nervous system. These strong emotional reactions may themselves be such as to disorganize the behaviour. There is much evidence that such disorganization may follow from strong emotional involvement, and the history of neuroses occurring during war, particularly in the front line, is replete with examples of such direct consequences. It is doubtful, however, whether we should regard such immediate consequences as being in any sense 'neurotic', because although probably maladaptive in some way, they are not necessarily persistent, and they are so universal as to make a special term for them a rather unnecessary refinement.

At the second stage we find that in a large number of cases conditioning takes place, in the sense that a previously neutral stimulus, through association, becomes connected with the unconditioned stimuli which give rise to the traumatic, emotional reactions. From now on it will be found that the conditioned stimulus, as well as the unconditioned stimulus, produces the original, maladaptive, emotional behaviour. This, it seems to us, is the essential learning process which takes place in the development of a neurosis. Single traumatic events are frequently implicated in the development of phobic fear reactions, whereas in the case of more widespread anxiety, it is likely that large numbers of sub-traumatic events may have played a more important part. However that may be, we postulate that Pavlovian conditioning is involved in the great majority of neurotic illnesses characterized by anxiety, phobic fears, obsessional reaction, and other dysthymic responses.

Conditioned responses which are not reinforced begin to extinguish, and we would expect, therefore, that conditioned autonomic responses of the type described above would extinguish as the individual concerned encounters many examples of a conditioned stimulus which are not followed by reinforcement, i.e. by traumatic events accompanying the original presentation. This would lead us to postulate that the great

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majority of neurotic reactions of this type should show what is often called 'spontaneous remission', and the evidence is indeed very strong that such remission takes place. Eysenck (1960a,g) has reviewed the literature and has derived a formula showing the degree to which  $X$ , the proportional improvement, depends on  $N$ , which denotes the number of weeks elapsing from the beginning of the experiment. This formula is shown in Figure 1, which also contains a plot of the data derived from a study by Denker (1946), in which 500 severe cases of neurosis which were not treated by any form of psychotherapy but were merely seen by their ordinary G.P.s. were followed up over a period of many years. It will be seen that some 70 per cent recovered after two years, and over 90 per cent after five years. We can see, therefore, that the evidence strongly supports our hypothesis of extinction of conditioned neurotic

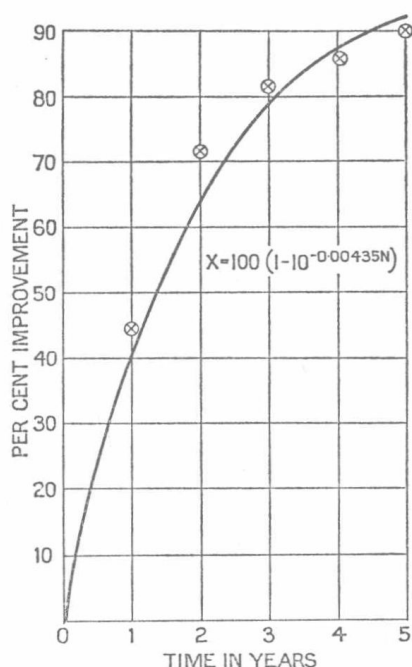


FIG. 1. Proportion of 500 severe neurotics recovered after 1, 2, 3, 4 and 5 years respectively, without receiving any form of psychotherapy. In the formula,  $X$  denotes the percentage improved,  $N$  denotes the number of weeks elapsed from the beginning of the experiment (Eysenck, 1960a).

responses. Indeed, it may be said that of all the phenomena characterizing the neuroses, spontaneous remission is probably the most obvious, the most impressive, and the least frequently mentioned in psychiatric textbooks.

The fact that not all cases show spontaneous remission, however, must make us suspect that there is, in many cases, a third stage in the development of neurotic disorders. This third stage may be said to owe its existence to the fact that human beings differ in one very important particular from the animals on whom Pavlov originally demonstrated the existence of extinction. The animal is strapped in his stand, and when the conditioned stimulus is presented to him without reinforcement following, he has no choice but to observe the stimuli as they are presented to him. A human being, however, has a very important choice indeed; he can choose to watch the stimuli and let extinction occur, or he can choose to avoid the stimuli, or indeed run away from them. Consider, as an example, the case of a woman suffering from a cat phobia, which is quoted in more detail later in this book. This phobia developed from a very traumatic event in the past history of the patient, when her father drowned a favourite kitten in front of her eyes. This traumatic event caused a conditioned fear response to cats, and this fear response would, in the normal course of events, have extinguished, had not the patient made use of her freedom of choice in situations involving cats, by turning and running away from them. In this way, she succeeded in reducing the conditioned fear responses produced by the cat, through eliminating the cat from her field of vision, and through putting a larger distance between herself and the cat. In other words, through a process of operant conditioning, the woman was effectively reinforced, or rewarded, for running away from the phobic object, and thereby acquired a secondary conditioned habit, namely that of avoiding the cat. In this way she made it impossible for extinction to occur.

The three-stage theory here developed is applicable to all the disorders we have called *dysthymic*, i.e. to phobic reactions, anxiety states, obsessional and compulsive disorders, and so forth; these may be called *disorders of the first kind*, and our general hypothesis is that they are caused by conditioned autonomic fear responses and the reactions, skeletal, muscular and hormonal, of the organism of these conditioned responses.



There is, however, according to our theory a second group of disorders, and these may be called *disorders of the second kind*. In these disorders we postulate not the occurrence of a conditioning process leading to maladaptive habits, but rather the failure of a conditioning process to occur which would produce socially desirable habits. Psychopathic behaviour would be a good illustration of this point. Mowrer (1950) has pointed out that the development of socially desirable behaviour patterns in children can be accounted for only through a process of Pavlovian conditioning. According to this theory, it may be postulated that whenever the child indulges in some form of activity which is disapproved of by his parents, or his teachers, or his peers, then immediate punishment of one kind or another will follow. The behaviour in question is the conditioned stimulus, the punishment the unconditioned stimulus leading to autonomic pain and fear responses. In this way conditioning is set up, and in due course the conditioned stimuli, i.e. the behaviour patterns to be discouraged, would be directly connected with the conditioned response (the fear and pain reactions of the autonomic system). This whole process we may imagine to be greatly facilitated by a process of generalization, making use of verbal identification of the acts in question as being naughty, bad, or wicked. In this way, a whole system of *mores* is built up in the growing child through conditioning, taking ultimately the form of a 'conscience' (Eysenck, 1960*h*, 1964*b*). Failure to acquire this conscience, for whatever reason, may then lead to psychopathic activities, also sometimes called 'moral imbecility', i.e. behaviour patterns characteristic of the inveterate liar, the person unable to resist any form of temptation or to refuse to indulge every appetite or whim regardless of the consequences which will inevitably follow. (Such persons are now often called 'sociopaths', particularly in the United States.) *Enuresis nocturna* is another disorder where there has been an apparent failure of the proper conditioning to take place, and where the enlargement of the bladder and the beginning of urination fails to trigger off the appropriate conditioned response of waking up and going to the toilet.

A rather different sub-section of this group of disorders is formed by those where there is not a failure of desirable conditioning which is postulated to have taken place, but where

there may have taken place a type of positive, appetitive conditioning which is contrary to the rules and laws of the country in question. Thus, homosexual, fetishistic, or other perverse erotic behaviour patterns may have become fixated through a process of conditioning in which these undesirable behaviour patterns were in fact reinforced through orgasm or in some other way, so that the problem for the therapist is now one of breaking down the positive conditioning and of establishing instead a negative conditioned response to these stimuli. In some cases it may not always be clear whether the particular behaviour pattern is innate, or whether there has been a failure of socially desirable conditioning to take place, or whether the behaviour is not innate but has in fact been created through a special process of positive conditioning. Homosexuality is a case in point; there is considerable evidence that homosexual patterns of behaviour may be innate in many people, but there is also considerable evidence to show that in many people it may have been triggered off by a process of social learning and conditioning. However that may be, it will be seen that disorders of the second kind are, in many ways, differentiated from disorders of the first kind, and it will also be seen that theory does not predict the occurrence of spontaneous remission in these disorders.

In disorders of the first kind there has been a process of conditioning which, through non-reinforcement, should lead to spontaneous remission. In disorders of the second kind there has been a failure of conditioning to occur, or, when conditioning has occurred, it may be expected to be reinforced in any accidental evocation of the conditioned stimulus; neither of these conditions would lead to extinction, and consequently we cannot expect spontaneous remission to occur. There is a dearth of evidence on this point, but psychiatric opinion is certainly in good agreement with the view that psychopathic and perverted behaviour patterns are very much less liable to spontaneous remission than are the dysthymic behaviour patterns discussed previously.

It might be objected that surely society tends to punish behaviour patterns of this second kind, and that psychopathic behaviour, homosexuality, fetishism, and so on, in so far as they violate the law of the land, will call forth punishment which has been designed specially by society to produce