USE OF THESES

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May 1979
This essay is my own work and all sources used have been acknowledged.

R.T. Dooley
May 1979
PREFACE

This is an essay for a Masters Degree in Applied Psychology (by course work). For the duration of this course my objective has been to obtain skills for helping people with psychological problems. To do this competently, I felt the need for a conceptual framework from which to view abnormal behaviour and in which the skills to be applied were grounded.

It can readily be appreciated therefore that there is no joy for a person planning to begin practice as a clinical psychologist with an orientation to the use of behaviour therapy to read statements such as the following. Present day behaviour therapy "has no universally accepted definition, no consensus as to goals, concepts or underlying philosophy, no agreement as to its purview, no monolithic point of view, no overriding strategy or core technique, no single founding father, no general agreement about matters of training, and there is no single profession to which primary allegiance is declared". (Lazarus and Wilson, 1976).

Certainly behaviour therapy has changed and developed since its "modern" beginning with Wolpe's Reciprocal Inhibition in the mid 1950's, and the most obvious characteristic of this change has been a broadening of its scope, with a concomitant growth in techniques practised under a behaviour therapy heading. However, for my part, behaviour therapy does have a different conceptual tradition to the other psychotherapies and is distinguished from them by a distinctive approach (or methodology) for the practice of therapy.
This essay then attempts to establish what behaviour therapy is today by identifying its conceptual framework and against that background to set out an approach by which therapy with the individual client may be practised. My main purpose in adopting this approach was heuristic - I wanted to use the writing of the essay as a method of confirming my understanding of behaviour therapy and to provide a grounding for beginning practice.

By choosing such a broad objective the difficulty in writing was to determine to what level of detail the full field and each issue within it was to be treated. I have tried to solve this problem by focussing firstly on the two directions in which the "theory" has moved in recent years, i.e. the admission of cognitive processes to a functional role in the behavioural equation and development of the social learning perspective. In doing so it has been recommended that a new emphasis be given in behaviour therapy practice to the research in social psychology on the interactional influence of persons and situations in determining behaviour emitted and, in turn, being influenced by the behaviour produced. Secondly the practice of behaviour therapy has been examined as a methodology to establish the phases of an intervention programme and their purposes and to offer a comparison of the models and methods which may be adopted in each phase.

To conclude the essay the final chapter discusses the worth of behaviour therapy as a clinically effective and efficient approach to psychotherapy.
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There can be no absolute definition of abnormal behaviour. Normality can be established by reference to statistical data, social agreement, legal definition or even personal preference. In the field of clinical psychology its conceptualisation varies across a wide range of currently held perspectives, or points of view, of how to describe, measure and control or change human behaviour. These perspectives appear to be at the stage of scientific revolution which Kuhn (1962) described as a "paradigm clash", i.e. a variety of fundamentally different viewpoints competing for ascendancy, or as argued here "a clash of perspectives".

Kuhn (1962) defined a paradigm as a body of research which is accepted by a group of scientists and which consists of specific procedures, measuring devices and empirical laws, plus a theoretical superstructure. The abnormal behaviour perspectives have each of these requirements, but to a limited extent only, particularly empirical laws and theories. For example, it would be generally conceded that the underlying theories do not meet the criteria advanced for admission as a scientific theory (Nagel 1959). Thus the competing viewpoints should be placed in the pre-paradigm stage.

Most adherents to a perspective recognise this and avoid the term "theory" in favour of "models" to describe their approaches. Price (1972) makes a case that the differing approaches are in fact metaphors rather than models. Models, he claims, are tentative,
they have an "as if" character, whereas most views of abnormal behaviour tend to be prescriptive and literal. For example, one seldom says abnormal behaviour may be viewed "as if" it were an illness. Instead one says that abnormal behaviour "is" mental illness. Metaphors on the other hand are processes of thought whereby new events may be understood in terms of more familiar concepts. However, a metaphor goes further; it transforms an old concept by including a new meaning (e.g. illness now includes mental not just physical illness), fixes our view of the situation and makes the new construction seem real.

By use of a metaphor adherents of different viewpoints of abnormal behaviour seem to experience the same event in radically different ways and because they tend to see the behaviours and events in question in terms of their own metaphor, the perceptual effects are emphasised. For this reason, and the shortfall in theoretical achievement, the competing views of abnormal behaviour can best be described at their present state of development as perspectives. The clash of these perspectives is not over minor issues of fact or methods but over basic metaphysical assumptions (London, 1972; Price, 1972; Yates, 1975). It is exemplified by the problems of communication between proponents of each perspective, the differing levels of analysis (e.g. intrapersonal v social) and their general pre-theoretical nature.

In this essay the view is taken that, in the course of social development, a person acquires different modes of coping with environmental stresses and demands. These response strategies are responsible for effecting adaptive or maladaptive outcomes in certain
situations. Thus, abnormality, in the sense that it is a degree of maladaptation or inability to cope, is not a property inherent in some forms of behaviour and not in others but rather is the reflection of evaluative responses of societal agents to actions that run counter to prescribed codes of conduct. The criteria for such evaluation are numerous and subjective, including the aversiveness of the behaviour, the social attributes of the deviator, the normative standards of the persons making the judgements and the social context in which the behaviour is performed.

For the purposes of modification, abnormal behaviour (like normal behaviour) is viewed as a function of antecedent and consequent environmental events which may be external situational, internal physiological or cognitive events and which may vary in different situations, in different people, and often, at different times in the same person. Behaviour is neither a product of largely autonomous internal forces nor a simple function of external environmental contingencies. Psychological functioning involves a reciprocal interaction between a person's behaviour and the environment; a person is both the agent and the object of environmental influence.

This outline should be recognised as the social learning perspective (see Bandura 1969, 1974, 1977) and is an expansion of the learning viewpoint in Figure1.0. Behaviour therapy is the application of a diverse set of techniques within the framework of this perspective.

It can be compared to the rival perspectives of abnormal behaviour in Figure1.0 which sketches the important characteristics of each view. This chart, from Price (1972), is obviously superficial but is
reproduced here for the purposes of reference. Clearly the learning-cum-social learning perspective from which behaviour therapy emerges conflicts with the two other major perspectives that produce competing forms of psychotherapy, viz. the psychodynamic and humanistic\textsuperscript{1} views.

It is with the psychodynamic perspective that behaviour therapy has been compared in the main and has come into most conflict. In fact much of the impetus for the resurgence of behaviour therapy techniques in the 1950's arose from the dissatisfaction of clinical psychologists with the assumptions of this approach. The main points of attack were (i) the necessity to search beyond the presenting behaviour for underlying "dynamic" causes of that behaviour; (ii) the lack of empirical support for psychoanalytic psychotherapy being more effective than no treatment (Eysenck 1952, 1960); and (iii) the lack of empirical research to validate the theories of psychoanalysis (due principally of course to the nature of the theories themselves).

In a similar vein criticism of the humanistic viewpoints has been aimed at the untestable assumptions of a universal drive to actualisation and growth of the self and the consequent obvious lack of empirical evidence to support predictable relationships between the concepts postulated. A conceptualisation which focusses only on a universal characteristic within people that allows them the potential to determine their futures is also at variance with the large body of empirical evidence showing the situational specificity of behaviour, and more significantly, the interactional process which operates between individuals and their environments.

\textsuperscript{1} Note that the humanistic perspective combines a number of distinct approaches, e.g. self-concept (Rogerian), existentialism and phenomenology. Justification for this is that these approaches are unified by a common view of man that is optimistic (cf. Freud) and focusses on the realisation of human potential.
<table>
<thead>
<tr>
<th>Basic metaphor</th>
<th>Psychodynamic</th>
<th>Illness</th>
<th>Learning</th>
<th>Moral</th>
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<td>Intraspsychic disease</td>
<td>Learning</td>
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<td>Subordinate concepts</td>
<td>Id, ego, superego, anxiety, defense</td>
<td>Nosology, etiology, symptom, syndrome, prognosis</td>
<td>Sin, guilt, confession, expiation, symptom</td>
<td>Experience, self-concept, incorruptibility, conditions of worth</td>
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**Causal factors**

| Intraspsychic conflict | Organic, biochemical, genetic | Reinforcement; classical and operant conditioning | Sinful behavior | Conditions of worth, deficiency needs | Diverse factors: organic, psychological, social, labeling |

**How abnormal behavior is described**

| Defense and anxiety | Symptoms, syndromes, disorders | Maladaptive behavior | Symptoms that deal with anxiety and guilt | Defensive and disorganized behavior | Behavior that is deviant; audience reaction emphasized |

**Means of therapeutic intervention**

| Psychoanalysis | Medical treatment; drugs; shock treatment; surgical procedures | Behavior | Intensity, therapy; via confession and explanation | Client centered therapy; sensitivity training | Institutional reform |

**Major proponents**

| Freud | Meeth, Ausubel, Kraepelin | Skinner, Eysenck, Bandura, Ullmann, Krasner, Wolpe | Mowrer | Rogers, Maslow, May | Goffman, Becker, Scheff, Sarbin |
Finally a comment on the illness perspective. This perspective is now surrounded in controversy over its basic conception of abnormal behaviour as a disease. Szasz (1960) leads the opposition contending that the medical model is totally inadequate because psychiatry should be concerned with problems of living and not with pseudo diseases of the brain or other biological organs. Szasz argues that "mental illness is a myth, whose function it is to disguise and thus render palatable the bitter pill of moral conflict in human relations".

The brief comments above are not meant as conclusive criticism leading to rejection of these views. They have been made to point out the quite different traditions from which the competing techniques of psychotherapy have emerged.

There can be little doubt that the behavioural or social learning view represents a dramatically different perspective in the area of personality and complex human interaction. Such deviation from the traditional psychic causes and mental illness approaches has stimulated extreme reactions. This response can also be attributed to the over zealous enthusiasm of behaviour modifiers in expanding, refining and proselytising their efforts. Although there has been considerable empirical support for the scientific productivity and clinical promise of behavioural approaches, enthusiastic claims have often outstripped existing knowledge (Mahoney, 1974).

In the following sections of Chapter 2 the conceptual framework of behaviour therapy is examined as one of the viewpoints of abnormal behaviour in this context of competition. Emphasis is placed on the changes that have occurred in definition and assumptions and in the
expansion of the traditional S-R learning metaphor into a
behavioural equation that incorporates the abilities of the
individual in both physiological and cognitive terms and that is in
need of further modification to reflect the interactional influence
of the person, situation and behaviour at any one point in time.
CHAPTER 2.

CONCEPTUAL BASIS OF BEHAVIOUR THERAPY

Any statement of the current conceptual basis of behaviour therapy is likely to be contested. The field is now distinguished as much by the broadness of its orientation as it has been by emphasis on objective measurement of observed behaviour and dismissal of the need to postulate psychic causes. The first step in establishing what behaviour therapy is today is to compare the stages of its development.

2.1 Historical Development

Like most of the means of influencing people to selected courses of action, the notions central to behaviour therapy, such as reward or punishment of certain behaviours, will find parallels in our earliest writings. However, it is generally accepted that the historical foundation of behaviour therapy lies in the experimental work of Pavlov in Russia and the behaviourism of Watson in America at the beginning of this century.

The experiments by Pavlov on classical conditioning and by Bekhterev on instrumental conditioning in the animal laboratories were initially for physiological reasons. The principles enunciated in these studies were important in themselves but, in terms of a behaviour therapy beginning, the experimental procedures were quickly applied to the area of human abnormal behaviour. Pavlov (1932, 1933 and 1941) published extensively the results of applying his theories and techniques to abnormal behaviour, as did Bekhterev (1912, 1923 and 1923a).
In America the psychologist J.B. Watson also recognised the applicability of the Russian conditioning work to human problems and published *Behaviourism and the Concept of Mental Disease* in 1916.

This was followed by a number of studies by Watson and others applying behaviouristic techniques to a wide range of disorders (see Yates, 1970).

It is this initial period of applied psychological research that led Lazarus (1977) to describe the later resurgence, viz. Wolpe (1954), as a "rebirth of behaviour therapy".

In a parallel line of animal experimentation, Thorndike (1911) and later Skinner (1938) in his book *The Behaviour of Organisms; an Experimental Analysis*, formulated the operant conditioning paradigm which explored, in the "Empirical Law of Effect", the controlling strength of consequent events on the future rate of a given response (unlike the Russian work on the importance of antecedent conditioned and unconditioned stimuli).

From this beginning the modern "theories of learning" emerged to construct models embracing a wider range of phenomena than the conditioning paradigms (Hull, 1943; Mowrer, 1947; Tolman, 1932).

The next stage in the development of behaviour therapy arose from the impetus of "negative" factors, principally dissatisfaction with the traditional conception and treatment of mental illness. Yates (1970) provides a full discussion of this stage, but the basic sources of dissatisfaction were the medical model adopted by psychiatrists, the psychodynamic approach and the prevailing role of the clinical psychologist, i.e. pseudo-psychiatrist and assessor. Criticisms of the two "establishment" perspectives were covered in Chapter 1.
The first move was to attempt a reconciliation of psychodynamic concepts and learning theory, hoping the latter would gain clinical utility and psychodynamic principles would achieve scientific respectability (Lazarus, 1977). Papers such as French's (1933) Interrelations Between Psychoanalysis and the Experimental Work of Pavlov, and those of Shaw (1946) and finally Dollard and Miller (1950) attempted the reconciliation but did little more than translate psychodynamic concepts into learning theory language.

It was with this "negative" impetus that the "rebirth" of behaviour therapy took place in the early 1950's, particularly with Wolpe's (1954) development of systematic desensitisation as a treatment for phobic disorders. Based on his earlier work in the modification of experimentally induced neurotic reactions in cats, Wolpe (1958) formulated his "psychotherapy by reciprocal inhibition". He set out the procedures for performing systematic desensitisation, his empirical evidence and theoretical rationale. Although each of these factors has been submitted to serious criticism, mainly because they were so clearly set out to begin with, the style of this work led the emergence of the current range of behaviour therapy techniques. (Although the term "behaviour therapy" was first used by Lindsley (1954), Lazarus (1958) is generally credited with introducing the term in referring to Wolpe's reciprocal inhibition framework.)

Yates (1970) also emphasises the work of M.B. Shapiro in England in this phase, especially his prescription for the role of clinical psychologist as one akin to research worker applying the methods of investigating the single case through formulating and testing hypotheses in order to systematically manipulate and change abnormal behaviour.
From this period the field of behaviour therapy has grown by the addition of new techniques, elaboration of its theoretical framework and applied research. Four comprehensive overviews of the field were published at the beginning of the 1970's (Bandura, 1969; Franks, 1969; Kanfer and Phillips, 1970; and Yates, 1970). The expansion in research and the applied use of behaviour therapy techniques was initially conveyed through the journal *Behaviour Research and Therapy* founded by Eysenck in 1963. Three other major journals now cover the field: *Journal of Applied Behaviour Analysis*, *Behaviour Therapy* and *Journal of Behaviour Therapy and Experimental Psychiatry*, with at least five others having emerged more recently.

The principal development in recent years has been the public admission of cognitive processes to the province of behaviour therapy. The conceptual framework now postulates that, in humans, learning does not occur automatically and is in fact cognitively mediated (Bandura, 1969; Brewer, 1974; and Mahoney, 1974). This movement is from the earlier position, now described as radical behaviourism, which eschewed cognitive processes and claimed that all behaviour could be explained in terms of observable environmental events and contingencies without the need to infer "mental processes".

In general behaviour therapy has become in the 1970's a viable model for therapeutic intervention; not just as a competitor with the traditional approaches, but with its techniques being used often in conjunction with other forms of therapy in multi-faceted treatment programs. Yates (1975) goes to the extent of saying - "... behaviour therapy appears to have replaced psychoanalysis as the 'in thing' ...".
While this is disputed by Wolpe (1978): "The sad fact is that psychoanalysis still dominates the psychotherapeutic scene, both in numbers of its practitioners and in its input to clinical training."
there can be no doubt about the broad adoption of a behavioural
This growth has not been without criticism and a "Clockwork Orange"
stigma has led to some legal restrictions on behaviour therapy techniques
in institutions in the USA.

2.2 Definitions

One characteristic which now identifies behaviour therapy is its
broadness as an orientation to psychological therapy. This expansion
is reflected in the changing definitions of behaviour therapy. 1.

At the beginning of use of the term, Eysenck (1958) described
behaviour therapy in ten statements:

1. Behaviour therapy is based on consistent, properly
   formulated theory leading to testable deductions.

2. Behaviour therapy is derived from experimental
   studies specifically designed to test basic theory
   and deductions made therefrom.

3. It considers symptoms as unadaptive conditioned
   responses.

4. It regards symptoms as evidence of faulty learning.

5. It believes that symptomatology is determined by
   individual differences in conditionability and
   autonomic liability, as well as accidental environmental
   circumstances.

6. All treatment of neurotic disorders is concerned with
   habits existing at present; their historical development
   is largely irrelevant.

1. Throughout this essay the term behaviour therapy is used pre-
   dominantly and is intended to be synonymous with behaviour
   modification. Some authors have distinguished the two terms,
   using behaviour therapy as the English and classical conditioning
   stream and behaviour modification as the American and operant
   conditioning stream. Such a dichotomy seems to be disappearing
   in the literature.
7. Cures are achieved by treating the symptom itself, that is by extinguishing unadaptive conditioned responses and establishing desirable ones.

8. Interpretation, even if not completely subjective and erroneous, is irrelevant.

9. Symptomatic treatment leads to permanent recovery provided autonomic as well as skeletal surplus conditioned responses are extinguished.

10. Personal relations are not essential for cures of neurotic disorder, although they may be useful in certain circumstances.

In short, behaviour therapy was "the attempt to alter human behaviour and emotion in a beneficial manner according to the laws of modern learning theory" (Eysenck, 1964).

From this stage the definition has been changed along two main lines: (a) removing the condition of learning theory as a necessary factor; and (b) emphasising the methodological (controlled experimental study) approach of behaviour therapy. The low importance attributed to the client/therapist relationships (10. above) is also queried in Chapter 3.

Thus, Yates' (1970) definition of behaviour therapy is "the attempt to utilise systematically that body of empirical and theoretical knowledge which has resulted from the application of the experimental method in psychology and its closely related disciplines (physiology and neurophysiology) in order to explain the genesis and maintenance of abnormal patterns of behaviour; and to apply that knowledge to the treatment or prevention of those abnormalities by means of controlled experimental studies of a single case, both descriptive and remedial".

The point being emphasised is that behaviour therapy is a methodological prescription, i.e. a unique and systematic way of approaching therapeutic
intervention. A definition of this kind is now widely accepted by writers in the field, e.g. Goldfried and Davison (1976) - "... behaviour modification is more appropriately construed as reflecting a general orientation to clinical work that aligns itself philosophically with an experimental approach to the study of human behaviour"; Craighead, Kazdin and Mahoney (1976) adopt the following criteria - "use of a broadly defined set of clinical procedures whose description and rationale often rely on the experimental findings of psychological research and an experimental and functionally analytic approach to clinical data, relying on objective and measurable outcome."

Wolpe (1976) takes the expansion trend to task and requires that behaviour therapy be a prescriptive definition since it is an artificial construct: "The definition of behaviour therapy is quite straightforward. It consists of treatment methods derived from experimentally established principles and paradigms of learning (and related principles): and not from 'learning theory' as is sometimes stated, for there are many learning theories. The methods are used to weaken and eliminate unadaptive habits, and to initiate or strengthen adaptive ones. The target habits may be in any of three behavioural modalities - autonomic, cognitive and skeletomotor - and usually partake of all three." Kirsch (1977) opposes this claiming that every prescriptive definition must change as knowledge in the field grows, with Wolpe's (1977) response being "... materials and the method of building change the particular materialisation - not the constructs ... Let other therapists call their therapies by names other than behaviour therapy."

From this range of views the following definition is synthesised. Behaviour therapy is the application of a number of specific techniques
that employ empirically tested psychological (especially learning) principles to teach adaptive human behaviour. The term behaviour is interpreted broadly, encompassing both covert events (thoughts, perceptions), when such can be clearly specified, and overt events (motoric action, speech). The application is made by a methodology consistent with the experimentally controlled study of the individual case and on the basis of fitting techniques to the idiosyncratic behavioural sequences of a person in his/her specific environment.

This definition reflects the elements identified as necessary for a successful therapeutic intervention, viz. use of empirically tested principles (of learning), specification of the factors maintaining the behaviour and the variables to be manipulated to change it and an intervention procedure organised in the manner of a controlled behavioural experiment. These common elements are elaborated in the following discussion of assumptions on which the application of behaviour therapy has proceeded.

2.3 Assumptions

There are several immutable assumptions made by every behaviour therapist irrespective of his theoretical preference, broadness of technique range or procedure for application. The definition of Eysenck (1958) cited previously states the assumptions in an early form. It would appear that the assumptions common in behaviour therapy today are reduced to five:

1. **Behaviour therapy assumes that abnormal behaviours are, to a considerable degree, acquired through learning, the same way that normal behaviours are learned.**
This is so in the sense that learning means the changing of acts or capacities that develop as a result of interaction with the environment. The reservation in this assumption acknowledges the fact that some forms of abnormal behaviour arise from organic disruption (e.g. brain lesion). However, given an assessment of organic capability, any person's ability to learn new, or to modify existing, normal or abnormal behaviour patterns depends on interaction with the environment.

It follows from this assumption that abnormal behaviour becomes a function of a person's lack of adaption to the environment, in terms of the damaging (to whatever degree) impact such a learning malfunction has on the individual and those around him/her. Equally it does not necessarily follow that alteration of a behaviour through a certain learning process identifies the etiology of that behaviour.

2. Behaviour therapy assumes that enduring change in abnormal behaviour can be effected by concentrating on the behaviour itself without the need to postulate and treat underlying pathological or psychic causes.

Emphasis on behaviour in its environmental context orientates behaviour therapists towards changing a person's observable actions, instead of attempting modification of hypothesized personality structures, such as traits or impulses. This strategy results in treatment of deviant responses as such, not underlying mental (disease) processes that are said to cause symptomatic behaviour.

An emphasis on observable events does not deny at the outset the importance of behaviours that may not be accessible to observation at a given moment, nor does it reject the utility of a person's self-descriptions or verbal narratives about events. However,
"it demands a clear and explicit understanding that these behaviours not be used as substitutes for observations of internal events and that an hypothetical construct not be accepted as an explanation of the very same behaviour from which it is inferred" (Kanfer and Phillips, 1970).

It is a corollary of this assumption that removing a symptom while ignoring the "underlying cause" does not necessarily mean that symptom will reoccur or a substitute symptom will occur. Behaviour therapists do not deny the phenomenon of symptom substitution. They do, however, challenge its frequency of occurrence (Ullmann and Krasner, 1969) and its correlation with direct treatment of problem behaviour; offering instead more parsimonious explanations of how symptom substitution may occur (e.g. orders of response strength and inadequate planning or training for transferring modified behaviour to the natural environment.

To be clear this assumption does not ignore the role of physiological (metabolic, biochemical) factors in producing abnormal behaviour in some cases. Behaviour therapists recognise this and institute programmes which may incorporate direct treatment of physiological conditions (e.g. by drugs). Such treatments should, however, be regarded as non-behavioural. (Lazarus' (1973) Multimodal Behaviour Therapy deviates in regard to this last point).

3. Behaviour therapy assumes that behaviour is highly situation specific, i.e. what people learn are specific ways of reacting to or dealing with specific environmental circumstances.

Such an assumption does not deny that patterns of behaviour learned in one situation transfer or generalise to other similar situations. However, it is argued that the person's behaviour comes under the
control of that new situation specifically, in an interactional way, where the person's previous learning history also has an influence on the behaviour emitted.

The rejection of notions of traits or generalised characteristics was covered comprehensively by Mischel (1968). His conclusion then was that a person's behaviour in one set of circumstances is generally a rather poor indicator of how he will respond to situations that are markedly different. In other words, different behavioural manifestations of the same "trait" do not intercorrelate very highly. The behaviourist's position is that a far better predictor of future behaviour in a given set of circumstances is past behaviour in the same or similar circumstances.

Mischel (1973) now appears to have adjusted this position substantially to line up with an interactional perspective. Such a view holds that an even better predictor of a person's behaviour is the interaction of the person and the same or similar situation (Bowers, 1973).

4. Behaviour therapy assumes that current environmental circumstances maintain current problem behaviours, hence the essentially ahistorical nature of behaviour therapy.

This assumption is important in that it determines the importance of historical events or past learning in changing abnormal behaviour. The behaviour therapist is interested in historical material only to the extent that it is relevant to identifying the variables that are still influencing the person's behaviour (or to guide the selection of intervention techniques). As present problematic
behaviour can be affected only by variables acting in the present, then analysis is aimed at finding the variables which can be manipulated to bring about the most change. Knowledge of past learning experiences is thus generally restricted to the examination of past situations that are the same or similar.

5. **Behaviour therapy assumes that behaviour can be broken into a sequence of events with lawful relationships predicting the interaction between these events.**

Granted this assumption, behaviour therapy attempts to utilise the known empirical evidence of these relationships to bring about changes in the overall sequence or pattern of behaviour. This assumption leads to the behaviour equation postulated initially in terms of stimulus and response and now expanded (Lindsley, 1964; Kanfer and Phillips, 1970).

**2.4 Behavioural Equation**

For the purposes of analysis and understanding, the continuous behaviour of a person must be divided into segments. Complete description of any behavioural unit will then require specification of each of these segments and their interaction with each other.

Kanfer and Phillips (1970) provide the following equation to represent the segments and their temporal relationships:

\[ S \rightarrow O \rightarrow R \rightarrow K \rightarrow C \]

Where:
- \( S \) = Prior Stimulation
- \( O \) = Biological State of the Organism
- \( R \) = Response Repertoire
- \( K \) = Contingency Relationship
- \( C \) = Consequence
In this form the behavioural equation serves to summarise all the conditions acting at the time of the response which may have relevance to the probability of future response occurrence. The equation also indicates that all behaviour is considered a function of specific and limited determinants, and that these determinants can be fully represented by the segments in the equation. In transferring this micro interpretation to a macro level the notion of chaining behavioural units is used.

The shortcoming of representing behaviour in this form is that a unidirectional causality is implied. It is argued in detail later in this Chapter (2.7) that a new emphasis behaviourists must adopt is that of the interactional nature of behaviour, i.e. a reciprocal determination of persons, behaviour and the environment (Bowers, 1973; Mischel, 1973). Bandura (1977) represents this format as $\frac{B}{P \rightarrow E}$. However, within this perspective, for analysis to take place, behaviourists are currently limited to the taxonomy of stimulus, response, organism, contingency and consequence, and to viewing the elements Behaviour, Person and Environment as performing these roles.

These five functional roles frame the behaviour therapist's view of abnormal behaviour and therefore govern the way treatment is approached. Their reflection in practice is presented in the following chapter but it is seen that the methodology of a behaviour therapist derives, not only from a requirement of the controlled experimental approach to a behavioural problem, but the meanings which are given variables, the selection of environmental and organismic factors which are considered important and the interpretation of observed regularities of behaviour come from a conceptual framework quite different from that of other psychotherapies.
**Response:** The response or the action of the individual is the centre of the equation and has been defined generally within three response systems: motor, physiological and cognitive. Adams, Doster and Calhoun (1977) have provided an enlarged Psychological Response Classification System and describe the forms of responding under the categories of motor, perceptual, biological, cognitive, emotional and social. It is interesting to compare this classification with the seven modalities Lazarus (1973) proposes as essential for a comprehensive assessment of behaviour, viz. BASIC ID (see Section 3.1).

In behaviour therapy terms, two methodological limitations are generally observed: (i) social and verbal responses are considered responses in their own right, not as expressions of other inferred processes and (ii) covert activity such as thinking, perceiving, etc. are subject to experimental (clinical) analysis but only when they can be directly measured or defined in a way that there need be no recourse to hypothetical intervening events that are not demonstrable (Kanfer and Phillips, 1970). This may mean relying on self-report but ideally the therapist would look to other public referents as confirming measures.

On a further dimension, a distinction has been made between responses that are under the control of prior stimuli (respondents) and those under the control of consequences (operants). Although this differentiation has been criticised as artificial (Di Cara, 1970; and Staats, 1968), it still receives practical use, e.g. emotional responses involving autonomic activity are seen as respondents and therefore control of antecedent stimuli will be looked to in effecting modification. All classifications are artificial; it is their utility that is important.
More importantly, however, is the learning process by which responses form patterns of behaviour through a process of adaption.

"The building blocks of behaviour may be present in the repertoire of an individual but biological and environmental conditions dictate the degree to which patterns of responses are learned so that they form an effective behavioural act. There is probably no single 'innate' pattern of any great complexity or importance in human behaviour that is maintained throughout life without continuing modification." (Kanfer and Phillips, 1970). The strong situational bias in this view is evident in the designation of environmental conditions with 'dictatorial' powers.

Stimuli: The stimulus component of the behavioural equation is concerned with specifying the environmental conditions that have a functional relationship to behaviour. They may be external or internal to the organism. Thus at any one point in time a person is responding to only particular components of the environment as stimuli and, according to a cognitive learning viewpoint, primarily to cognitive representations of the environment not the environment per se.

Under a classical conditioning paradigm the unconditioned stimulus is inherently related to the response it elicits whereas, in the operant paradigm, control of responses is gradually built up by a process of discriminating stimuli. In the latter case, a stimulus becomes a discriminant for a behaviour (becomes a cue) when that behaviour has been previously reinforced in the presence of that stimulus and not reinforced in the absence of that stimulus. Most effective human behaviour (discriminated operants) becomes
controlled by cues as conditions are identified under which an action will be reinforced or not. As one response serves as a discriminative stimulus for the following response so behavioural chains are formed.

Organism: Covert events have been considered as stimuli in this breakdown, however, some writers place them in the segment of the equation describing the properties of the organism itself. Here, the organism is taken to cover those biological variables which are functionally operative in the unit of behaviour.

The debate over the primacy of physiological or social variables in determining behaviour is of course not resolved. Research is available on both sides to show behaviour change resulting from modification of each modality. In analysing behaviour, the behaviour therapist must be aware of the organismic conditions which can affect responses in the individual. Such conditions as age, physical handicaps and nutritional deficiency would be covered in any assessment of the O variable influencing behaviour. Of special interest should be the effect of drugs, particularly in their role as facilitators of change, i.e. while a drug will not in itself establish a new social behaviour it may alter perception, motor activity etc. which in turn establishes a new environmental condition for learning.

Consequences: The functional property of a consequence is really outside the equation as it determines the probability of responses occurring in subsequent units of behaviour. Various of the learning theories (e.g. Thorndike's Law of Effect, Hull's Drive Reduction
Equation and Guthrie's Contiguity Theories) have postulated the function of the consequence to a response. In the operant conditioning paradigm, Skinner (1938) defined consequences purely in terms of an empirical relationship, i.e. any immediately consequent event that has the effect of changing the probability of the preceding response is defined as a reinforcing stimulus for that response. This definition must be taken further in the interest of predicting the direction of that change by examining the other components of the equation to determine whether a consequence will have positive reinforcing properties, i.e. increase response strength (probability of occurrence) by its addition or negative reinforcing properties, i.e. increase response strength by its subtraction. In human behaviour chains the addition of an aversive consequence is the punishment model.

Some of the basic principles of learning, formulated and tested empirically, arise from this basis, e.g.:

- non-contingent withholding of reinforcement will weaken behaviour leading to its extinction;
- behaviour that is punished will occur less often and lead to the learning of escape or avoidance behaviours; and
- punishment alone will not teach new positive behaviours, new behaviours being acquired through a new conditioning process.

Premack's (1959) Differential Probability Principle should also be mentioned because of its use in behaviour therapy. This principle holds that a behaviour serves as a reinforcing stimulus if its probability of occurrence is greater than that of the behaviour to be reinforced when both are available. Behaviour modification then involves a rearrangement of responses so that opportunity for making a high probability response is always contingent on prior execution of the
desired response of lower probability.

The process of reinforcement is generally divided into two categories: conjugate reinforcement where the intensity or availability of a continuously present reinforcer can be made a direct function of the rate or sequence of responding, and episodic reinforcement where long sequences of behaviour are reinforced. This distinction has importance in viewing the way a social behaviour might be initially learned (conjugate reinforcement) and maintained (episodic reinforcement).

**Contingencies:** This segment refers to the arrangement or contingency by which a certain consequence follows a given response. In the physical sciences, the relationship of responses and consequences is consistent, e.g. the law of gravity, whereas with human social behaviour, the contingency arrangement is far more variable.

Generation and maintenance of a given response rate is therefore determined not only by its consequences but also by the particular schedule under which the consequences appear. Thus schedules of reinforcement, which vary according to the proportion of responses reinforced or the temporal relationship, will affect the speed of acquisition of the response, the strength at which it is maintained, and the decay of an established response. Complex human behaviour is under the control of multiple schedules and the discriminative stimuli discussed earlier act to forecast which schedule is operating for given behavioural units.

Rate of responding can also be varied according to a process of shaping where different classes of behaviour are reinforced in the order
of successive approximations. By this method behaviour can be learned by reinforcing a response approximating it and working closer to precise production of the desired response.

Use of the above model of viewing behaviour is the essence of a behavioural approach. It is the means by which behaviour can be approached in an experimental manner through the testing of hypotheses about the relationships between segments of the equation. In a clinical setting where experimental precision, objectivity and empiricism may not be attainable, the equation's advantages are in the opportunity it provides to orderly and accurately describe data, to be thorough in analysis aimed at discovering the conditions influencing a problem behaviour and to be systematic in implementing changes to the variables and measuring their effects. The principles of learning used in the techniques of behaviour therapy have been formulated in terms of the segments of the behavioural equation.

Regardless of the polemics written about the role of "learning principles/theories" in behaviour therapy, most of the techniques practised are postulated in learning terms. The most influential sources of learning principles are the conditioning paradigms (classical and operant) (see Bekhterev, 1928; Pavlov, 1927; Skinner, 1938; and Thorndike, 1911). These paradigms have been the basis of experimental investigation to produce empirical evidence of the lawful relationships between the variables in the equation and to understand the relevant parameters affecting these relationships (schedules of reinforcement, interval between conditioned and unconditioned stimuli, etc.) (see Ferster and Skinner, 1957; Honig, 1966; and Kimble, 1967). The learning theories were formulated to explain these relationships
The S-R learning models are now generally seen as narrow in focus as they attempt to cope with explanations of human behaviour rather than the results of animal experiments. While a number of laws of learning have been consistently demonstrated in laboratory studies, no theory of learning has as yet been formulated that can accommodate all the diverse findings. "In their enthusiastic support of learning theory, early behaviour therapists erroneously and prematurely adopted clinical procedures directly from experimental studies of animal behaviour. It was assumed that the principles of reinforcement governing modification of simple motor responses of animals in highly controlled laboratory settings could be applied directly to clinical disorders in humans." (Hersen, Eisler, and Miller, 1975).

This is now known not to be the case. The human capacity for language and thought provides possibilities for learning without the need to engage in active conditioning arrangements. One of the bridging links has been the empirical work on vicarious learning and theoretical explanations for the acquisition of new behaviour through observation and modeling (see Bandura, 1969).

It is not intended to present more detail on these works here. The summation of the relevance of learning principles has been achieved in Kanfer and Phillips (1970). Rather, the remainder of this part is directed at two unifying theoretical approaches with attempt explanations of behaviour in terms of an interaction between the individual and his environment.
Firstly, however, that body of opinion should be reviewed which
denies the necessity for a theoretical basis for behaviour therapy

2.5 Theory or Technology?

One opinion favours the view of behaviour therapy as a technology
of therapies and eschews the need for a theoretical underpinning,
at least at this stage of its development.

London (1972) states the case this way. "But what about theory?
If behaviour modification lacks theory, then is it not reduced to a
technology rather than a science? Yes, it is and I believe that is
what it should be, just as medicine is technology rather than science."
He maintains that behaviour therapists have never had a theory to
apply, but, in fact, an ideology as a rallying point. The "much
trumpeted theory in behaviour therapy amounted only to a stress on
the functional analysis of problems that has produced a proliferation
of techniques." Breger and McGaugh (1965) have also criticized the
eyearly behaviour therapists for attributing the origin of their
techniques to learning theory, arguing that there is no basis for
positing a unified learning theory approach.

London, claiming to take up the categorisation proposed by Kuhn (1962),
distinguishes metaphors (e.g. practices such as systematic
desensitisation and flooding) from paradigms (e.g. Skinner's operant
conditioning) on the ground that the workings of the latter are well
understood. However, "Neither metaphors nor paradigms are scientific
theories by some distance, but both of them are useful intellectual
tools". London advises behaviour therapists to abandon any further
attempt to pursue this line and to concentrate on the improvement of behaviour therapy as a clinical service by developing it as a "good technology". "What is important at this juncture, is the development of systematic practice and of the technology to sustain it. My thesis is that, in the long run, scientific understanding will derive from them".

Similar criticisms have been made by Arthur (1971, 1972) who argues that theoretical scientific research may in fact hinder clinical decision-making and urges behaviour therapists to become "engineers of behaviour", and by Hersen, Eisler and Miller (1975) "Directly generalising principles of learning from animal conditioning studies to clinical human problems, without further experimentation, has the potential of seriously hindering progress in the behavioural sciences. Acceptance of the efficacy of therapeutic procedures on theoretical as opposed to empirical grounds leads to an inflexible and often doctrinaire position".

Perhaps the most telling case for non-theorising comes from one of the leading practitioners of behaviour therapy, Arnold Lazarus. Lazarus (1973, 1976) takes the view that the more "modalities" used in the treatment of a patient, the more he will learn in therapy and therefore the more durable will be the result. He sees this as an approach which urges therapists to "experiment with empirically useful methods instead of using their theories as a priori predictors of what will and will not succeed in therapy". (Lazarus, 1976).

Some critics of theory construction in behaviour therapy do not deny the obvious achievements of theories in the history of science but
question whether, at the present stage of the field's development, they are necessary. For example, it is pointed out by Skinner (1950) that a science of behaviour must eventually deal with behaviour in its relation to certain manipulable variables. According to Skinner, theories in the field generally deal with the intervening steps in these relationships. Instead of prompting the search for and explanation of relevant variables, these intervening steps frequently serve only to provide verbal answers in place of the factual data that may come through further study.

These criticisms must be rejected on the grounds that, despite the "theory" labels used by authors writing from a behavioural/learning perspective, clinical psychology cannot yet claim to have reached the paradigm stage (see Kuhn's (1962) definition p.1). Yates (1975) argues that having established this point, the history of scientific discovery shows that any science (psychology) will not advance until a paradigm is found which will be accepted by all scientists in that field (psychologists) as valid, and that this paradigm will not appear if practitioners (behaviour therapists) abandon theorising and merely concentrate on being empiricists.

This position is supported by those writers (e.g. Hall and Lindzey, 1957) who point to the value in a theoretical base being its utility, i.e. an ability to serve as a guide for empirical studies, or, as in the case of clinical psychology, to postulate hypotheses about the conditions influencing behaviour and hence select techniques to vary these conditions. The test of the hypothesis is in the measured change in behaviour, provided adequate experimental design is achieved (in the clinical setting this may not, of course, always be possible).
Dunlap and Lieberman (1973) have responded to London's (1972) criticism directly, arguing that his conception of theory is unsound and that what he refers to as "technology" is in fact theory.

This writer's personal answer to London's dismissal of theorising came in reading Bowers' (1973) discussion of S-R and causality. Bowers was arguing that causal explanations cannot simply be reduced to the isolation of observed regularities in nature. "As far as falling objects are concerned, the whole concept of gravitation is simply left out of the picture if we remain satisfied with the explanation that 'letting go' of apples (the independent variable) 'causes' them to fall (dependent variable)." He went on to argue that appreciation of the laws behind familiar regularities deepens our understanding of them and may extend the range of observed regularity to less familiar instances of it.

In short, scientific explanation derives from some kind of theoretical perspective appropriate to the regularities of the situation. This is the role that theorising must play in clinical psychology. In improving our understanding of the functional relationships discerned in the laboratory or in life situations, theories serve as a means of extending the experimental questions that can be asked and answered and, in answering, new empirical evidence will be brought forward leading to new and more effective techniques.

2.6 Current "Theories"

What then is the current state of theorising in behaviour therapy? From the S-R learning basis, the theoretical framework of behaviour
therapy has expanded. This expansion has essentially been in the nature of emphasis, for the basic tenet of an influential relationship between stimulus, response and consequences remains. The two headings under which the expansion has taken place are "social learning theory" and "cognitive behaviour theory". The use of "theory" in each case can of course be disputed on the grounds of meeting the criteria set out for a scientific theory (Nagel, 1959) and the precise names given above can vary across authors, but essentially a group of basic principles and concepts can be discussed under these headings.

Cognitive Processes: To begin, the entry of cognitive processes into the behavioural arena must be examined. Perhaps this statement should be rephrased as the public acknowledgement of cognitive events and the acceptability of behaviour therapists including cognitive techniques in their armoury, as Wolpe (1976a) for one has stated that "these [cognitive features] have always been part of the standard practice of behaviour therapy."

The point being made, however, is that significant private phenomena, the thoughts, feelings, perceptions etc. of the person, were functionally absent from the early behavioural framework. Now the trend is reversing with more emphasis being given, especially, in the clinical area, to the role of private events in controlling behaviour (Lazarus, 1971; Mahoney, 1974; Meichenbaum, 1977; and Weimer and Palermo, 1975). On the part of behaviour therapists, Mahoney (1977) attributes this move to their recognition of the "restrictiveness of behaviour therapy's theory and technology". The growth in adoption of a cognitive-learning viewpoint can be traced from Ellis' (1962)
rational emotive therapy, through covertants (Homme, 1965), covert sensitisation (Cautela, 1966, 1967), vicarious learning (Bandura, 1969), problem solving (D'Zurilla and Goldfried, 1971), attribution techniques (Kopel and Arkowitz, 1975) and self-instructional methods (Meichenbaum, 1975, 1977) to the stage where a doctrine proposing the interactionist nature of cognitive and overt variables is pervasive in behaviour therapy.

Do cognitive processes exist which mediate in the interaction of the individual and his physical environment? If so what are the advantages of admitting cognitive variables to the behavioural equation? To answer these questions the grounds on which they were first omitted must be examined.

The non-mediational perspective was formulated essentially for practical utility. The model shows an input segment where stimuli enter the organism and an output segment consisting of observable responses. It does not infer mediating variables which are unobserved and which operate to relate the stimulus to the output response.

This input/output model is essentially an argument for parsimony and utility in theorising. Skinner's (1953) view of the non-mediational perspective is that as long as a systematic relationship exists between incoming stimuli and outgoing responses, the extent of mediating factors (physical or psychodynamic) is irrelevant. Note irrelevant not non-existent, for Skinner's objection is principally to theorising which posits an explanation at a level different from that of the observed phenomena.
It can be seen that this view is a direct outgrowth of early methodological behaviourism (Mahoney, 1974) which emphasises the restriction of theories and research to observable events, i.e. environmental stimuli and overt behaviour (cf. metaphysical behaviourism). Homme (1965) describes this view as the result of seeing a pseudoproblem, i.e. it was too difficult to define and detect covert responses.

As for utility, Skinner agrees to the legitimacy of mediational models (or models which depend on inferred variables) but argues that presently such models in human behaviour do not demonstrate superior utility in prediction and control of behaviour. Some behaviourists, however, would still hold the view that inferred variables are not able to be observed directly and therefore are not admissible to experimental study. They ignore the fact that covert events are able to be discriminated by at least one organism, the one to whom they are public (Homme, 1965). Mahoney (1974) argues further that not only are inferences legitimate but in the science of human behaviour they are essential - the question is which inferences are justified by increasing predictive accuracy and conceptual breadth.

A body of empirical evidence now supports the mediational model. The basis of this support is the inability of a non-mediational view to account for:

- mediated stimulus transformation - showing that a person responds to a stimulus as perceived not as it "exists" in reality (Dulany, 1968);

1. Mahoney (1974) identifies this as the "radical behaviourism" for its denial of the existence of mind. Such a mind/body debate is now generally recognised as a "linguistic illusion" (Ryle, 1949) and should be abandoned. Skinner's (1963, 1969) own writings acknowledge the importance of covert events. "It is particularly important that a science of behaviour face the problem of privacy ... An adequate science of behaviour must consider events taking place within the skin of the organism ... as part of behaviour itself."
semantic conditioning and generalisation - showing responses to words according to their semantic meaning rather than phonetic similarity (Maltzman, 1968);

symbolic self-stimulation - responses vary according to self-elicited stimuli (Shaw, 1940; Bandura, 1969);

awareness - awareness (e.g. of a reinforcement schedule) accelerates the learning process (Bandura, 1969);

vicarious learning - acquisition of skills and capabilities through observation (Bandura, 1969).

Given the admissibility of a mediational perspective, what general principles and assertions can be derived to improve the predictability of manipulation of the variables in a behavioural equation. Mahoney (1974) distinguishes two main streams of the perspective: a covert conditioning "model" (Homme, 1965; Skinner, 1953) and his own cognitive-learning "model" based on an information processing "model". In keeping with the nomenclature definitions in Chapter 1, the "models" will be referred to in this essay as perspectives.

Covert conditioning is not a recent addition to behaviour therapy but rather the traditional way in which covert events have been viewed (e.g. in Wolpe's (1958) reciprocal inhibition basis for systematic desensitisation). This view postulates covert events as subject to the same laws of conditioning as overt events - hence Homme's (1965) "coverants" i.e. covert operants. Taking this operant conditioning view, Homme held that coverants are in fact responses subject to reinforcement conditions and that if contingencies are properly managed, coverants do indeed have environmental consequences. He saw the major problem in using such a perspective to modify behaviour as the lack of easily available self-reinforcers.

To overcome this, Homme made use of Premack's (1959) Differential Probability Hypothesis and suggested that self-management could be
achieved by arranging contingencies so that execution of a high probability behaviour (e.g. getting coffee) was contingent on the execution of some lower probability behaviour (e.g. completing study). Mahoney (1970, 1972) has questioned the application of Premack's principle in this way on the ground that Homme confused behaviour probability with behaviour frequency.

Covert events in the behavioural equation are not restricted to being responses but may also function as stimuli and consequences. Their application in all three roles in modification techniques is reflected in the covert sensitisation, reinforcement, extinction and modeling strategies of Cautela (1972).

The covert conditioning perspective makes two major assumptions: (i) there is a continuity assumption that covert phenomena can be described in terms of lawful relationships and systematic processes as overt phenomena are so described; and (ii) an automaticity assumption that a reinforcer has an effect even though the behaviour it follows does not produce it.

The former is accepted by Mahoney (1974) and incorporated in his cognitive-learning perspective on the grounds of empirical support for such an assumption (Mahoney, Thoresen and Danaher, 1972; Marks and Gelder, 1967). The latter is challenged (see also Bandura, 1974) on the ground that human learning is mediated by symbolic processes rather than being potentially reinforced by S-R contingencies. This information processing function of mediators is reflected in Mahoney's (1974, 1977) cognitive learning perspective.
The essence of the cognitive learning perspective are the four general principles: (Mahoney, 1977).

1. The human organism responds primarily to cognitive representations of its environments rather than those environments per se;
2. These cognitive representations are functionally related to the processes and parameters of learning;
3. Most human learning is cognitively mediated;
4. Thoughts, feelings, and behaviours are causally interrelated.

The first principle has been shown to operate empirically (see above). When combined with the second principle the prediction can be made that to modify a person's behaviour, knowledge of how the environment is seen, as well as the environment itself, are necessary. Bandura (1974) emphasises this in the case of self-reinforcement. He points out that the acquisition of self-reactive functions gives humans the capacity for self-direction. This self-direction may, however, produce two consequences, self-evaluative reactions and external outcomes. For example, a certain act of defiance of authority may lead to a feeling of self-respect but have the external impact of physical punishment. To predict a person's behaviour in such circumstances clearly knowledge of both contingencies is required.

For the second statement to have effect the processes and parameters of learning have to be clarified (the lack of unified principles has been criticised in the past: London, 1972; Breger and McGaugh, 1965). Mahoney's (1974) formulation looks to information processing research as the link between cognitive processes and total learning achievements.

The third principle has also been supported by the empirical evidence
cited above. Further support comes from the clinical area, where the techniques which adopt such a prediction are proving effective in modifying abnormal behaviour. These techniques involve cognitive restructuring (Ellis, 1962), self-monitoring and self-instruction (Meichenbaum, 1977), problem solving (D'Zurilla and Goldfried, 1971) and general coping skills training (Goldfried and Merbaum, 1973). Four principal factors are elicited as crucial to the process of cognitive learning and hence form the variables on which successful techniques for change hinge. They are attention (to stimuli), relational processes (within the O), the person's response repertoire and experiential feedback (motivating factors) (Mahoney, 1977).

The third and fourth principles combine to reflect the continuing reciprocal interaction that takes place within a person's response systems and between that person and the environment. This process of reciprocal determinism becomes the key to an expansion of a cognitive viewpoint into a fuller perspective to explain the operation of humans as social beings.

Social Learning: The social learning perspective takes a comprehensive approach to human functioning in which it is postulated that behaviour is developed and maintained on the basis of three distinct regulatory systems. Some response patterns are primarily influenced through external stimuli and thus fit the classical conditioning paradigm. External reinforcement in the operant conditioning paradigm constitutes a second form of influence. The third and controlling system of regulatory influence is the process of cognitive mediation of external events and resultant behaviour.
The controlling influence of cognitions was introduced in the previous section. Cognitive factors partially determine which external events will be observed, how they will be perceived, whether they have any lasting effect, what valance and efficiency they have and how the information they convey will be organised for future use (Bandura, 1977).

The classical conditioning paradigm describes a process of learning through the pairing of antecedent events. Note "describes" not "explains", for acquisition of behaviour by this means does not occur automatically but is cognitively mediated. Empirical results (Grings, 1973) have shown that, despite repeated paired antecedents, people will not learn a behaviour unless they recognise that events are correlated. Over time this recognition is built into an expectancy capacity by which a person is able to predict the probable effects of specific environmental stimuli and take appropriate action. Hence by this process of cognitive mediation, a self-activated (not automatic) response may occur. Bandura (1974) illustrates this process in the generation of anxiety and defensive behaviours through symbolic expectancy learning (the person has learned to interpret a symbol in a certain way and responds (arouses) accordingly on presentation) and vicarious expectancy learning (previous observation of another's reaction to the stimuli leads to a similar arousal).

In a similar way, external consequences in an operant paradigm, although influential, are not the sole determinants of human behaviour nor do they operate automatically. In the social learning perspective three mechanisms (external, vicarious and
self-regulatory) are variously responsible for the delivery of consequences. Each mode may operate in the form of providing information (that is the observation of a consequential event in one behavioural unit will influence response to that event when it occurs next, possibly as a stimulus), motivation (by presenting foreseeable outcomes symbolically, future consequences can be converted into current motivators of behaviour) or reinforcement.

Special attention is paid in the social learning perspective to the regulation of action by self-induced consequences (Thoresen and Mahoney, 1974; Meichenbaum, 1975). Operant conditioning accounts of behavioural self-control ultimately reduce to analyses of situational control and fundamentally deny the notion of self-control (Rachlin, 1974). In the social learning perspective, in addition to the acquisition of behaviour, activation and maintenance of that behaviour is based mainly on cognitive mechanisms (awareness, expectancy, information). Through these means the social learning view is able to attribute a degree of self-determination to people and an ability to discriminate the influencing effects of different reinforcers, particularly emphasising the role covert forms of reinforcement (self-praise) can play (cf. Homme, 1965).

Most behaviourists (indeed most people) would now agree that biological factors and experiential learning, together, determine a person's behavioural repertoire. The social learning perspective does not attempt to discriminate the origins of a behavioural repertoire between the two but does emphasise the large learning component in the acquisition of any behaviour. A person's direct experiences (trial and error) teach him the effects of certain actions
through the consequence of acquiring an information, motivating or rewarding function (Estes, 1972). However, this process is slow and may result in costly errors. For these reasons a social learning view emphasises the role of vicarious learning. By such observational behaviour a person can acquire new patterns of behaviour, without reinforced enactment and with reinforcement delayed.

Bandura (1969, 1977) proposes a broad range of determinants and intervening mechanisms for learning by observation. Four governing processes are proposed:

(i) attentional factors regulate sensory input and perception of modeled actions;

(ii) through coding and symbolic rehearsal, transitory experiences are transformed from memory representation into enduring performance guides;

(iii) motor reproduction processes govern the integration of constituent acts into new response patterns; and

(iv) incentive or motivational processes determine whether observationally acquired responses will be performed.

Studied from this perspective, observational learning emerges as an actively judgemental and constructive, rather than a mechanical, copying process.

The final and unifying position of the social learning perspective is that behaviour, other personal factors and environmental factors all operate as integrated determinants of each other. Bandura (1977) states the principle of "reciprocal determinism" this way. "In the social learning view, people are neither driven by inner forces, nor buffeted by environmental stimuli. Rather psychological functioning is explained in terms of a continuous reciprocal interaction of personal and environmental determinants."
The relative influences exerted by these interdependent factors differ in various settings and for different behaviours. There are times when environmental factors will exercise powerful constraints on behaviour, and other times when personal factors are the controlling mechanisms of environmental events. Thus in ongoing interchanges, one event can be a response, an environmental reinforcer or a stimulus depending upon the place in the behavioural equation that an analysis begins. An empirical validation of this theoretical position is elaborated in the following section. In clinical psychology its utility will be tested by the ability of techniques based on it to produce significant changes in abnormal behaviour.

2.7 Interactionism: A New Emphasis

Highlighted in the framework presented above has been the emerging importance of cognitive factors in explaining behaviour and a view that behaviour is acquired and maintained by a process of social learning. In both of these areas behaviour is conceived as being in an interactional situation; in the case of cognitions as mediating between the organism and the environment while in social learning as a function of the reciprocal interaction of the person, the environment and the behaviour itself.

An emphasis on the interactional component in human behaviour represents a potentially new orientation for the behavioural viewpoint and particularly its derivative, behaviour therapy. Since behaviourism emerged as an alternative to the view of people being driven by inner forces it has emphasised in theory, research and practice the situational control of behaviour. "... analysis of the modes of connection of cause and effect is limited by the tendency
either to ignore organismic factors, or to regard them as ... 
subsidiary to the primary impact of the external stimulus". 
(Harre and Secord, 1972). Behaviour Therapy is characterised by 
the derivation of a methodology from the empirical and theoretical 
knowledge resulting from experimental psychology; it is time for 
behaviour therapists to recognise and use that body of research 
which views the most powerful determinant of behaviour as the 
interaction between persons and situations (Endler and Magnusson, 
1976).

Despite the appearance of the notion of reciprocal determinism in 
the current unifying theories (2.6 above), such an approach has not 
been reflected strongly in the practice of behaviour therapy in 
either the assessment or intervention stages. "This \( \text{situation} \times \text{person interaction accounting for more variance than either persons or situations separately} \) may be a more congenial finding for many clinicians. But while individual differences are a fact of life and 'personality variables' may be relevant, the behaviour therapist's prime interest will be the observation, measurement and modification of behaviour in defined situations." (Chesser, 1976).

Mischel (1973) attributes this attitude to the perspective the 
therapist adopts, i.e. in seeking procedures or operations necessary 
to produce changes in performance; it may be most useful to focus 
on the environmental conditions necessary to modify behaviour and 
therefore to speak of "stimulus control", "reinforcement control", 
"modeling", etc. By comparison the theorist, concerned with how these 
operations produce their effects in the person, is more likely to 
speak in terms of theoretical person variables that indicate the
effects of conditions upon behaviour and the client will speak
of the same events in terms of their phenomenological impact as thoughts,
feelings, etc. In constructing a framework for a therapeutic orientation
each of these perspectives must be amalgamed and the therapist must
become competent in conceptualising from all three perspectives.
The therapist's success in delivering intervention programmes will
clearly depend on the ability to understand the theoretical position
and to hypothesise from it (see Part 2.5) and to form an effective
relationship (communicate) with the client (see Part 3.4).

From the viewpoint of interactional psychology, behaviour is the
result of an indispensable, continuous interaction between the person
and the situation encountered, i.e. \( B = f (P, S) \). This implies
that the individual's behaviour is influenced by significant features
of the situations, but furthermore the individual chooses the
situation in which to perform and selects significant situational
aspects which then serve as cues for activities in these situations,
and subsequently affects the character of those situations.

Put simply, situations are as much a function of the person as the
person's behaviour is a function of the situation. The contrast
of this position with the situationist view of behaviour is apparent
in considering the role of cognitions.

As represented in the unifying perspectives discussed above,
cognitions serve the purpose of mediators of external causes.
"... although the existence of mediating processes is acknowledged,
they are not attributed causal powers... Instead, behaviour is
predicted on the basis of an analysis of the relevant social
learning history and the specific stimulus situations and contingencies in which the predicted behaviour occurs". (Mischel, 1968). The interactionist perspective goes beyond this and invests cognitions with a power of organisation that determines our perception and knowledge of reality. That is the situation is a function of the observer in the sense that the observer's cognitive framework screens the environment in a fashion that makes it impossible even to completely separate the environment from the person observing it. For example, it is evidently very difficult for professional psychological helpers to see normal behaviour in persons they (mistakenly) believe to be "schizophrenic". On the other hand, genuine psychiatric patients are often quite capable of recognising normal behaviour in hospitalised pseudo-patients (Rosenhan, 1973).

A second sense in which situations are a function of persons is established in the consistency in the kinds of environments that people create for themselves. Studies such as Raush's (1965) analysis of sequential interchanges comparing normal and hyper-aggressive children illustrate this view. His analysis revealed that aggressive individuals actualise through their conduct a hostile environment, whereas those who display friendly responsiveness produce an amicable social milieu within the same setting. This research supports the view that people foster consistent social environments which then reciprocate by fostering behavioural consistency.

The importance of this finding in intervention terms is apparent. If a small modification of behaviour can be achieved in the client then the reaction from his environment to this modest change
(say reinforcing actions by a parent to small courtesies of a previously recalcitrant child) can lead to a multiplied modification in the client's behaviour.

Empirical support for the interactional perspective now comes from a variety of studies in social psychology mainly conducted since the early 1960's, although the theoretical exposition of person x situation interactions in personality has been posited for much longer (Kantor, 1924). Bowers (1973) reviewed 11 studies that evaluated the relative magnitude of person and situation influences on behaviour. In addition to establishing the proportion of variance due to situations and persons separately, the studies also tested for person x situation interactions. Over the 11 studies the mean percentage of variance due to situations alone was 10.17%, for persons it was 12.71% and significantly for the interaction of persons x situations it was 20.77%.

The importance of research results showing the better predictive power of an interactional view of behaviour is exemplified in the changing approach of Walter Mischel who has been signally influential in attacking the postulation of traits as relatively stable, highly consistent attributes that exert widely generalised causal effects on behaviour (Mischel, 1968).  

1. But note that Mischel (1968) did not "imply that people show no consistencies, that individual differences are unimportant, and that situations are the main determinants of behaviour" (Mischel, 1973). He did claim impressive consistencies for intellective features of personality and for behaviour patterns such as cognitive styles and problem solving strategies that are strongly correlated with intelligence.
type of behaviour assessed, the particular individual differences sampled, and the purpose of the assessment".

To correct the previous imbalance of research on the processes through which behaviours are acquired, evoked, maintained and modified, it is suggested that attention be given to the person variables that are the products of the individual's total history and that in turn mediate the manner in which new experiences affect the individual. As a beginning towards formulating a taxonomy of person variables, Mischel (1973) proposes five variables which offer distinctive information about the individual and which may be measured objectively and varied systematically.

The person variable categories are:

- **cognitive and behavioural construction competencies**: these are measured by IQ, social and cognitive maturity and competence, social-intellectual achievements and skills;
- **encoding strategies and personal constructs**: units for categorising events and for self-descriptions;
- **behaviour outcome and stimulus outcome expectancies**: the influential nature of expectancies on consequent events was discussed above (2.6). Mischel (1973) proposes "if - then - " hypothesis to guide the person's choice of behaviours from among the enormous number capable of being construed within any situation;
- **subjective stimulus values**: motivating and arousing stimuli, incentives and aversions; and
- **self-regulatory systems and plans**: rules and self-reactions for performance and for organising complex behavioural sequences.

In a similar way taxonomies of environment must also be formed (Frederiksen, 1972). The traditional classification has been based on environments that are objective, i.e. of the external world and
subjective, i.e. the environment as the individual perceives and reacts to it. In the clinical area this field of investigation is well illustrated by the work of Moos on assessing the social environment of psychiatric wards—Ward Atmosphere Scale (Moos and Houts, 1968) and, for comparison, community based treatment programmes—Community-Oriented Programmes Environment Scale (Moos, 1972).

An important recognition of the interactional view has been made in Bandura's (1977) Reciprocal Determinism Model $P \rightarrow E$ where $P =$ person variables, $E =$ environment, $B =$ behaviour under study (see 2.4, 2.6).

In this conceptualisation six reactions are available for study $B = f (E)$, $B = f (P)$, $P = f (E)$, $P = f (B)$, $E = f (P)$ and $E = f (B)$. It is proposed here that behaviour analysis from this model is likely to lead to more accurate prediction of the effects of manipulating variables, a better understanding of the foundation and maintenance of particular behaviours, and a broadening of the methodology accessible for intervention techniques. This model adds the dimension of multidirectionality that has been established in the above discussion and which is lacking in the traditional model of chains of behavioural units (Kanfer and Phillips, 1970).

It also takes the person x situation model a step further by introducing into the interaction the behaviour produced. Such a step adds a dimension of dynamism to the model as it shows the product of the person x situation interaction, i.e. behaviour, and recognises that, this action having taken place, there is a further reaction as the behavioural effect is brought into play. By representing the model as
Bandura has done the traditional biases towards the influencing power of one of the elements is eliminated. For the behaviour therapist the implications are enormous. Methods for intervention are made considerably more flexible as the therapist may choose to treat person, situation or behaviour variables depending on their accessibility and amenity to manipulation.

2.8 Synthesis

Can some consensus of the conceptual framework of behaviour therapy be derived from the foregoing discussion?

A case has been made for seeing the basis of behaviour therapy as essentially different from that of other current perspectives of abnormal behaviour. Behaviour therapy derives from a tradition of behaviourism with its intrinsic characteristics of dealing with observable behaviours rather than inferred "inner causes" and insistence on objectivity and specificity in measuring behavioural events.

The behaviour therapist assumes that abnormal behaviour is, to a considerable degree, acquired through learning, the same way that normal behaviours are learned and that current environmental circumstances (internal as well as external, self-imposed as well as imposed by others) maintain current problem behaviours. It is essential that examination of person variables must also be undertaken to understand their impact on producing consistent problem environments by a process of reciprocal determinism.

The notion that behaviour is highly situation specific is still held but it has been proposed that this be clarified by recognising that any
situation involves not just an environment, but also the person and the subject behaviour, all three having an interactional effect above and beyond the influence of each element taken separately.

By assuming that lawful relationships exist between these elements and that, when discovered, these can be used to predict and therefore to control or change behaviour, behaviour therapy has been characterised by an emphasis on experimental research of those functional relationships and consequently empirical validation of the techniques used for effecting change. This requirement of scientific rigour has been set as the cornerstone of the methodology of intervention in a behaviour therapy mode, thus the approach to therapy as the controlled experimental study of the single case.

Theory construction is supported for the depth of understanding that it adds to the observed regularities and first order causation conclusions of behaviour/environment/person interactions. In the process of theorising cognitive events have been inferred, and now empirically supported, in the role of mediating processes, operating between the person and the external environment.

Finally psychological functioning has been viewed from a social learning perspective where the person is both the agent and the object of environmental influence.

The long debate over the relative power of the person or the environment to shape and control behaviour has tended to polarise views and hence direct research and modification methods according to the bias held. In particular the behavioural tradition has been under
a cloud of humanistic criticism because of the unpalatable thought of people being unable to determine their actions due to the overwhelming influence of environmental forces. The supposed challenge to human freedom has been a cross behaviour therapists have had to bear.

Much of this criticism can be countered by adopting the position recommended here that, for the most part, the environment is only a potentiality until actualised and fashioned by appropriate (or inappropriate) actions. By their actions people play active roles in producing the reinforcing or aversive contingencies that impinge on them. Thus the person partly creates the environment, the environment influences the person in a reciprocal way and each of these conditions modifies, and is in turn modified by, the behaviour produced.

It is not determinism that has been challenged so much as postulation of the agent and unidirectional nature of that determination. The answer lies in the reciprocal consequences of human interactions.
CHAPTER 3.

PRACTICE OF BEHAVIOUR THERAPY WITH THE INDIVIDUAL CLIENT

How is the conceptual framework covered in Chapter 1 translated into a process for the practice of behaviour therapy?

When Cautela and Upper (1975) wrote their paper entitled "The Process of Individual Behaviour Therapy" they introduced it by stating that while a variety of books and papers had discussed specific aspects of the individual behaviour therapy process, a concise description and analysis of the entire course of behaviour therapy with individuals was lacking. This still appears to be the case.

Gottman and Leiblum (1974) have written a "how to do it" book and a number of authors have included chapters in their texts which set out a framework for implementing the theories and techniques proposed therein (Bellack and Hersen, 1978 - Ch. 1; Kanfer and Phillips, 1970 - Ch. 10; Mahoney, 1974 - Ch. 15; Reese, Howard and Reese, 1978 - Ch. 3). However, the predominant pattern in the literature is still to focus on the therapy process in parts, i.e. the techniques themselves (Goldfried and Davison, 1976; Kanfer and Goldstein, 1975; Leitenberg, 1976; Rimm and Masters, 1974) and more recently, the analysis or assessment segment (Ciminero, Calhoun and Adams, 1977; Cone and Hawkins, 1978; Hersen and Bellack, 1976; Mash and Terdal, 1976).

The purpose of this Chapter is to expand and update the beginning made by Cautela and Upper (1975), particularly in the area of analysis, by synthesising the recent literature to give a methodology for the
complete behaviour therapy process with the individual client.
It includes a discussion of single case research designs, supporting such an approach as a framework (analogy) for therapy in the clinical setting.

Yates (1975) poses the question "What do behaviour therapists in clinical practice actually do that justifies them in calling themselves 'behaviour therapists' rather than 'psychotherapists'?" He goes on to criticise the paucity of heuristic material in published case reports to illustrate what goes on in the consulting rooms. However, the basic approach is discernible and again it reflects the initial dichotomy with the psychoanalytic/illness perspectives.

It was pointed out in Chapter 1 that the essence of the medical model approach was in the diagnosis step because it enabled the physician to determine etiology, rational treatment and prognosis (in theory at least, perhaps the practice is different). In effect such an approach represents the application of standard techniques to standard ailments, across an assumed homogeneous patient population. By contrast, the approach of a behaviour therapist should be quite different. "It is his duty to establish what treatment, by whom, is most effective for this individual with that specific problem, and under which set of circumstances" (Paul, 1967). Further, "Empiricism, objectivity, and quantification are at the very basis of behaviour therapy" (Bellack and Hersen, 1978).

The characterisation of a behaviour therapy approach begins with the statement of the general goals of therapy. Cautela and Upper (1975) see these as:
a) to identify (and for the client and therapist to agree upon) specific client behaviours that need to be altered and that will be the focus of treatment;  

b) to apply or to teach the client techniques that will result in the desired behavioural changes, leaving the client with adaptive skills that will be retained after termination of treatment; and  

c) to accomplish this process as efficiently as possible by continually evaluating the client's progress in achieving the desired behavioural changes and by varying the treatment strategy accordingly.

The emphasis in these goals on the client's behaviour should be noted. As pointed out in section 2.7, there is now a need to emphasise the interactional nature of behavioural problems. Consequently these goals must be expanded to reflect a need to identify the environmental conditions in which the client is operating and to which a return will be made after therapy and to analyse the problem behaviour as an interaction of the person's learned cognitive and overt abilities with that environment. Such an orientation may well identify different target behaviours in the environment as well as the client.

Before turning to methodologies for the intervention programme, two major influences which direct and pervade the entire behaviour therapy process must be covered. These factors should orient the therapeutic process as well as the attention to an experimental methodology.

The first influence is the trend to having the client acquire skills which not only change his current behaviour, but which equip him to deal with future problems. In this sense therapy is an education process where the client acquires adaptive skills and also a feeling of being able to control his own behaviour (cf. the social learning
perspective). The empirical evidence supports a finding of greater efficacy in behaviour change and maintenance through self-mediated therapy (Cautela, 1969; Goldfried and Merbaum, 1973). An expansion of this approach is Mahoney's (1974) "personal scientist". In this the emphasis is placed on the client as the active agent implementing an intervention programme, with the therapist being in the role of facilitator. Behaviour therapists are implored to "share their commitment to empiricism and view therapy as an apprenticeship designed to train personal scientists - individuals who are skillful in the functional analysis and systematic improvement of their own behaviour".

The second point is to refute the image of behaviour therapy as a mechanistic approach because of its background of animal experimentation and radical behaviourism. This view has been perpetuated by emphasis in the literature on describing single technique methodologies and their controlled use in laboratory settings, the attendant therapist's clinical expertise being assumed. There is also empirical support for effective behaviour change without a normal client/therapist relationship; e.g. systematic desensitisation by a computer-programmed apparatus (Lang, Melamed and Hart, 1970).

However, the importance of the client/therapist relationship in enhancing the probability of successful intervention (if not being a necessary condition for change) is now generally recognised (Bandura, 1969; Franks, 1969, Goldfried and Davison, 1976; Mahoney, 1974). Adopting the social learning perspective, the reciprocal influence process which defines the client/therapist relationship is seen as facilitating the modification of clients' cognitive, affective and
motor responses to secure for them greater interpersonal and self-
satisfaction from their natural environment.

It is proposed here that the client/therapist relationship should be seen in a functional sense, i.e. as a source of social influence (Wilson and Evans, 1976) in the same way that such sources are used within intervention techniques themselves, i.e. apply learning principles to the client/therapist relationship and control for the relationship as a variable in the intervention experiment.

Traditionally the most significant form of social influence has been the therapist as an agent for social reinforcement, i.e. the therapist's verbal and non-verbal responses operating on the client's behaviour in an operant conditioning model. It is essential to recognise reinforcement in this role as an informative and motivating force rather than as an automatic conditioner (see 2.6, Bandura, 1974). In this way such client tactics as counter-control through awareness of social contingencies (Davison, 1973) can be recognised and countered. Clearly, also, the relationship should be viewed as a two way process of social influence (Moos and McIntosh, 1970).

According to Staats' (1968a) A-R-D theory (a given stimulus being accorded attitudinal, reinforcement and discriminative properties), the greater the positive regard in which the client holds the therapist, the more effective the therapist's reinforcing and behaviour eliciting powers will be. In the latter regard, behaviour therapy involves the active participation of clients (self-monitoring, practising relaxation, imagining aversive scenes etc.) and therefore their commitment to therapy is clearly crucial, and the therapist's ability to elicit the
required behaviour is essential. Tactics useful in promoting client commitment are client choice of goals/techniques (providing a worse alternative: Haley, 1973), inconspicuous influence attempts and cognitive contracting (Lobitz and LoPiccolo, 1972).

Two ways of facilitating a favourable client attitude towards the therapist are to attempt to make the client and therapist similar (e.g. use of non-professional mediators (Tharp and Wetzel, 1969) and self-help groups - Alcoholics Anonymous) and to provide the therapist with a variety of behaviours likely to increase his attractiveness to the client. It is in the latter regard that such therapist characteristics as warmth, empathy, concern and interpersonal communication skills are important in behaviour therapy. For example, Morris and Suckerman (1974) found that desensitisation was more effective in reducing fear of snakes when carried out by a "warm" therapist (demonstrating concern, speaking in a soft voice, having good eye contact) than by a "cold" therapist (unconcerned, aloof and impersonal and otherwise mechanical).

Finally the client/therapist relationship is influential in determining the client's expectancies about help. The social learning perspective emphasises that the therapist's actions which induce expectancies operate through their effect on the client's covert perceptual processes, which then mediate changes in overt behaviour and attitudes (see 2.6).

As a means of ensuring expectancies are realistic and positive towards change, Goldfried and Davison (1976) propose that the intervention programme be aimed at providing the client with a cognitive structure in
which the experience of therapy can be organised. This may involve an explanation of the evolving and maintaining factors of the client's problem behaviour, persuasive rationales for the specific treatment methods to be used, descriptions of the procedural steps and the client's responsibilities in actively participating in the programme (Wilson and Evans, 1976).

3.1 Models for Intervention Programmes

The following model is proposed for a behaviour therapy intervention:

1. Behavioural Analysis (or Assessment);
2. Target Behaviour Selection;
3. Application of the Intervention Technique(s);
4. Outcome Evaluation.

These phases are not discrete; they overlap throughout the process. Recycling to earlier phases will often occur when some relevant information comes to light or when techniques need to be modified.

Two texts provide a detailed expansion of this model in flowchart form (Gottman and Leiblum, 1974; Reese, Howard and Reese, 1978). Their charts have been reproduced in Figures 3.1 and 3.2. The charts are similar in basic conceptualisation and emphasise the ongoing nature of the therapy program with the need for continuing evaluation of treatment outcome, which may result in reassessment of goals and behaviour sequences leading to amended treatment courses.

The Gottman and Leiblum (1974) flowchart has five basic phases:
(i) initial assessment of the problem; (ii) therapeutic contract;
(iii) initial change efforts; (iv) interventions to deal with possible resistance to change; and (v) continuous monitoring of change and eventual follow-up.

Reese, Howard and Reese (1978) break the process into two parts representing the phases of designing the intervention program and then its implementation; with a third phase to highlight the three factors that are emphasised as prerequisite and continuing actions throughout the consultation. The three factors are observation (of the client to determine his strengths and weaknesses, the problem behaviour and the environment in which it exists), consultation (with those people in the client's natural environment who may be responsible for implementing or maintaining the program) and evaluation (to assess the effectiveness of the program and to warn of the need to change or amend techniques).

The remainder of this chapter examines the process of behaviour therapy according to the four phases proposed above.

3.2 Behavioural Analysis

Central to the process of behaviour therapy with the individual is the functional analysis (or behavioural assessment) that occurs throughout the therapy interaction.

Purpose: Wolpe (1978) states "Nothing in the practice of behaviour therapy is more clear than that the purpose of behavioural analysis is to determine the stimulus - response structure of problems so that rational application of techniques may be made". Goldfried and Pomeranz (1968) identify the purpose of behavioural analysis in these terms.
HOW TO DO PSYCHOTHERAPY AND HOW TO EVALUATE IT

A. Designate organizational system. Decide whom to see.

B. Find out how decision was made to come to treatment; how it feels to be there seeking help (together); specify client and therapist expectancies (hopes, fears, fantasies) about treatment process.

C. Data collection. Administer problem assessment package.

D. Negotiate therapeutic contract; the alliance with the therapist to work on agreed-upon problems (consensus in the system) including an agreement about the manner of treatment.

E. Begin initial change efforts:
   E1. Set objectives; design data-gathering procedures; the measurement package.
   E2. Engineer initial change efforts.
      a. response decrement
      b. response increment
      c. response acquisition
      d. cognitive restructuring

F. Resistance?
   No
   G. Yes
      Is resistance due to subject variables or a function of the subject's interaction with this world?
   H1. Mostly subject variables
      H11. Implement cognitive conflict intervention
      Go to D
      Yes
      H12. Resistance due to internal conflict about change?
      Go to D
      Yes
      H2. Resistance due to a skill deficiency?
      Go to D
      No
      H21. Implement performance discrepancy intervention
      Go to D
      Yes
      H3. Is dysfunctional behavior an operant maintained by its consequences?
      Go to D
      Yes
      I1. Implement ecology-modification intervention
      Go to D
      No
      I2. Is resistance due to problems in the therapeutic relationship?
      Go to D
      Yes
      I21. Implement therapeutic communication intervention
      Go to D
      No
      No

J. Return to A, reassess, renegotiate, etc.

1. Monitor change; 2. intervene when necessary to facilitate change; 3. assess the impact of interventions; 4. plan transfer of training; 5. termination and follow-up

FIGURE 3.1

Flow chart of psychotherapy.
A general procedure for applied behavior analysis.

A GENERAL PROCEDURE FOR APPLIED BEHAVIOR ANALYSIS

A. PRELIMINARY AND CONTINUING

1. OBSERVE
2. CONSULT
3. EVALUATE

B. DESIGNING THE PROGRAM

1. ANALYZE CURRENT SITUATION
2. ETHICAL ISSUES
3. PRIORITIES

4. SPECIFY GOALS
   - Definitions
   - Measurement
   - Recording

5. MOTIVATION
   - Identify Consequences

6. SELECT PROCEDURES
   - Identify Favorable Contingencies

7. SPECIFY CONTINGENCIES
8. ADAPTATION

C. CARRYING OUT THE PROGRAM

1. BASELINE
2. BUILD from REPERTOIRE
   - Task and Material
3. PROGRAM
4. EVALUATE
   - (Revise Program)
5. MAINTENANCE and GENERALIZATION
   - (Transfer)
6. FOLLOW-UP

FIGURE 3.2
"In using the term assessment, we are implying the identification and measurement of a broad spectrum of relevant factors which are necessary to ensure the best possible alteration of a particular individual's maladaptive behaviour."

The three important clinical uses of assessment are: (i) to delineate target areas for change; (ii) to offer some information about the most appropriate techniques in this particular case; and (iii) to monitor intervention effects. Goldfried and Pomeranz (1968) identify the targets as:

a) the relevant antecedent, situational events which may have elicited the unadaptive behaviour;

b) the mediational responses and cues which, because of the individual's previous learning experiences, have become associated with these situational events;

c) the observable, maladaptive behaviour itself; and

d) the consequent changes in the environmental situation, indicating the reactions of others to this maladaptive behaviour.

It would seem advisable to refer back to the behavioural equation (S-O-R-K-C) in Chapter 1 to add to this list information about the biological state of the organism (something which may be capable of quantification and therefore potentially very useful) and the contingencies for the arrangements which exist between the problematic (and other) target behaviour and its consequences. In proposing this equation Kanfer and Phillips (1970) had pointed out that "complete description of any behavioural unit requires specification of each of these elements and their interaction with each other". It is in the stage of assessment that this "specification" should take place.
The importance of assessment in the behaviour therapy approach is something of an enigma if one examines the literature. Its importance as a necessary step is undisputed from observation of the stress in all writings from the beginnings of modern behaviour therapy in the mid-1950's on making measures (objective and quantified if possible) of observable behaviours and empirically testing hypotheses about how to change these behaviours. However, the literature for a long time was sparse on the subject of how to go about assessment particularly in the clinical situation. This oversight would appear to be due principally to the wish of behaviour therapists to reject the psychometric techniques of the traditional (mainly psychodynamic) approach and, to a lesser extent, to reject the stereotype role given to most clinical psychologists as assessors of psychological problems with treatment being delivered by psychiatrists.

The distinction between a traditional and behavioural approach to assessment lies principally in the divergence of assumptions underlying the two forms of assessment (Goldfried and Kent, 1972; Goldfried and Sprafkin, 1974). Traditional personality theories have formulated relatively stable sets of dispositional variables that explain and predict behaviour. These inferred characteristics (traits) may have varied between theorists on dimensions such as "additive/non-additive, static/dynamic", however, their general formulation was consistent within a framework of psychic determinants, whereby a person's actions are assumed to be motivated by these underlying traits. Consequently, traditional psychological tests (projective tests, MMPI etc.) were aimed at obtaining information on traits to allow formulation of an individual's personality structure. Accordingly the most appropriate way to predict and change human behaviour was through a thorough
assessment of those inferred characteristics by which overt actions were determined.

In his classical work Mischel (1968) criticised personality tests used in this way. "It is evident that the behaviours which are often constructed as stable personality trait indicators actually are highly specific and depend on the details of the evoking situation and the response mode employed to measure them".

This is the basis for using assessment in a behavioural orientation. The therapist is not looking for what personality characteristics the individual has but rather what his behavioural responses (covert and overt) are in highly specific situations. Such an approach is consistent with the social learning framework described earlier which views human behaviour as being determined not only by the person's ability, acquired in part through learning experiences, and by current environmental antecedents and consequences of behaviour, but also by the interaction of these influences.

The different conceptions of personality associated with the traditional and behavioural viewpoints have important implications for test construction. From within the traditional framework, the nature of the situation in which the individual is functioning is of less interest in the assessment than are underlying motives, dynamics or structural components. From within a behavioural orientation, the capability conception of personality carries with it the implication that relevant and carefully sampled situations need to be reflected in the personality measure. Thus the content validity of the test becomes particularly crucial, as one must obtain a representative
sample of those situations in which the particular behaviour of interest is likely to manifest itself.

A summation of the distinction between the two approaches is Goodenough's (1949) sign/sample dichotomy. The sign approach assumes that the response may best be construed as the characteristics an individual "has"; the behavioural view places greater emphasis on what a person "does" in various situations. Consequently it is critical in a behavioural assessment for the behaviour observed or reported (sampled) being truly representative of the person's responses in the actual problem situation. The systematic procedures for going about this are discussed later.

Turning now to the second major purpose outlined above - to provide some information about the techniques most likely to be effective in each case. Again, Wolpe (1977a) offers a cogent statement on this aspect of assessment. "The overriding fact is that operations that do not impinge on the actual stimulus-response 'structure' of a particular neurosis cannot change it. In every case, the character and parameters of the antecedents of anxiety must be precisely defined if one is to apply paradigms of learning to overcome maladaptive anxiety response habits."

The essential point Wolpe is making is that the functional analysis must be thorough, going to the point where discrimination of the stimuli and consequences involved is taken to a fine degree. In the case of a person considered agoraphobic, a different treatment technique would be selected depending on the antecedent conditions perceived to be instigating problem behaviour (fear of going out,
being caught in the open, etc.). For example, the people affected by agoraphobic reactions are mostly young women who also report additional difficulties such as marital problems, depression and low self-esteem and therefore some form of assertiveness training, problem solving or cognitive restructuring techniques may be more effective in attacking an apparently multimodal problem. Alternatively, a thorough behavioural analysis could reveal that the onset of the agoraphobia is fairly clearly related to physical stimuli and past traumatic conditioning experiences, in which case desensitisation (imagined or in vivo) or a flooding technique may be more appropriate.

It could be due to this factor of inadequate assessment that the efficacy of some techniques is now being questioned. Examples are the treatment of alcoholism and sexual deviance where, despite the promise held out by initial behavioural interventions for such problems, more recent evidence catalogues poor maintenance and generalisation of treatment effects (Briddell and Nathan, 1976; Abel and Blanchard, 1976, respectively). Bellack and Hersen (1978) point out that these disappointing results can generally be ascribed to the naive presumption that the respective dysfunctions involve narrow and uniform sets of conditioned responses, and would then be responsive to singular and unitary treatments. To the contrary, recent emphasis on systematic assessment has demonstrated the complexity of these problems and shown that idiosyncratic and multifaceted interventions are often necessary.

In the case of sexual deviation, Abel (1976) points out that relying on the single criterion of deviant arousal is insufficient in evaluating any one client. He recommends more detailed and specific examination
of four areas of functioning in order to maximise the probability of an effective and comprehensive intervention, viz. deviant arousal, heterosexual arousal, heterosocial skill and gender role behaviours. Preliminary attempts to modify sexual deviation focussed almost entirely on reducing deviant arousal. It then became apparent that heterosexual arousal was not a direct concomitant of reduced deviant arousal, and that in the absence of an appropriate channel of sexual expression, recidivism soon occurred. However, as argued by Abel (1976) treatment of even these two aspects of deviant sexuality is insufficient for many individuals. After extended periods of non-heterosexual behaviour, there are often deficiencies in heterosocial skill and appropriate gender role behaviours (e.g. primary motor responses such as the manner in which legs are crossed when sitting). Thus, even given appropriate sexual arousal, the individual may lack the response repertoire necessary to meet opposite sex individuals and progress towards sexual activity.

As well as the degree of detail factor discussed above, assessment must also be continual during treatment. It is often difficult to identify all relevant factors in the behavioural equation in a pre-treatment period, which must of necessity be as short as possible to provide relief to a possibly debilitating problem and to maintain the client in therapy. Related problems may become apparent only after treatment of the originally presented problem begins or when more information is provided by a client whose confidence in the therapist has grown. Additionally monitoring changed behaviour may give rise to further therapy needs if a program is to be fully effective and generalised; for instance newly learned adaptive behaviour patterns may give rise to the need for further social skills training.
Approaches: Currently three broad approaches have been identified for the carrying out of systematic functional analyses of behaviour.\(^1\)

The first two of these, Goldfried's behaviour-analytic model and Lazarus' BASIC ID model will be described briefly, with most attention being paid to the functional (behavioural-analytic) approach (or behavioural diagnosis) of Kanfer and Saslow (1969) because of its comprehensiveness.

Yates (1975) makes some criticism of these models as a return to the "battery approach to psychological testing of the 1940's and 1950's" where a multitude of procedures and assessments were recommended as routinely applicable to all patients. This seems to be an exaggerated analogy based on some misunderstanding of the clinical application of such approaches. The assessment phase is not a once and for all comprehensive battery approach, rather it is a continuing and cumulative assessment throughout the process of therapy, with problems (target behaviours) being focussed on as identified. "The totality of the patient's problems as initially presented does not have to be dealt with immediately, or by the time treatment is terminated. An effective assessment procedure requires only that some hierarchy of problems is established so that priorities can be assigned for treatment of various maladaptive patterns or for specific situational inventions" - Kanfer and Phillips (1969).

Practitioners such as Lazarus and Wolpe would also agree that the majority of clients do not have monosymptomatic disorders or simple

\(^1\) Within other articles/texts, e.g. the flowchart methods of Figures 3.1 and 3.2, step by step procedures for the assessment stages are shown but basically these represent variations of the themes set out in the behaviour diagnosis and behavioural analytic approaches.
habit-formation difficulties but complex behavioural dysfunction arising from complex person-environment interactions and that anything less than a full functional analysis is inadequate. Mention should also be made of the practical limits which exist in a clinical setting on unnecessary assessments made under an omnibus approach.

**Behaviour-Analytic Approach:** The basis of this approach is the distinction between the assumptions of the traditional model and the behavioural model described earlier. The behaviour-analytic approach for assessing competence is exemplified in Goldfried and D'Zurilla (1969). The analysis takes part in five stages: situational analysis, response enumeration, response evaluation, measuring instrumentation, and demonstration of the validity and reliability of the instrument.

**Multimodal Therapy:** Lazarus (1973) postulates that: "Durable results are in direct proportion to the number of specific modalities deliberately invoked by any therapeutic system". He then specifies it necessary and sufficient to analyse seven specific modalities, which are interdependent and interactive, viz. behaviour, affect, sensation, imagery, cognition, interpersonal relationships and drugs; forming the acrostic BASIC ID.

Lazarus claims that to ignore any of these modalities is to practise a brand of therapy that is incomplete. Not every case requires attention to each modality, but this conclusion can only be reached

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1. Drugs actually covers medical/biological factors. It would appear that use of the term "Drugs" was forced to complete the acrostic.
after each area has been carefully investigated during problem
identification (i.e. diagnosis). It is interesting to note that,
in the case study illustrated by Lazarus (1973) to show the treatment
of a client with multimodal therapy, he concludes by saying -
"... she was then amenable to more basic therapy beyond her presenting
complaints." What did he mean?

Behaviour Diagnosis: This approach arose from dissatisfaction with
the conventional psychiatric diagnosis approach which has been
severely criticised on the grounds of an inadequate nosological basis
(Ward, Beck, Mendelson, Mock and Erbough, 1962), low reliability (Ash,
1949; Rotter, 1954), and limited prognostic value (Freedman, 1958;
Windle, 1952). Kanfer and Saslow (1969) see the task of assessment
being to answer three basic questions: (i) which specific behaviour
patterns require change in their frequency of occurrence, their
intensity, their duration or in the conditions under which they occur?
(ii) what are the conditions under which this behaviour was acquired,
and what factors are currently maintaining it? and (iii) what are the
best practical means which can produce the desired changes in this
individual (manipulation of the environment, the behaviour, or the
self-attitudes of the person)? The identifying characteristic of the
behavioural diagnosis approach is its requirement that the five
components of the behavioural equation (S-O-R-K-C) be assessed to
provide a full functional analysis.

Appendix 1 is a summation of the systematic functional analysis
proposed by Kanfer and Saslow (1969). It is sufficiently important
to include here as it reflects the transfer of a social learning
perspective into the practical arrangement of a major part of the
intervention program; the assessment.
Techniques: "The field of behavioural assessment appears to be at a point where the need for measures currently outstrips the available procedures. As a result, we are faced with the danger that poorly conceived assessment procedures may begin to fill the existing vacuum, and may establish themselves as 'behavioural measures'.” Goldfried (1977).

This statement at first appearance is a little strange coming as it does in the introductory chapter to a text (Cone and Hawkins, 1977) which goes on to describe a wide range of measures which can be used to gather and analyse data about an individual and his environment, e.g. Chapter 4 reviews 166 behavioural checklists. The warning Goldfried (1977) is giving, however, is about the validity, reliability and general usefulness of existing measures and the damage that poorly conceived assessment procedures may bring. This warning comes against a background of the proliferation of psychometric tests in mid-century and their subsequent severe criticism (Mischel, 1968; Peterson, 1968; Rotter, 1954).

In the previous section it was argued that behavioural analysis placed crucial emphasis on the requirement that the behaviour being sampled be representative of the person x situation condition. This criterion of directness of the sample is the first dimension on which behavioural assessment measures are ordered.

A direct-indirect continuum can be formulated on how close the stimulus conditions are to the stimulus conditions of the relevant natural environment, how close the response is to the actual target behaviour (i.e. how reliability the event observed represents the target
behaviour, when products of the behaviour are measured) and how temporally proximal the measurement is to the behaviour's occurrence. According to such a classification, the observations of behavioural sequences in the natural environment anchor the direct end of the scale and the client's oral or written reports set the indirect end. This contrasts with the traditional approach to psychological tests which sees objective and self-report (pencil and paper) tests as direct indicators of behaviour and, at the other end of the scale, sees projective tests as indirect and inferential measures of underlying states. Since a behavioural approach negates the need for the latter inference, self-report measures of cognitive states become seen rightly as indirect measures, albeit all that is possible given the nature of the phenomena attempting to be measured. If one adopts a view that cognitive mediators are the real determinants of behaviour, then dependence on measures of such variables is unavoidable.

In Appendix 2 the techniques of assessment are looked at in some detail according to this classification of directness/indirectness with the former being subdivided into naturalistic observation and analogue techniques.

It may be that following the first analysis phase of a consultancy an assessment report is prepared; certainly in most institutional settings such as a hospital some form of written intake report would be prepared. Pomeranz and Goldfried (1970) provide a format for an intake report which is useful for organising, in summary form, the assessment material gathered and which points to the target behaviours for change and possible change techniques. Alternatively much of the assessment data may not be brought together until the negotiation of contract stage.
3.3 Target Behaviour Selection

Having completed an initial analysis of the client's (problem) behaviour and the environment, the next step is for the client and therapist to agree on the target behaviour, i.e. to specify what is to be changed. In an article amusingly entitled "The Art of Being a Failure as a Therapist" Haley (1969) formulates some ground rules which, if followed, would increase the probability of therapy failing. One of them is refusing to set up a treatment program that focusses on the presenting problem from which the client thinks he/she is paying to recover. In its positive form, this statement implies the factors essential in the step of selecting a target behaviour — they are agreement with the client and priority to the problems felt at the moment.

Consumers' rights, in its popularly used sense, may be a reasonable principle to apply in the stage of selecting target behaviours. Since the efficacy of most intervention programs will depend on the client understanding the techniques to be applied, being prepared to put effort into behavioural assessment (e.g. self-monitoring) and active participation in intervention techniques, and co-operating with rather than resisting the therapist’s directions, it is essential that agreement is reached with the client on the behaviours to be changed and priorities of treatment (Wilson and Evans, 1976). In an ethical sense the choice of treatment goals is a matter of value judgment and must be determined mainly by the client.

While ideally the client has goal setting primacy, it is unrealistic to assume that in practice the therapist is not influential in reaching these decisions. The principal role the therapist can play
is in defining goals in specific behavioural terms. The transposition of what appears to be a vague but pervasive condition (frigidity) into simpler terms (achieving orgasm with partner a certain percentage of the time) may in itself lighten the client's burden, as well as be the basis for objective monitoring of intervention effect. The therapist can also guide goal setting by advising on the feasibility and desirability of certain levels of achievement based on empirical support for the techniques available, e.g. controlled social drinking as against abstinence (Lloyd and Salzberg, 1975).

A number of factors may influence the decision about which behaviours to treat first such as the existing severity of a problem and the consequences if it persists. For example, the client could be having frequent serious thoughts about committing suicide and an attack on the thoughts promoting such a course of action would clearly have a priority over rectifying the lack of social skills the client may also display. Where functional dependencies exist, often one form of behaviour may require treatment, say reducing depressive feelings, before the client would be open to working on other behaviours, say improving relations with family or learning certain coping skills (Goldfried and Davison, 1976). Cautela and Upper (1975) also suggest that selecting a target with a high probability of successful change may be beneficial in the early stages of therapy before attempting more complicated and difficult behaviours requiring a longer time to change.

The behavioural equation again enters the program at the target selection stage. Through the principles of learning discussed earlier,
the lawful relationships which exist between the elements in the equation have been identified. It is these relationships which make it possible to aim change at one, or combinations, of the elements and thus produce change in the overall behavioural sequence. The target behaviours selected may be actions acting as antecedent stimuli to anxiety or depression or the reinforcing behaviour of a person may be the target for change to produce a resultant improvement in say the problem behaviour of a child.

The clear expression of the target behaviour in functional terms is a requirement. The principles discussed in defining units of behaviour for naturalistic environmental observations are similarly applicable here. As a shorthand guide, Gottman and Leiblum (1974) specified that the goals or target behaviour should be expressed in terms of who (client) will do what (operational definition of behaviour) to what extent (criterion to measure successful occurrence of act) under what conditions (situation specific).

3.4 Application of Intervention Techniques

This section of the intervention program can be divided broadly into two parts: the choice of treatment technique and the implementation. As has already been pointed out the distinguishing feature of a behaviour therapy program is to decipher, through a functional analysis, the target behaviour for change and then to apply specific intervention techniques within a controlled experimental methodology. But just how this selection is made is something of a mystery (Yates, 1975).

The sparse literature which attempts to answer this question distinguishes two principal approaches. On the one hand, it is
suggested that the practitioner chooses a technique which has been shown by research to be effective in changing (labeled) forms of behaviour under certain circumstances. If one is interested then some explanation of why this particular form of therapy brought about the change might be attempted later. This procedure is not unlike the model (medical) where having diagnosed the problem, the treatment of choice is almost immediately identified (e.g. flooding should be used to overcome phobias).

Such an approach is not to be scorned by behaviour therapists on this ground ("standard therapy for standard problems with homogeneous groups"; Yates, 1975), as the rationale for such a model lies in the attention given to empirical research of the efficacy of techniques and this "empiricism" is a basic principle of the behaviour therapy ideology (e.g. the research showing greater "success" with direct exposure techniques such as flooding, shaping and participant modeling than systematic desensitisation in treating phobias (Marks, Boulougouris and Marset, 1971; Crowe, Marks, Agras and Leitenberg, 1972; and Bandura, Blanchard and Ritter, 1969).

Kanfer and Grimm (1977) present a rudimentary organisation of some groups of behaviours and behavioural determinants for which behaviour therapy techniques have been widely researched and successfully used. Although oriented to processing interview information to select target behaviours for change, this scheme offers potential for general application to relating problems (described by function not content) to treatment of choice.

An alternative approach involves something of the reverse of this procedure. In this approach the practitioner observes the client's
behaviour and, based on a theoretical analysis of the data collected, hypothesises how the behaviour is being maintained and therefore how it can be changed. The hypotheses are then tested by controlled study applying techniques known to effect changes in the variables postulated as dependent in the equation.

This single case, experimental method is proposed by Yates (1975), based on the initial work in clinical psychology by M.B. Shapiro and the much earlier physiological study by C. Bernard. Yates (1975) proposes the method as a rational way of selecting and using techniques rather than "relying on blind technology, and thrashing about multimodally in the dark until a technique is discovered by chance that appears to 'work'." To support this approach Yates evidences the treatment of a client for four tics, having formulated the instigating and maintaining factors by using Hull's learning theory Habit Strength and Drive Equation (Yates, 1958). However, because of the general "preparadigm" state of behaviour therapy it is probable that the number of occasions on which explicit theory can be meaningfully used, as in the tic study, may be relatively small at present. The viability of this approach is not totally void for this reason, as the fundamental notion is that of controlled hypothesis testing rather than the use of formal theory.

The popularity of looking to the experimental study of the single case for guidance in the procedure for approaching problems in individual clinical cases is reflected by the importance it is given in other recent texts (Bellack and Hersen, 1978; Reese, Howard and Reese, 1978).
Hersen and Barlow (1976) and Leitenberg (1973) described the designs for experimental research where N = 1. These designs used most frequently as intervention strategies in behaviour therapy are:

(i) baseline and treatment designs (A-B):
   where behaviour change is gauged by observing baseline change (note there is no guarantee that the treatment caused the change);

(ii) reversal and withdrawal of treatment designs (A-B-A):
   a step further in confirming treatment effectiveness;

(iii) multiple treatment designs:
   one specific form of behaviour is shown to be under the differential control of various treatments, e.g. varying schedules of reinforcement.

The designs will be discussed in the section on outcome evaluation (3.5).

In single case designs, the client is being used as an own control by comparing behaviour over time. Thus measurements are taken throughout all baseline (pretreatment) and treatment phases and continuing feedback is used for the confirmation of existing procedures or the selection of new procedures for substitution or addition. From this concept it is seen that, pretreatment baselines having been taken, the application of the technique is carried out in a way that it becomes a method of evaluating the effectiveness of the intervention.

It is interesting to compare the two approaches above with Goldfried and Davison's (1976) description of selecting techniques. "At present, one typically uses clinical intuition and experience as an aid in determining what seems to be the most appropriate therapy
technique for a particular client. Clinical practice involves selecting a few seemingly relevant techniques, and then trying each in turn until one proves to be effective."

The factors which will influence the choice and application of the treatment technique in clinical practice in addition to the nature of the problem, include client characteristics, treatment setting, significant others in the client's environment and therapist variables (Cautela and Upper, 1975). The therapist/client relationship is also relevant and was discussed earlier.

**Client Variables:** Clearly such factors as client's age, intellectual level, communication skills and physiological problems influence the selection of intervention techniques, e.g. age and physical health may rule out electrical aversion therapy, young children would find cognitive procedures difficult. Also, the client may not agree to the use of a procedure for his own reasons. Data gathered during assessment (life history questionnaire) will be helpful here.

At initiation and throughout therapy there may be client resistance (be clear that not all the failures of therapy are the "difficult client's" fault) which affects the efficacy of techniques. Such resistance may be due to cognitive difficulty in accepting/adapting to change, skills deficiencies, incomplete assessment (leading to treatments which could expose the client to other problems, e.g. aversive control of alcohol drinking without supplying skills to cope with the "sober" world) reinforcement by staying in therapy, and lack of client motivation. Overcoming resistance is difficult but some tactics which may help are cognitive restructuring, skills training,
paradoxical intentions, technique changes and mild coercion
(see Gottman and Leiblum, 1974).

_Treatment Setting/Significant Others:_ As many of the procedures recommended involve action by the client _in vivo_, the practical problems the client may face must be considered. This particularly applies to the roles other people play in the client's environment. A common situation is an institution (hospital or school) where it is essential that the people interacting with the client are familiar with the modification program so that their behaviour towards the client is consistent with the goals of that program in terms of social reinforcement, appropriate attention or consequences to certain actions. Significant others can also be used in monitoring and recording behaviour for evaluation purposes.

Some forms of therapy such as marital counselling/problem-solving and sexual skills training can be taught effectively on a couple or family scale only. Where there are practical problems involving significant others in the therapy, then tactics such as role playing, modeling and imagined environments might be utilised to approximate the real life situation.

_Therapist Variables:_ Training, clinical experience and ethical considerations may determine the therapist's ability to deliver a technique of intervention effectively.

It is generally recommended that after a period of assessment and a decision by the client and therapist to work together, an explicit treatment contract be negotiated. This contract involves agreement on
the goals, methods and procedural rules of treatment. Although often the contract is an oral agreement, written contracts have the advantages of being clearer, less open to dispute or disappointment, more binding on the client, more likely to increase therapist accountability and may even form part of the intervention itself (e.g. contingency contracting - for an illustration see Reese, Howard and Reese, 1978; Table 3.12).

It is beyond the scope of this essay to describe the techniques currently practised under a behaviour therapy heading, with their procedures, situations in which they can be applied and the empirical evidence gathered on each to test its effectiveness. Comprehensive texts on techniques are: Craighead, Kazdin and Mahoney (1976); Goldfried and Davison (1976); Kanfer and Goldstein (1975); Leitenberg (1976); Meichenbaum (1977); and Rimm and Masters (1974).

3.5 Outcome Evaluation

The discussion of assessment strategies emphasised that assessment was an on-going experimental operation, from which hypotheses were formulated, tested and revised in the face of non-supporting data. While this on-going evaluation can be performed in a subjective and informal manner, a systematic and objective approach will invariably produce more valid judgments.

The outcome of continuing evaluation may be new or modified techniques, recasting of target behaviours or a decision to terminate therapy. Although emphasis will be given here to designs for objective evaluation in the single case model, less rigorous indicators of the progress in therapy of a client would appear to be the norm in
clinical practice. Such indicators are the therapist's rating of change, client self-monitoring and satisfaction/dissatisfaction with achievement of goals, and reports from significant others.

In the single case methodology, treatments are administered in such a way that they become means of evaluation, through demonstrating ability/non-ability to control (systematically) the target behaviour. The advantages of such an approach in the clinical situation are:

(i) the client is an own control at the same time as receiving treatment (thus obviating the need for control subjects); (ii) decisions can be made about modifying/terminating therapy; and (iii) if the controlling effect of the intervention technique can be validated then maintenance of changed behaviour can be more competently predicted.

The first step in an evaluation process is the establishment of baselines, i.e. the pretreatment status of the dependent variable (the target behaviour). Baselines in clinical practice are generally presented graphically and analysed by visual inspection. This strategy is based on the assumption that "clinical significance" is more critical than statistical significance, and that any effect large enough to be clinically meaningful will be discerned by visual inspection of a carefully prepared figure (e.g. graph) (Bellack and Hersen, 1978).

Reversal Designs (Single Treatment): The simplest design is exemplified by the uncontrolled clinical case study in which baseline is followed by treatment (A-B). This design is sufficient to demonstrate that some change has occurred but does not allow conclusions to be drawn about the role of treatment in producing that change.
Change might well have resulted from some extraneous factor such as placebo effect.

The A-B-A design controls for this possibility by withdrawing treatment and returning to baseline conditions. If the change varies according to the presence or absence of the treatment then it is acceptably probable that the treatment is influencing the change.

The A-B-A design represents only a part of the strategy in the clinical setting as the treatment B would again be introduced to effect the desired behaviour change (A-B-A-B design). If indeed change occurs again, this is further confirmation of the controlling effect of treatment.

Reversal Designs (Multiple Treatment): Frequently, effective interactions involve the application of a number of treatment procedures simultaneously or cumulatively; it is desirable to differentiate the effects of different treatment components. The basic reversal strategy is used but expanded by changing (adding or withdrawing) one treatment at a time in successive A-B-A sequences. Common variants include: A-B-BC-B; A-BC-B-BC and A-B-BC-A-BC. Each of these designs is suitable for demonstrating the controlling effects of the two component treatment BC. In each case the last three phases form the critical A-B-A sequence for examining control.

Multiple Baseline Designs: There are a number of situations where reversal designs are not applicable, as in cases where withdrawal of an effective treatment or delay of intervention to measure a baseline in severe behavioural dysfunction would be unethical. More clearly
the A-B-A design is not available to be used where treatment cannot be withdrawn or reversed for pragmatic reasons, e.g. the effects of skills training cannot be removed by halting therapy, a classically conditioned response will not reverse once it has been extinguished (without further conditioning).

For such cases the multiple baseline design is used. Treatment is administered to each baseline sequentially, in time-lagged fashion, and control is demonstrated if each baseline changes when, and only when, it becomes the focus of treatment. Two necessary conditions for valid multiple baseline measures are that the baseline must be independent and treatment must be the same to each baseline. It is also desirable that more than two baselines are used as the more baselines which change the higher the probability that the treatment was in fact operating as a control.

Multiple baseline designs can be applied across situations (e.g. different sexual stimuli (Marks and Gelder, 1967); areas of learning (Ayllon, Layman and Kandel, 1975)); subjects (school children - Copeland, Brown and Hall, 1974), and classes of behaviour (eye contact, speech duration, response to unfair treatment and compliance to request - Hersen and Bellack, 1976a). Hersen and Barlow (1976) also point out the inappropriateness of multiple baseline designs for differentiating the effectiveness of individual treatment components and recommend the use of combined (reversal and multiple baseline) designs for such purposes (Fox, Copeland, Harris, Rieth and Hall, 1975).

In addition to the above, Hartmann and Hall (1976) and Reese, Howard and
Reese (1978) propose a changing criterion design where control is a measure of the extent to which a behaviour matches a progressively changing criterion, e.g. control of smoking by prescribing reducing permitted levels (number of cigarettes per day) of smoking: (Axelrod, Hall, Weis and Rohrer, 1974).

A word of warning should, however, be sounded about the use of single case evaluation methods in the clinical situation lest it be thought that such procedures are a requisite part of every consultancy. Ethical, practical and methodological difficulties will often preclude their use. In essence, all such designs necessitate baseline observations, holding certain conditions constant at different times and intervening selectively in a limited manner at any one point. Such requirements may easily conflict with the priority in any service delivery setting, which is to treat the client's problems in as effective and efficient manner as possible (Kazdin and Wilson, 1978).

This is not to say that the single case research approach is not applicable. Despite all the claims on the therapist's time and the severity and complexity of most clients' problems, if practitioners want to optimise the effectiveness of interventions, then they must be prepared to devote as much time and experimental rigor to the process as each case allows.

Termination: As indicated previously, the examination of evaluation data may lead to the client staying in therapy (possibly with a modified contract) or it may lead to termination of the consultancy. The latter involves agreement by the client and therapist that the goals (target behaviours) have been achieved and a decision is taken
to terminate the intervention program. The terms of any therapy contract will of course be pertinent here.

Termination may be a graded process as therapy sessions are phased out over increasing non-treatment intervals. Such a process is particularly useful in providing time for newly acquired or changed behaviours to be treated for maintenance and transfer to the client's natural environment. Goldfried and Davison (1976) attest to the usefulness of such an approach in "weaning" a client's dependence on the therapy encounter after the therapist considers the targets have been achieved. Before termination is effected particularly for institutionalised clients, consideration must be given to the environment to which the client will be returning. Therapist and client need to make plans (perhaps practise certain social skills) to achieve a satisfactory re-entry.
CHAPTER 4.

EVALUATION OF BEHAVIOUR THERAPY

Having described behaviour therapy from both the conceptual and practical points of view, this concluding chapter examines its worth as an approach to treating psychological problems. What evidence is there to support the clinical use of behaviour therapy?

It is a paradox that behaviour therapy is vulnerable on this point by the very fact that it is one system of psychotherapeutic assistance that is characterised by the presentation of techniques in a context of experimental validation of those methods and the theories on which they are based. This paradox is heightened by the way that behaviour therapy entered the field of clinical psychology in the 1950's with claims of enormous success rates from treatment and the ensuing need to prove itself against the traditional psychotherapies.

The first significant estimate of behaviour therapy's success was Wolpe's (1958) claim that 90% of the 210 adult neurotic patients he treated were either "cured or much improved". Sampling bias and the lack of appropriate controls and objective measures make it difficult to defend these results. For example, in his analysis of the results Wolpe excluded some clients who had received less than 15 sessions of therapy (Kazdin and Wilson, 1978). Similar methodological problems cast doubt on the 78% success rate claimed by Lazarus (1963).

The ensuing dispute between these two leaders in behaviour therapy (Lazarus, 1971; and Wolpe, 1976a) on the relative effectiveness of
Lazarus' multimodal behaviour therapy and Wolpe's "defined" behaviour therapy only shows the danger of such claims and the invalidity of such global and subjective judgments in the systematic evaluation of therapy outcome.

It must also be remembered that the initial claims of high success rates with behaviour therapy came at a time when Eysenck's (1952) paper had called into question the efficacy of traditional psychotherapy when compared to no treatment remission rates. Recent reviews of the treatment outcome literature (Luborsky, Singer, and Luborsky, 1975; Smith and Glass, 1977) would appear to have brought the debate full cycle. These reviews concluded that therapy is more effective than no treatment but that different treatment approaches, including behaviour therapy, are equally effective.

4.1 Comparative Outcome Studies

What comparative outcome studies such as these fail to recognise is that they are attempting to answer the wrong question or at least an irrelevant question. This body of research has been directed at the question - Is one form of therapy (e.g. behaviour therapy) more effective than another (e.g. psychotherapy)? There are a number of assumptions made in conducting such research which can be criticised and therefore place reservations on the conclusions (Kazdin and Wilson, 1978).

Invariably such studies depend on a therapy uniformity assumption, i.e. that terms such as "behaviour therapy" and "psychotherapy" refer to well-defined, internally consistent sets of techniques that can be readily reproduced in a "routine treatment" for the purposes of comparison. The fallacy of such an assumption is obvious. There is
no one such therapy but a multitude of approaches (client centred, psychoanalysis, existential) based on widely different theoretical frameworks. More importantly behaviour therapy covers a range of techniques with one of its most important assumptions being the highly situation specific nature of problem behaviours and therefore the need to apply different intervention techniques according to the specific makeup of client and the environment. The relative effectiveness of different behaviour therapy techniques for treating a general class of behaviour is also important here.

The second unjustified assumption is that global measures of outcome can be made. The accuracy of qualitative measures, based on therapist, independent assessor or self-rating such as 'cured' or 'much improved', lacks reliability (Teasdale, Walsh, Lancashire and Mathews, 1977). Behaviour therapists would also dispute the validity of outcome measures using changed scores, profiles, etc. from psychological tests for the reasons discussed in the previous chapter.

Given such criticisms reference should, however, be made to one further major review of outcome studies (Kazdin and Wilson, 1976) and to a major study by Sloane, Staples, Cristol, Yorkston and Whipple, 1975) which attempted an outcome evaluation in the traditional model. Sloane et.al. (1975) took account to the methodological criticisms made of such studies and tried to overcome these to the extent possible (e.g. using clinically experienced therapists, random assignment of clients to groups, one year follow-up). The study has been endorsed for its attention to methodological validity (Wolpe, 1975; Bergin and Suinn, 1975). Sloane et.al. (1975) applied behaviour therapy, psychoanalysis and waiting control to outpatients classified with
neurotic or personality disorders and measured outcome by therapist, patient, assessor and informant ratings of primary symptoms change, general adjustment and overall improvement. They found that both forms of therapy were better than no treatment on the target symptom rating, and that behaviour therapy was better than psychoanalysis on overall improvement and better than no treatment on one year follow-up.

Despite the attention to methodology, this study can be criticised on the general shortcomings of all such studies cited above. In addition to these, Kazdin and Wilson (1978) provide a detailed criticism of the study on other grounds (choice of client population and problems, design confounds and adequacy of control groups).

In probably the most comprehensive summary of comparative outcome studies to date, Kazdin and Wilson (1978) have reviewed 74 comparative therapy outcome studies across 10 disorder categorisations and offered evaluation of their methodologies as well as a summary of the results. Making qualifications about the methodological quality of the studies, but pointing to the importance placed upon such comparative measures in practice for the choice of treatment and appropriation of funds etc., Kazdin and Wilson (1978) concluded: "In sum ... the available comparative outcome studies provide no evidence that behaviour therapy is less effective, more dangerous, less broadly applicable, or produces less extreme change in psychological functioning than alternative treatments such as psychotherapy. On the contrary, with at least some types of problems behavioural treatment methods appear to be more effective than other treatments to which they have been compared. Behavioural methods are demonstrably more applicable to a much broader range of human problems than verbal psychotherapy, and there is clear evidence of broad gauged treatment effects across specific target
behaviours as well as more general measures of personal, social
and vocational adjustment."

Rather than the global comparative question, the more profitable
question is - which procedure is more effective in which person x
situation conditions? One will recognise in this the criteria of
specificity and operational precision which were cited at the
beginning of Chapter 3 as the determinants of the approach to
clinical intervention at the individual client level. For an answer
the full research literature on behaviour therapy is available.
Clearly it is impractical to attempt any exposition or summary in
this essay of the findings of experimental research on specific
behavioural disorders, techniques and natural environments. Such
research is broadly divided according to the strategy adopted, viz.
control group, analogue or single case. In this essay, where an
emphasis has been placed on examining behaviour therapy as it is
applied at the individual client level in a clinical setting, the
advantages of single case outcome evaluation methods have already
been discussed.

Rather, it is intended to conclude with a look at the value of
behaviour therapy not just as it is effective on the basis of
statistical evaluation of empirical evidence, but from the viewpoint
of the clinical relevance of treatment effects. The strategies
outlined above for evaluating a given therapy technique and comparing
effectiveness across techniques have been limited generally to showing
that change has occurred. However, before such a demonstration of
effect leads to selection of a technique for clinical intervention,
there are a number of other criteria on which the technique should be
rated. Such criteria involve magnitude of change effected, its
durability and potential for carryover and maintenance in the client's natural environment, and the cost/benefit for both client and therapist.

4.2 Clinical Evaluation

The primary criterion for evaluating success of a therapeutic intervention must be a measure of whether the target performances set in the therapy contract have been met. Further to this, the magnitude of change and its maintenance in the client's life environment and over time are the true tests for the client. Evidence for comparing treatment programs on this basis have generally been hampered by the lack of attention to follow-up evaluation in experimental research (Cochrane and Sobol, 1976; Keeley, Shemberg and Carbonell, 1976) and the practical difficulties of clinical case follow-up (client attrition, ethics etc.).

One method for conducting such evaluations is to use normative levels of behaviour after treatment as a criterion. Of course many problems exist in obtaining normative criteria such as defining the peer group, agreeing on normal behaviour and determining intragroup, individual and demographic variables. Despite these limitations some studies have found change was clinically significant using normative criteria for social withdrawal (O'Connor, 1972); children's conduct (Patterson, 1974) and adult social skills (McFall and Twentyman, 1973).

In assessing the empirical evidence on techniques (most of which use a group comparison strategy) for the purposes of selecting a procedure, it will often be advantageous to look within the groups to establish the magnitude of change for individuals (significant individual changes
may be lost in averaging). With behaviour therapy techniques this is clearly important because of the specific person/situation determinants assumption.

In addition to magnitude of change clinical significance will also depend on the successful transfer of changed behaviour from the clinical situation to the client's home environment. If a social learning framework is adopted then the success of any transfer will clearly depend on factors in the natural environment interacting with the person and his behaviour. Galasi and Galasi (1976) have shown the different results yielded by subjects experiencing the complex clues of the natural environment in comparison to the simpler response demands of behavioural tests in simulated circumstances.

In addition to the nature of the client's environment, variables such as self-control skills and expectations of self-efficacy may influence the generalisation and maintenance of behaviour change. Under Bandura's (1977a) self-efficacy construct, the client's expectations of how well he will do may determine how long and with what persistence he will exhibit the behaviour learned in therapy under the pressures of the natural environment. Consequently strategies might be adopted in delivering treatment which are aimed at facilitating transfer of treatment produced, viz: teaching coping and problem solving skills that transcend the specific problem target (Goldfried and Davison, 1976); establishing self-reinforcement schedules (Kanfer, 1975) and self-instructional techniques (Meichenbaum, 1975, 1977).

Durability of improvement in behaviour is a further criterion for selecting treatment. Techniques that are equally effective at the end of treatment may differ considerably in ability to maintain the
course of change. Most research in behaviour therapy on this issue has been concentrated on the treatment of addictive behaviours and in this area current techniques are found wanting (Yates, 1975; When Behaviour Therapy Fails - 1. Smoking, 2. Obesity). McFall and Hammen (1971) document relapse rates of 60% to 80% for smoking. Hunt and Matarazzo (1973) confirm this finding and show similar relapse levels and progressions to relapse over a 12 month follow-up for heroin and alcohol addiction. Clearly in such areas, evaluation of specific techniques in terms of maintenance of change is crucial, e.g. for smoking, Lichtenstein, Harris, Birchler, Wahl and Schmahl (1973) report better abstinence results following a technique using warm, smokey air combined with rapid smoking. Similarly treatment response across target behaviours may vary, e.g. Marks, Rachman and Hodgson (1975) have shown that initial treatment response of obsessive-compulsive patients appears to be an accurate prediction of long-term success.

In addition to the above criteria which relate to the evaluation of the importance of change for the client, there are a number of other criteria which may determine choice of treatment techniques. These essentially relate to the practical efficiency of treatment methods and presumably will hold positions of less importance than those discussed above which attempt to establish the most effective method of treatment.

Time: Assuming that different techniques are equally effective on a particular outcome measure, then the time by which results are achieved becomes a matter for consideration. The comparison of behaviour therapy techniques with the generally longer periods required for satisfactory psychoanalysis should be noted in this context (Bancroft, 1974).
Administration: Savings may be made on the traditional therapist/client face to face situation by utilizing such approaches as therapy in groups (Lazarus, 1961), technical aids, e.g. films (Bandura, 1969), self-administration, e.g. self-help manuals (Watson and Tharp, 1972) and therapy mediators (Tharp and Wetzel, 1969).

Cost/Benefit: In addition to the obvious costs such as monetary charges and time, some techniques may bear costs to the client in terms of emotional upset (e.g. aversive anxiety reactions using such techniques as flooding and covert sensitisation (Barrett, 1969)) and physical discomfort (e.g. chemical aversion conditioning for alcoholics (Wiens, Montague, Manaugh and English, 1976). The client and therapist must weigh up the costs of such techniques against the long-term improvements in behaviours expected to result. A similar choice may be made in recommending one technique (reinforcement for controlling hyperactivity in children) above another (drugs) because of possible side-effects (Ayllon, Layman and Kandel, 1975).

The above discussion has attempted to establish the need for broadly based outcome criteria in judging the effectiveness and efficiency of any intervention technique before its application in a clinical setting. The treatment of choice should thus meet the standard set earlier of establishing "what treatment, by whom is most effective for this individual with that specific problem and under which set of circumstances".
APPENDIX 1.

BEHAVIOUR DIAGNOSIS (ADAPTED FROM KANFER AND SASLOW, 1969)

The components of a comprehensive functional analysis of behaviour are set out as:

**Initial Analysis of the Problem Situation:** This is a preliminary formulation which establishes the behaviours brought to the clinician's attention with regard to their eventual place in the treatment procedures. The individual's problematic behaviours are measured in terms of:

- behavioural excess (frequency, intensity, duration, occurrence);
- behavioural deficiency (infrequency, inadequate intensity, inappropriate form, failure to occur under socially expected conditions);
- behavioural assets (what the client does well, talents, social skills).

**Clarification of the Problem Situation:** The variables which support and maintain problem behaviours must be specified in descriptive terms of low level abstraction. Questions are raised to generate information on:

- persons affected by the behaviour and influencing the client;
- consequences on the client and others of appearance/disappearance of the problem(s);
- conditions where the problem behaviour(s) occur(s);
- what would be the impact on the client and others of the change;
- new problem(s) which might arise from successful therapy.
The questions raised here are derived from the assumption that maladjusted behaviour requires continued support from the environment and, therefore, for effective and durable change to be induced, the supporting elements of the environment need to be identified.

Motivational Analysis: This section requires gathering data on the reinforcing and aversive events in the client's life. Positive reinforceers/punishers must be specified in terms of their importance to the client, past history of effect, awareness/unawareness by the client, delivery by others. The final question to be asked is which events of known reinforcing value can be utilised for learning new interpersonal skills or self-attitudes during treatment. In what areas and by what means can positive consequences be arranged to follow desired behaviours, replacing earlier aversive consequences.

Developmental Analysis: This section is structured under the headings of biological, sociological and behavioural changes. It attempts to review the impact of past changes in these modalities on the client's performance.

Analysis of Self-Control: This section poses questions aimed at establishing the client's capabilities for self-regulation and the conditions in which this might be possible.

Analysis of Social Relationships: Questions aim to establish who are the significant others, what roles they play in the client's life and what potential they have for participating in the change program.
Analysis of the Social-Cultural-Physical Environment: Questions are aimed at establishing the norms of the social environment and how the client measures up to them. The physical limitations/opportunities of the environment must be known and the way changed behaviour for the client will be received in the environment.
APPENDIX 2.

BEHAVIOUR ASSESSMENT TECHNIQUES

Naturalistic Observation: The most preferred assessment strategy is to secure a sample of the target behaviour in the client's natural environment. As the assessment process becomes more distant from observation in vivo, the probability of distortion increases. The primary reason for this phenomenon is the person/situation specificity of behaviour (Mischel, 1973). The more removed the assessment situation is from the natural environment in which the behaviour occurs, fewer relevant stimuli will be present and more alternative (assessment specific) stimuli will be present. If initial assessment and intervention are followed by continuing direct in vivo observation of target behavioural and environmental events, then the clinician and client have maximal opportunity for feedback on the effectiveness of an intervention strategy.

Although there is no question of the validity of such an approach in terms of attempting to measure some hypothesised personality construct or in terms of not relating to real life experiences, there are still reservations which must be placed on the validity of such a strategy. Even direct observation in the natural environment requires generalisation (validity) assumptions to the extent that the behaviour which is the target of observation is influential in evoking the referred problems. The difficulty of selecting the target behaviour is confirmed by the finding that clients sometimes report alleviation of the problem when direct observation data show little or no change in target behaviour (Lobitz and Johnson, 1975). Another generalisation issue involved is whether the data obtained are representative of the
client's performances in other similar situations.

Despite this reservation there is no question of the desirability of natural environment observation and this is being shown by the increasing use of such an approach in clinical practice, particularly by the observer being also the object of observation: self-monitoring. Firstly, however, an examination will be made of direct observation of a client's behaviour in a natural setting by another person, whether clinician, trained observer or significant other, for the procedures and problems appear to have been examined more rigorously in this mode.

The four basic steps of a naturalistic observation procedure are:
(i) defining target behaviour; (ii) selecting a strategy of measurement or quantification; (iii) observation; and (iv) reassessment of strategy. For comprehensive papers on the procedures for conducting naturalistic observations the following are recommended: Bijou, Peterson, Harris, Allen and Johnston (1969); Doke (1976); Johnson and Bolstad (1973); Mann (1976).

Defining Target Behaviour: There are three components of a behavioural definition, viz. behaviour, context and criteria. The behaviour itself is defined firstly in general terms (playing, studying, not attending, etc.) but then any such class of behaviour must be specified precisely in terms of what must be seen, heard, felt or otherwise observed so that someone can decide whether or not the behaviour is occurring. The difficulty lies in specifying what must be observed with sufficient precision so that two or more observers will agree on the occurrence or non-occurrence of the behaviour.
Hawkins and Dobes (1977) set the criteria of a behavioural definition as "objective, clear and complete. It should be unambiguous and clearly delineate the boundaries while specifying which classes of behaviour are to be included and which excluded. It leaves as little as possible to the observer's judgment."

Refinement of the behavioural definition takes place through specifying the context in which the behaviour will occur and the criterion levels. Context describes the conditions, restrictions and exemptions placed on the behaviour (e.g. out of seat can be qualified by out of own seat, not on a teacher's errand). The chief criteria are accuracy, latency, duration, amount and intensity, e.g. out of seat may be confined to more than five seconds or backside clear of seat. These criteria determine the method chosen to measure the behaviour.

Measurement Strategies: The principal strategies by which measurement takes place are observational recording (of frequency, duration, latency and interval), time sampling, automatic recording, narrative recording and (permanent) product monitoring. The advantage of the latter is its usefulness for situations in which it is difficult or time-consuming to observe the target behaviour itself. This advantage is also its disadvantage in that such a measure carries no validity about the target behaviour actually having produced the measured effects, e.g. Mann (1972) found fasting before weight checks responsible for weight losses rather than the prescribed diet behaviours.

Implementing: This can be carried out by anyone capable of utilising the behavioural definition agreed upon and skilled in the use of the recording strategy chosen. A range of technical aids (golf score counters,
video-playback, stop-watches, etc.) is available to assist in the actual observation stage.

A significant body of literature has focussed on the methodological problems in behavioural observation. A recent and fairly comprehensive summary of the research is contained in an article by Wildman and Erickson (1977) which examines observer, instrumentation and subject variables affecting the reliability and validity of data collected by human observers in natural environment situations. The authors complete their paper by collating a series of recommendations for improving reliability and validity. Summarised, these are:

1. training of observers should include samples of behaviour sequences and environmental settings which closely resemble the actual data collecting situation. Observers should be trained together and reach an asymptote of agreement on ratings;
2. conditions for assessing observer agreement should be maintained to ensure consistent levels of agreement, e.g. continuous overt monitoring and randomised, covert monitoring generate the most stable levels of agreement;
3. videotapes of observation sessions help overcome time limits and observer drift;
4. observer bias can be minimised by maintaining ignorance of hypotheses;
5. use of previously published codes for which operational definitions have already been developed and data on observer training and agreement presented. (Be conservative about the number of variables included in the behaviour code);
6. observation should be conducted as unobtrusively as possible to avoid reactivity.

Reassessment and Reliability: As indicated above reliability can be increased by such procedures as careful training of raters, specific behaviour definitions, keeping raters blind to the hypotheses.
However, these precautions are necessary but not sufficient. Reliability must also be periodically checked by securing independent ratings and improved by review training sessions.

**Self-Monitoring:** Self-monitoring is an alternative strategy in which people discriminate occurrences of some output of their own behaviour and maintain ongoing records, thus serving as *in vivo* observers. Self-monitoring has both therapeutic and assessment utility. It is useful as a therapeutic strategy because the very act of recording aspects of one's own behaviour sometimes causes that behaviour to change (reactivity). The procedures described above for external observers can be employed by the client for self-monitoring.

As an assessment technique, self-monitoring serves the functions of assisting the client and therapist to identify target behaviours in the early stages of assessment and subsequently providing data to serve as a dependent measure in evaluating the efficacy of an intervention program. For example, keeping diaries is often recommended as a means of helping the client to be more specific about presenting problems and identifying the antecedents and consequences of behaviour.

The increasing popularity of self-monitoring in behaviour therapy is influenced by the emphasis on empirically verified results (trained observers are often costly and impractical) and the use of self-control programs, especially involving the manipulation of covert events, which are observable to a public of one only.
There are two principal factors in self-monitoring which interact paradoxically, viz. accuracy and reactivity. When self-recording is being used as an assessment strategy the goal is to maximise its accuracy while minimising reactivity, since obviously behaviour changes when collecting baseline data would interfere with ongoing behaviour patterns. The paradox arises because a desirable change in behaviour should not be scorned if it arises from the simple act of self-monitoring and disrupts a nicely planned intervention experiment. The occurrence of reactivity through self-monitoring has been generally observed over a variety of situations (summarised in Kazdin, 1974; Nelson, 1977) but also found inoperative in others (Jackson, 1972; Mahoney, 1971; McNamara, 1972). For a fuller review of the variables (and theories) affecting reactivity see Nelson (1977).

Accuracy of self-monitoring data is normally evaluated by comparing the self-recorded data with data simultaneously collected by external observers, mechanical devices and measurable byproducts (e.g. comparing self-recorded calorie intake with weight loss). The literature shows that self-monitoring is only moderately accurate (Kazdin, 1974; Nelson, 1977). Such factors as difficulty of the observation process, awareness of the target behaviour and incentive to make accurate records all affect accuracy. The clinician can reduce inaccuracy to some extent by increasing incentive, decreasing task difficulty and securing periodic reports from others in the patient's environment. Awareness that accuracy is being monitored also improves accuracy.

Mahoney (1977a) has outlined a simple procedure for setting up a self-monitoring program in the clinical setting: (i) give explicit definitions and examples of target events and explain their possible
relevance to the problem(s) at hand; (ii) give explicit self-monitoring instructions; (iii) illustrate (model) self-monitoring with a sample form; (iv) ask the client to repeat the target definitions and self-monitoring instructions; and (v) test understanding by having the client monitor several trial instances described by the therapist. A more detailed examination of this process is contained in Watson and Tharp (1972) and Kanfer (1975).

A number of factors must be considered if the clinician is to use self-monitoring effectively. Firstly, monitoring is a tedious, often difficult task, which many people find either irrelevant or aversive to perform. As a general rule, the simplest procedure which will secure sufficient information should be used, and the requirements should be reduced as soon as possible. In addition, the therapist must emphasise the importance of the records and reinforce compliance with the instructions. In this regard Mahoney (1977a) recommends making provision of therapy contingent on supply of self-collected records. Conversely, he recommends not using self-monitoring if it is likely to have a worsening effect on the problem, e.g. asking potential suicides to record periods of depression.

**Analogue Techniques:** In many instances it is not feasible to conduct observation in the client's natural environment. Cost of extended periods of observation, lack of occurrence, or knowledge of likely occurrence, of the target behaviour, interruption of ongoing work, the client's need for private and not public therapy and just the difficulty of tracking the client through his natural environment are examples of factors which make *in vivo* observation impractical or impossible. An alternative under such circumstances is to produce as
nearly as possible the assessed relevant aspects of a client's environment in a controlled (clinical) situation and to observe and assess the client in that context.

The controlled environment thus represents the situation analogue in the manner that researchers use this approach of studying reaction in a contrived way and generalising the outcome result to the real world situation (subject, animal, treatment and response analogues are others). This conception is consistent with the perspective adopted earlier that the purpose of assessment is to obtain a sample of behaviour rather than to measure an effect and treat this as a sign of an unobservable phenomenon. The essential requirement of situation analogue analysis is that the similarity between the assessment tasks and the criterion or *in vivo* target tasks be maximised. An added advantage of the controlled environment analogue is that it allows variables to be manipulated and the client's behaviour to be assessed in response to different conditions more readily. Of course this may become the therapy in itself if change is induced (Goldfried and Davison, 1976).

The prototype of situation analogue assessment was the Behaviour Avoidance Test of Lang and Lazovik (1963) in which fear was measured in terms of physical proximity to a phobia producing object. Testing of avoidance behaviour to a wider range of feared stimuli presented in controlled situations is now used as a favoured technique principally because of the directness of measuring the subject reaction (Paul, 1969). The format of analogue techniques is limited only by the imagination of clinician and client in contriving situations which contain the relevant cues and which allow for the target behaviour to occur and to be observed.
Special use has been made of analogue encounters to assess social skills, with the basic method being role playing. In this method the client is instructed to behave "as if" in a certain situation and to interact with others (the therapist/spouse) playing different roles. Various methods can be used to record the behaviour such as observer rating, behaviour checklist, self-monitoring or direct systematic observation.

Critical research has sounded reservations about the validity of situation analogue assessments. Although a controlled situation may face validity, the analogue may fail to contain important cues that are present in the natural environment or may contain idiosyncratic cues that are not present in reality (Lick and Unger, 1977; Bellack, Hersen and Turner, 1977).

**Indirect Methods:** On the scale of directness/indirectness of assessment methods used earlier, oral and written self reports, which represent in content only other behaviour or which follow in time the occurrence of some behaviour, are placed at the indirect end. The general validity of such information, even as a sample of *in vivo* behaviour, has always been questioned. This does not prevent the use of such methods in the behavioural analysis, given that the orientation in using such methods is towards establishing current forms of overt and covert behaviour in fairly specific situations. In fact the practical difficulties of the direct forms of observation and measurement dictate the use of such indirect methods as interviewing and pencil and paper, self-report tests in clinical practice.
Interviewing: The interview is perhaps the most widely used method of conducting clinical behavioural assessments. It is often used as the primary source of assessment, and the first step in sifting through the client’s problem presentation. The process of interviewing may extend from the client to significant others in his life situation (family, teacher, boss, etc.).

Despite the extensive use of interviewing, as an informative and economical form of assessment, it can be criticised as a method on the grounds of: (i) its indirectness (the emphasis in behaviour therapy assessment is on obtaining samples of behaviour directly); (ii) the generally suspect nature of self (and significant other) report data; (iii) the almost total lack of research on the reliability and validity of behavioural interviewing; and (iv) the absence of standardised behavioural interview procedures (Linehan, 1977).

What then are the functions and advantages of interviewing? Essentially the interview is used as an information eliciting/sifting tool; it can be used to generate and probe the potential of hypotheses about change; and finally it is part of the therapeutic process itself through the client/therapist relationship.

The advantages of interviewing (Linehan, 1977; Morganstern, 1976) are:

- its flexibility - broadband information, follow-up client leads, ask for more specificity;
- it can act as a direct measure in itself of observation of client behaviour;
- it can be used to establish rapport between a client and therapist;
information can be more confidential than written reports;

- it is simple and within the communications skills repertoire of most people;

- it permits the opportunity for the requirements of therapy and an explanation of techniques to be transmitted to the client in his language.

Dependence on interview information is warned against throughout the literature, with Cannell and Kahn (1968) summarising the factors limiting the validity of verbal reports as: (i) accessibility of information (the interviewee may not be able to recall information, did not conceive it as important at the time of occurrence, etc.); (ii) cognitive sources of invalidity (client may misunderstand the role of the interviewee, not offer full information, etc.); and (iii) motivation (forced into an interview, the client may not be very forthcoming with information).

Because the interview is central to such forms of therapy as psychoanalysis and client-centred therapy, the form of the interview is fairly well defined. This is not so in the behavioural literature and there appears a paucity of data on the way interviews are conducted. Recent guidelines in Goldfried and Davison (1976) (Ch. 3) and Morganstern (1976) help fill the gap in setting out techniques for behavioural interviewing.

Written Self-Reports: It is written self-reports that are at the heart of the theoretical debate over how to assess behaviour. Rather than making use of traditional psychometric tests whose scores purport to reveal essential personality structures and dysfunctions, behaviour therapists use written self-reports as adjuncts to the direct observation of behaviour and verbal investigation in attempting to specify problem
behaviours and their maintaining environments. This concern is interrelated with questions raised about external or criterion validity of self-report data. There is ample evidence to indicate that responses to traditional self-report devices are not highly correlated with overt behaviour (Mischel, 1968).

Despite the reservations articulated about verbal reports, Bellack and Hersen (1978) point to the increasing number of self-report inventories to gauge fear, anxiety, social skills etc. and to the apparent duplication of many of them. Adding these to the existing traditional psychometric tests, the therapist has a sizeable inventory at his disposal (see Chun, Cobb and French Jr, 1975 which cites 3,000 original sources for measures and their applications). A further impetus to the return to written self-report measures has come from the trend to place emphasis on cognitive processes in determining behaviour, and of course this requires some form of self-reporting (Mahoney, 1974; Meichenbaum, 1977).

In clinical assessments two further features distinguish the use of written self-reports: the types of tests chosen and how they are used. Tests are used for ideographic purposes, i.e. the response to the individual question is of importance and often valid, whereas an abstraction or total score may be meaningless. It follows from this and the functions of tests, that the types of instruments used primarily involve survey and checklist methods.

1. Although new techniques for clinical behavioural assessment need to be developed, it would be premature to discard assessment instruments simply because they do not fit the conventional stereotype of behavioural measures, e.g. such traditional tests as Rorschach has been used as a perceptual task with claims of usefulness using a particular scoring system (Stricker and Weiner, 1971). Similarly TAT cards may be clinically useful to shape an otherwise inarticulate client's talk about relevant material by first soliciting less anxiety - provoking verbalizations and then making successive moves to discussion of target problems.
Behavioural checklists utilise lists of fairly specific, objectively described behaviours whose presence or absence in a person’s repertoire is rated, sometimes dichotomously, sometimes using scales (Likert type) of frequency, quantity etc. Such checklists should help the client be more specific in describing his behaviour and in assessing his abilities in areas which might not have arisen in a general interview.

Walls, Werner, Bacon and Zane (1977) document 166 behavioural checklists available, in terms of source, classes of behaviour covered, method of administration, scale, available reliability and validity research, and objectivity rating.

Survey schedules or self-report inventories are the other major written test type utilised. Their functions are to gather data on: (i) motoric responses, physiological activity and cognitions; (ii) the individual’s subjective experience of these response components; and (iii) possible factors in selecting and implementing treatment techniques. Comprehensive accounts of schedules available are contained in Cone and Hawkins (1977); Cautela (1978); Hersen and Bellack (1976); Mash and Terdal (1976).

Reference was made earlier to the essentially ahistorical approach in behavioural assessment. However in practice, life history questionnaires (Wolpe, 1969) are frequently used in the initial assessment phase to provide demographic and background data such as current marital and vocational status, family, religion etc. and specific information concerning the problems for which the client seeks therapy.
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