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Behaviour Therapy in Complex Neurotic States

By JOSEPH WOLPE

In recent years it has become widely known that behaviour therapy (conditioning therapy) is effective in the treatment of neuroses. However, in many minds, this knowledge has come to be hedged by some erroneous qualifications, of which the commonest are: (*a*) that behaviour therapy leaves the "deep" cause of neurosis untouched, and (*b*) that it is successful with "monosymptomatic" and allegedly simple cases like phobias, but not with more complex neuroses, such as obsessions and "character neuroses".

Obviously, behaviour therapy, or, for that matter, any form of therapy, can influence the alleged "deep" neurotic process only if there really is such a process, as the psychoanalysts claim. But, as pointed out elsewhere (Wolpe, 1963a) because the psychoanalysts have misapprehended the requirements of scientific evidence they have adduced no acceptable support for their theory, beguiling themselves with surmises, analogies and extrapolations. Until now, whenever direct tests have been made of major tenets of the theory (e.g. the Oedipus theory (Valentine, 1946)) or of major implications of it (e.g. the likelihood of relapse in unpsychoanalysed recovery (Wolpe, 1961a)), the facts have been contrary to psychoanalytic expectations. It would be futile to consider whether behaviour therapy has effects on processes whose causal relationship to neurosis we have no reason to credit and whose very existence may be doubted.

The belief that the efficacy of behaviour therapy is limited to phobias can scarcely be maintained by anybody who has followed the relevant literature (e.g. Wolpe, 1958; Eysenck, 1960; Bond and Hutchison, 1960). But it is a belief that has been encouraged by several factors. First, in the case material which behaviour therapists have used to illustrate their techniques phobias are prominent, precisely because they are well-defined. Second, a good deal of press publicity was given a few years ago to the successful treatment of a cat phobia (Freeman and Kendrick, 1960). Third, and perhaps most important, the behaviouristic analysis of a case frequently results in its acquiring a phobia-like appearance. The distinctive feature of a classical phobia is the presence of ostensible stimulus antecedents of anxiety. *A behaviouristic analysis aims at establishing the stimulus antecedents of all reactions in every variety of neurosis.* When subsequently the case is reported and the non-behaviouristic reader finds himself presented with cut-and-dried relationships between stimuli and anxiety-responses, he may be constrained to comment, "*My* cases are not as clear-cut as that!" The behaviour therapist might justly retort, "If *this* had been your case it would not have seemed clear-cut either, for your training does not lead you to analyse stimulus-response relationships."

The basic premise of behaviour therapy of neurosis is that neuroses are persistent unadaptive learned habits of reaction that have been acquired under conditions of emotional disturbance (anxiety) (Wolpe, 1958). Almost universally anxiety is prominent among the reactions learned; and since this learning is at a primitive (hypothalamic) level it can be reversed only through applying the learning process so as to involve this primitive level. That is why neuroses cannot be overcome by appealing solely to reason.

It was in the context of experimental neuroses that it first became clear that neuroses are learned, and can be unlearned by counteracting anxiety by feeding (Wolpe, 1952, 1958). This finding suggested the *reciprocal inhibition principle* of therapy of the neuroses—that *if a response inhibitory of anxiety can be made to occur in the presence of anxiety-evoking stimuli it will weaken the bond between these stimuli and the anxiety.* In

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human neuroses, not only feeding but also a considerable number of other responses each of which, empirically, appears to inhibit anxiety, have been successfully used to weaken neurotic anxiety-response habits as well as other neurotic habits. Many of the techniques have been described in detail (Wolpe, 1958), and at least one more has since emerged (Lazarus and Abramovitz, 1962). The most widely used techniques employ assertive responses, relaxation responses (systematic desensitization), and sexual responses.

While the reciprocal inhibition mechanism is central in the elimination of neurotic autonomic response habits, the usual extinction mechanism can sometimes be effectively used to remove neurotic motor habits (e.g. Yates, 1958; Walton, 1961).

Varieties of Complexity in Neurosis

Starting from the clinical fact that neuroses generally present themselves as unadaptive, obstinate habits of behaviour (with anxiety most often to the forefront), a patient may be regarded as having a *simple* neurosis if he has only one such habit and if it consists of responses to a single and obvious family of stimuli. For example, he may be afraid only of heights, or only of dogs, or only of asserting himself.

There are several kinds of features that can give complexity to a neurosis and they are often found in combination:

1. Multiple families of hierarchies may be conditioned to neurotic reactions.

2. The reactions may involve unadaptiveness in important areas of social behaviour ("character neuroses").

3. The neurosis may involve obsessional behaviour.

4. The neurosis may have somatic consequences.

5. There may be continuous anxiety in addition to that which is associated with specific stimuli.

6. Essential stimulus antecedents of the neurotic reactions may be obscured by conditioned inhibition of associations.

1. *Multiple Families of Stimuli Conditioned to Neurotic Reactions*

While neurotic reactions confined to single families of stimuli are undoubtedly widespread in the general population, many of them, consisting of fears such as of mice, harmless snakes, the sight of much blood, or the appearance of "madness", do not intrude into the individual's life sufficiently to motivate him to seek treatment, especially if the reactions are relatively mild. In people who come for treatment several families of stimuli producing neurotic reactions are usually to be found. Of the 88 cases upon whom I reported in 1958, anxiety was aroused by direct interpersonal interchanges of various kinds in 57, and in 51 of these there were also other families of stimuli that evoked neurotic anxiety. Sometimes there are many such families. For example, one patient had fears of self-assertion, criticism from others, rejection, silences, social occasions, people in authority, his mother, dirt and disorder, being heard in a toilet or seen emerging from one. When neurotic reactions are producible by a great many situations the patient may be said to have a *disseminated neurosis*.

2. *Reactions Involving Unadaptiveness in Social Behaviour (Character Neuroses)*

The unadaptive social behaviour that is observed in some patients takes various forms—e.g. inability to get on with people, inefficiency at work, constant changing of jobs, kleptomania, sexual promiscuity, homosexuality and exhibitionism. In the great majority of such cases the deviant behaviour is secondary to anxiety, whose sources need to be carefully ferreted out. If this is not done, therapeutic failure can almost be guaranteed. It is perhaps because psychoanalysts do not concern themselves with anxiety-arousing stimuli that they find such cases especially difficult to treat. An example is afforded by Case 2.

3. *Obsessional Neuroses*

In certain cases of neurosis, in addition to the usual autonomic discharges, there may be prominent ideational, motor or sensory responses. The term obsessional is applied to such

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responses when they are "complex and variable in detail, consisting of well-defined and often elaborate thought-sequences or relatively intricate acts . . . " (Wolpe, 1958, p. 89). As I have pointed out, some obsessional behaviour elevates the level of anxiety; other obsessional behaviour reduces it. In either case the deconditioning of neurotic anxiety is usually the crux of therapy. (Case 3 provides an interesting example.) It is sometimes found that obsessional behaviour continues even when there is no longer any apparent basis for it in terms of anxiety. Such autonomous habits have been effectively treated by aversive conditioning (Wolpe, 1958). (In some cases, e.g. transvestism (e.g. Glynn and Harper, 1961) or fetishism (Raymond, 1956), aversive conditioning has been the sole treatment used, with beneficial effects that appear to have been durable.)

4. *Neuroses with Somatic Consequences*

Somatic disorders are of course central in classical hysteria; but somatic effects also frequently accompany the much more common anxiety-dominated neuroses. These effects have, as is well known, been "explained" by the psychoanalysts as due to the operation of unconscious agencies that purposively select the malfunctioning of one organ system rather than another.

However in every case a physiological explanation is possible. In different individuals different combinations of reactive elements make up an anxiety reaction; and even in the same individual variously constituted disturbed reactions may be conditioned. It is postulated that, because of peculiarities of physiological development, or because of special features either of earlier conditioning or of the conditioning of the neurosis itself, the anxiety reaction may be characterized by especially strong autonomic discharges in a particular organ system. It is because of this that in one patient emotional disturbance is accompanied by migraine, in another by asthma, in a third by dermatitis, in a fourth by the development of peptic ulceration. In yet other persons anxiety leads to interference with the speech mechanism (stammering). It has been found (Wolpe, 1958) that such concomitants of neurosis can be abolished by eliminating neurotic anxiety and without treating the somatic symptom itself or paying the least attention to the supposed "significance" that "dynamic" theories allege symptoms to have.

5. *Reactions that Include Continuous Anxiety*

There are some psychiatrists who say that while they can understand how anxiety reactions triggered by specific stimuli may be subject to deconditioning, they do not see how conditioning can be relevant to anxiety that is present all the time and in all situations. They seem to suggest that there is a variety of neurotic anxiety that has no stimulus antecedents.

If the word "stimulus" is employed according to Lundberg's (1937) excellent definition—"that to which response is made"—it is obvious that every response must have stimulus antecedents, for no response can be causeless. It is true that under certain conditions, e.g. beri-beri, there is continuous anxiety that does not depend on any *particular* neural inputs, because, apparently, thresholds in the autonomic nervous system are so greatly lowered that practically all stimulation has anxiety-like consequents. The remedy here is, of course, biochemical.

But if neuroses are due to learning, continuous anxiety that is actually neurotic must also be due to learning. Observations upon patients reveal three conditioned sources of continuous anxiety.

1. The patient may be continuously anxious in all situations except when a specific "security-object" is present. For example, there are cases of agoraphobia in which the patient is free from anxiety only when an intimate person is near him.

2. There may be a conditioned habit of dwelling upon contents of thought that would evoke anxiety in almost everybody. One finds, most often, continual imaginings of scenes of the patient's death or that of loved ones.

3. There may be true "free-floating anxiety", which I have suggested should be re-named *pervasive anxiety*. This anxiety is not attributable to any clear-cut stimulus configuration either in thought or in the outer world, but appears to

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be conditioned to various more or less pervasive aspects of stimulation in general. The most pervasive aspects of experience are the awareness of space, time, and one's own body (Kant, 1781). Any or all of these may be conditioned to anxiety. Less pervasive concomitants of experience, such as light, verticality, and light-and-shade contrasts may also be conditioned. A wide range of further possibilities for pervasive conditioning may be found in Taylor's important book on perception (1962). When closely questioned, many patients can clearly identify the pervasive stimulus-elements that are connected with their continuous anxiety.* The mechanisms of pervasive anxiety and the conditions under which it occurs are matters that urgently call for research.

A fourth kind of continuous anxiety is not due to conditioning but occurs with exposure to an ongoing conflict situation, such as an undesired marriage. Here we have *unconditioned* anxiety, that is automatically generated when the organism has simultaneous impulses to opposing actions (Fonberg, 1956).

6. *Reactions in which Crucial Stimulus Antecedents are Obscure*

Obscurity of central stimulus antecedents may be due to lack of skill or care on the part of the therapist or to concealment on the part of the patient. Such concealment might be deliberate, but occasionally the patient may simply be unaware of certain of his reactions. This may be due to conditioned inhibition of awareness of particular responses. For example, a recent case presented herself as an acute fear of scrutiny of 8 years duration. Attempts at desensitization failed, because on the face of it no viable dimension of generalization could be found. When (after about 25 sessions) I was about to abandon the case, a clue emerged of unacknowledged rebellion at her domination by her husband. The complete exposure of this set of attitudes within her led to the possibility of expressing these attitudes and to therapeutic change.

This kind of phenomenon, of course, gave rise to the repression theory of neurosis, but it is an infrequent incident without causal significance (Wolpe, 1958, 1961a).

* In most cases the level of pervasive anxiety can be sharply reduced by 1–4 full capacity inhalations of a mixture of 65 per cent. carbon dioxide and 35 per cent. oxygen and remains at the lower level until the patient is again exposed to *specific* anxiety-evoking stimuli (see Wolpe, 1958).

Illustrative Cases

Case 1

Mrs. Y., aged 56, had suffered much anxiety since early childhood. She had been very timid and inadequate in interpersonal situations, but had improved considerably in these during the past ten years. Her general level of anxiety had fluctuated a good deal over the years, being at its worst in association with periods of special stress, when it tended to be displaced by a particularly unpleasant sort of depression. Numerous "phobic" constellations were also present.

There was a good deal in her history to account for her disturbed reactions. She was the only child of a father who was rarely at home, and a harsh, brutal mother who beat her frequently and often confined her alone in an upstairs room. Later experiences compounded the anxious conditioning that these unhappy circumstances began.

She had had a good deal of therapy intermittently. Between 1950 and 1956, she had had a sustained course of psychoanalysis, averaging about three times a week to an estimated total of about 1,000 sessions. She did not feel that the psychoanalytic procedures had produced any beneficial change, but the analyst, who was a down-to-earth person, had instigated a good deal of assertive behaviour, which was instrumental in overcoming to a considerable extent the interpersonal inadequacies. However, her general level of anxiety remained very high, with no improvement at all in the phobias and phobia-like sources of disturbance.

When Mrs. Y. was first seen in May, 1960, she was extremely anxious all day, but gradually improved towards evening, though the measure of this improvement was affected by exposure to a variety of possible situations to which anxiety had been conditioned. Especially important among these situations were rejection and aloneness, which had recently become an increasing problem because her children, growing up, were often away from home.

A great deal of effort was expended upon determining the stimulus antecedents of the patient's reactions. Some of these were quite obvious, but others required a considerable amount of probing.

Treatment consisted partly of extending the assertive training begun during the psychoanalysis, to remove such anxieties as persisted in interpersonal situations. Much the greater part of the sessions was spent on the systematic desensitization of a large number of anxiety hierarchies. The more important of these were: (1) aloneness; (2) rejection; (3) heights; (4) aeroplanes; (5) her mother; (6) waking times; (7) her own early morning depression; (8) prospects of journeys; (9) being lied to; (10) saying

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goodbye to dear ones; (11) urinating while people waited outside.

In some of these hierarchies sensitivity was extreme so that the amount of work required was very great indeed. For example, in the case of fear of aloneness, Mrs. Y. was initially so sensitive that if she were at home accompanied only by her daughter, anxiety would be evoked if the daughter closed herself up in a room for five minutes in order to make a phone call. Desensitization began with the use of this particular situation, and separation in time and distance was then progressively increased until the patient was able without anxiety, to imagine being quite alone at home for periods of ten days, separated from the nearest person of consequence to her by 300 miles. She could then also endure without anxiety this situation in reality. Her neurotic fear of aeroplanes was also initially very great, so that even the sound of a plane overhead, or the sight of a stationary one in a distant airfield produced very substantial anxiety. For purposes of desensitization it was found necessary to commence with getting her to imagine that she was looking at a toy plane with a six-inch wing span. At subsequent presentations the size of the plane was gradually increased, and a succession of increasingly large model planes were presented standing on a large lawn, and then real planes which she was gradually made to "board", at first silent and. later, with engines running. Eventually an air liner at an exhibition was made a stepping stone to the boarding of commercial air-liners which first made short hops and then ever longer flights. This patient has recently been able to fly wherever she needs to in the United States with equanimity and indeed with pleasure.

Similar systematic deconditioning led to the elimination of all the other reactions. It is not unlikely that if the case and its treatment had first come to the attention of the same analyst after the conditioning therapy, he would have judged it to be different from *his* usual run of cases!

Case 2

Mrs. Z. was a 36-year-old divorced social worker with a lifelong history of emotional disturbance that had become much worse when she had developed tuberculosis at the age of 23 and her husband, who could not bear illness, had kept away from her. She had subsequently manifested general fecklessness, shiftlessness at work, and considerable sexual promiscuity. In the course of the years she was thrice divorced and attempted suicide very many times. For 9 years she had undergone psychoanalysis with only brief interruptions but without any benefit. She had felt better only when she was running a particularly exciting love affair. Each of her five analysts had regarded her as having a severe character neurosis and had spent countless hours endeavouring to get at its "unconscious roots".

When I first saw Mrs. Z. she was engrossed in a fairly recent love affair with a man she wanted to marry but who was much less enthusiastic about her. She usually entered my consulting room tearful and distrait, and during our first few weeks made several further attempts at suicide.

A behaviouristic analysis of the case revealed interpersonal fear of disapproval that inhibited almost any kind of assertiveness and thus made her largely incapable of withstanding the demands of others or of making known her own. The therapist strongly urged her to express her legitimate demands; and soon grasping the reasonableness of this she made efforts to comply. An early success occurred when her supervisor criticized her on the ground that she was allowing a client's problems to activate her own emotions. Mrs. Z. disagreed.

Mrs. Z.: "This is not so. You have no justification for that statement and it's unfair of you to say it."

Supervisor: "That's your reaction because you have unconscious expectations of unfairness and interpret remarks accordingly."

Mrs. Z.: "Why not? You *are* often unfair."

She proceeded to give instances of his unfairness and had the best of the interchange. There was great satisfaction in this, for in the past this kind of criticism from him "would have left me helpless, and I would have curled up and cried".

Within the general framework of her fear of disapproval were two areas of acute sensitivity that lent themselves to systematic desensitization—fears of rejection and ridicule. Hierarchies were constructed on each of these two themes. (Examples of low intensity items from the rejection hierarchy were: (1) an acquaintance not reciprocating her invitations; (2) a teacher does not see the merit of her viewpoint; and high level examples were: (1) a respected friend behaves condescendingly; (2) her foster mother is angry with her.)

Mrs. Z.'s treatment was a combination of sustained encouragement of self-expression and desensitization of the hierarchies. After 31 sessions she felt well and "really calm", more so than she could ever remember. She was mastering situations with people and was no longer upset by the neurotic range of "disapprovals". She worked well and handled her lover with new confidence and was shortly able to give him up. At a 9-month follow-up she had married somebody else and her gains had been maintained, both emotionally and socially.

Case 3

Mr. T. was an 18-year-old youth with a very severe washing compulsion. The basis of this was a fear of contamination by urine, and most especially his own urine, mainly because he dreaded to contaminate others with it. When the treatment to be described began, the patient was almost completely impotentiated by his neurosis. After urinating, he would spend up to 45 minutes in an elaborate ritual of cleaning up his genitalia, followed by about two hours of hand-washing. When he woke in the morning, his first need was to shower, which took him about four hours to do. To these "basic requirements" of his neurosis were added many others occasioned by the incidential contaminations inevitable on any day. It is scarcely surprising that Mr. T. had come to conclude that getting up was not worth the effort, and for two months had spent most of his time in bed.

The neurosis evidently originated in an unusual situation at home. Until the age of 15 Mr. T. had been

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made to share a bed with his sister, two years older, because she had a fear of being alone. Having sexual responses to his sister had made him feel very guilty and ashamed. He had become angry with his parents for imposing this on him and had hostile and at times destructive phantasies about them. He had been horrified at these, and had begun to regard himself as a despicable individual.

Treatment in the first place consisted of the usual form of desensitization, employing imaginary scenes against a background of relaxation. Since he was also disturbed at the idea of anybody else's independent contamination with urine, the first scene he was asked to imagine was the sight of an unknown person dipping his hand into a forty cubic foot trough of water into which one drop of urine had been deposited. Even this scene produced some disturbance in Mr. T. at first, but this waned and disappeared in the course of a few presentations. The concentration of urine was then "increased" until the man was imagined to be inserting his hand into pure urine. At each stage a particular scene was repeated until it no longer evoked any anxiety.

In the next series of imaginary situations Mr. T. himself was inserting his hand into increasingly concentrated solutions of urine.

During the course of these procedures, which occupied about five months of sessions taking place about five times a week and lasting, as a rule, about twenty minutes, there was considerable improvement in Mr. T.'s clinical condition. For example, his handwashing time went down to about 30 minutes, his shower time to just over an hour, and he no longer found it necessary to interpose the *New York Times* between himself and his chair during interviews. However, at about this time it also became evident that there was an increasing lack of transfer between what he could imagine himself doing and what he actually could do. Whereas he could imagine himself immersing his hand in pure urine, to do so in actuality was out of the question.

It was therefore decided to try desensitization *in vivo*. This means that relaxation was opposed to increasingly strong *real* stimuli evoking anxiety. Accordingly, he was, to begin with, exposed to the word "urine" printed in big block letters. This evoked a little anxiety which he was asked to relax away. The next step was to put him at one end of a long room and a closed bottle of urine at the other end. Again, he had to relax away the anxiety; and then step by step the bottle of urine was moved closer until eventually he was handling it with only minimal anxiety which again he was able to relax away. When the bottle of urine was no longer capable of evoking anxiety, the next series of manœuvres was started. First of all, a very dilute solution of urine (1 drop to a gallon) was smeared on the back of his hand and he was made to relax until all anxiety disappeared; and then, from session to session the concentration was gradually increased. When he was able to endure pure urine his own urine began to be used; and finally, he was made to "contaminate" all kinds of objects with his uriniferous hands—magazines, doorknobs, and people's hands.

The numerous acts of desensitization outlined were completed at the end of June, 1961. By then Mr. T. had achieved greatly increased freedom of movement; he was dressing daily, his handwashing time had gone down to 7 minutes and his shower time to 40 minutes, and his cleaning-up ritual was almost eliminated. In September, 1961, he went back to school and was seen only occasionally until March, 1962. During this time, without active treatment, he made virtually no further progress. In March, 1962, he began weekly sessions and improvement was resumed. When last seen in June, 1962, his handwashing time was 3 minutes and his shower time 20 minutes. He said that he was coming to think of urine as "sticky and smelly and nothing else". During the later stages measures were also applied to overcome sexual and social anxieties.

Results of Behaviour Therapy in Complex Neuroses

In respect of the whole range of neurotic cases presenting for treatment, I have reported (1958) that 89 per cent. of 210 patients in 3 series treated by behaviour therapy were either apparently recovered or at least four-fifths improved on Knight's (1941) criteria (symptomatic improvement, increased stress tolerance, and improved function at work, sex and socially). In the last series, comprising 88 patients, the median number of interviews was 23 and the mean 45·6. *All* neurotic patients were accepted for treatment, but no psychotics. (More recently Hussain (1963) has claimed 95 per cent. of favourable results on Knight's criteria in 105 patients; and Lazarus (1963) states that of 408 neurotic patients who consulted him (including even those who came only once or twice) 321 (78 per cent.) "derived marked benefit on very stringent criteria".)

In reviewing the 88 cases I have found that 65 were *complex* in one or more of the senses defined in this paper, 21 were non-complex, and 2 turned out to be schizophrenic. Fifty-eight of the 65 (89 per cent.) were judged either apparently cured or much improved. This percentage is the same as that obtained for the whole group. However, the median number of sessions for the complex group is 29 and the mean 54·8, in contrast to a median for the non-complex remainder of 11·5 and a mean of 14·9 (see Table I).

Thus, complex cases respond to behaviour therapy as often as simple ones do, but therapy takes longer, presumably because there is more to be done. The principles are the same.

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TABLE I

Comparison of Numbers of Sessions in Complex and Single Neuroses. The Total is only 86 because 2 Cases that turned out to be Schizophrenic are Excluded

	Number	Median Number of Sessions	Mean Number of Sessions
Complex neuroses	65	29	54·8
Simple neuroses	21	11·5	14·9
Whole group ..	86	23	45·4

There is a constant need to find new methods that utilize these principles as well as to improve our skills in the methods we have.

Meanwhile it must be stressed that the unravelling of the stimulus-response relations of neurotic reactions is usually no simple matter and quite often very difficult. In general, a high level of knowledge and skill is required for the adequate practice of behaviour therapy. A presumption has arisen that "anyone can do it", and assessments of it have been made (e.g. Cooper, 1963) on the results obtained by untrained and inexperienced therapists—a practice that obscures the realities (Wolpe, 1963b).

SUMMARY

This paper seeks to examine the allegation that behaviour therapy is of value only for "simple" neuroses. One of the major experimental bases of behaviour therapy is described and its main techniques are outlined. Six types of features that give complexity to a neurosis are defined.

A previously published series of 88 cases treated by behaviour therapy is re-examined to see what differences of outcome there were between "simple" cases and those that were complex in one or more of the ways defined. The recovery rate (apparently cured, or much improved) was the same in both groups, but the median number of sessions used for the complex group was two and a half times that for the non-complex group, and the mean was almost quadruple.

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