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Chapter 10

Behavioral Psychotherapy and the Rise of Clinical Behavior Analysis

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Many of the best established procedures in applied empirical clinical work have emerged from within behavior analysis. These include in particular the many types of contingency management procedures (e.g., time-out or token economies). While the successes have been substantial, early human applications targeted fairly discrete overt behavior and usually involved children or institutionalized populations. The rationale for this narrow focus was that these populations provided a greater opportunity to achieve stimulus control and to directly manipulate environmental contingencies (e.g., Ayllon & Azrin, 1969; Risley & Wolf, 1967). Until fairly recently, the applied behavior analytic tradition had largely ignored verbal psychotherapy.

Behavior analysts' have long held a general skepticism about the value of "talking cures." In part this was a counter reaction against the empirical weaknesses of early psychotherapies – but the larger part was that the client-therapist relationship and the complexities of language were not easily described in behavioral terms, and when they were so described, there seemed to be few reasons to focus energies there instead of in other places. Skinner's approach to verbal behavior (Skinner, 1957), essentially treated it as a mere discriminated operant. Indeed, Skinner considered the behavior of a rat in a normal animal operant experiment to be a limited form of "verbal behavior" (Skinner, 1957, footnote 11, p. 108). If direct contingencies are the primary issue, even for verbal behavior itself, there are few reasons to look to the psychotherapy session for powerful approaches to human behavior change. Thus, what conceptual interest there was in psychotherapy (e.g., Ferster, 1972), did not lead to new psychotherapy approaches.

All of that has changed. There now are several robust behavior analytic psychotherapies. A new sub-field, clinical behavior analysis, has emerged (see Dougher, 2000, for a book length review). Clinical behavior analysis can be defined as (Dougher & Hayes, 2000):

a) that part of applied behavior that applies the assumptions, principles and methods of modern functional contextual behavior analysis to the range of problems, settings, and issues typically confronted by clinical psychologists working in outpatient settings

b) including the identification of the variables and processes that play a role in the development, maintenance, and treatment of clinical disorders,
c) paying special attention to the role and use of verbal events in disorders and their treatment, and as a result,
d) emphasizing modern behavioral interpretations of the processes and principles involved in language and cognition.

So defined, the rise of clinical behavior analysis is a story of the rise of an intellectual area of behavior analysis, and a set of practical applications of that area within applied behavior analysis.

Rule-Governed behavior

The simple behavior analytic distinction between contingency-shaped and rule-governed behavior is the initial domino in a series of changes that have lead both to a post-Skinnerian analysis of language and to the development of several innovative behavioral psychotherapies. The link between rule-governed behavior and psychotherapy is natural, since both concern how verbal stimuli can change how humans interact with their environment.

Skinner defined rule-governed behavior as behavior controlled by contingency-specifying stimuli (1966). He never defined what he meant by "specifying" a contingency, however – relying instead on common sense examples. The seed planted by the rule-governed behavior concept for clinical behavior analysis thus ironically comes from two sources: empirical attention paid to this concept and its conceptual inadequacy.

Empirically, it was quickly learned that, in contrast with behavior that has been directly shaped or established by minimal instructions (Hayes, Brownstein, Zettle, Rosenfarb, & Korn, 1986; Matthews, Shimoff, Catania, & Sagvolden, 1977; see Catania, Shimoff, & Matthews, 1989, and Hayes, Zettle, & Rosenfarb, 1989 for reviews) rule-governed behavior is relatively insensitive to changes in contingencies that are not described by the rule itself (e.g., Hayes et al., 1986;). At least two major sources of the insensitivity effect were identified: rules can preclude contact with other important environmental features (Joyce & Chase, 1990), and rules add social standards for performance (Rosenfarb & Hayes, 1984; see Hayes et al., 1989 for a review).

The insensitivity effect was exciting because it seemed to parallel certain forms of psychopathological behavior. Indeed, all contemporary behavior analytic psychotherapies avoid a mindless reliance on rules as a result.

The conceptual inadequacy comes because of certain inconsistencies between Skinner's views on rule-governed behavior and verbal behavior (Parrott, 1987). Rules may "specify" contingencies, but they cannot do so verbally in Skinner's system. For Skinner, a "verbal stimulus" is merely the stimulus product of verbal behavior (Skinner, 1957, p. 34), and the behavior of the listener is not verbal. It is generally agreed that "rules are powerful events. They permit a remarkably indirect, conventional, and specific form of stimulus control. Rules allow the establishment of

remote social contingencies and a rapid modification of the range of behaviors available to make contact with the environment. They can also make other important sources of control over behavior ineffective" (p. 378, Hayes & Ju, 1998). Without a coherent technical account of the nature of verbal stimuli and of "specification," however, Skinner's account was unable to carry the water that behavior analysts wished the concept to carry.

This change in thinking can be seen in the rise and fall of research on rule-governance within behavior analysis. A hot topic in the mid-1980s, rule-governed behavior was cold as ice by the early-1990s. Instead, another topic had become red hot, and for the same reason: it seemingly provided an avenue for the analysis of human language and cognition.

Derived Stimulus Relations

In stimulus equivalence studies, a matching-to-sample format (i.e., given a sample, pick one of several comparisons) is often used to teach a series of conditioned discriminations (e.g., given A1 pick B1, given A2 pick B2, etc.). This kind of direct training corresponds roughly to the kind of training imagined in the concept of the tact: in the presence of an actual dog, the speaker is reinforced for saying "dog". Imagine that a child is taught that given the written word D-O-G, he or she should say "dog". Suppose the child is also taught that in the presence of the written word D-O-G, he or she should point to an actual dog. The child will now probably be able to say "dog" upon seeing an actual dog. Yet, this latter instance of behavior has not been directly taught in a fashion such as that imagined by Skinner's analysis of the tact.

Much of the interest in stimulus equivalence was due to its obvious similarity to verbal processes. Even the earliest studies (e.g., Sidman, 1971) made the connection, and it was confirmed by subsequent research. For example, the emergence of derived relations was shown with human infants (Devany, Hayes, & Nelson, 1986; Lipkens, Hayes, & Hayes, 1993), but not if they did not possess some spontaneous productive or receptive use of symbols (Devany et al., 1986). Further, it did not seem to be shown with non-humans (D'Amato, Salmon, Loukas, & Tomie, 1985; Dugdale & Lowe, 2000; Kendall, 1983; Lipkens, Kop, Matthijs, 1988).

These derived stimulus relations, furthermore, could easily be shown to make a practical behavioral difference. If words participate in equivalence relations with situations that occasion them, some of the stimulus functions acquired by the words transfer to related events, and conversely some of the stimulus functions of the related events inhere in the words. Several demonstrations of transfer are available and include conditioned reinforcing functions (Hayes, Brownstein, Devany, Kohlenberg, & Shelby, 1987; Hayes, Kohlenberg, & Hayes, 1991), discriminative functions of public (Hayes et al., 1987) and private (DeGrandpre, Bickel, & Higgins, 1992) stimuli, elicited conditioned emotional responses (Dougher, Auguston, Markham, Greenway, & Wulfert, 1994), extinction functions (Dougher et al., 1994), and sexual responses (Roche & Barnes, 1997).

As the literature on derived stimulus relations has expanded, a number of studies have shown that it is possible to produce a wide variety of derived stimulus relations such as same, different, opposite, or more-than/less-than (e.g., Dymond & Barnes, 1995; Steele & Hayes, 1991). If relational cues are pretrained so as to select for non-arbitrary stimulus relations of a given kind (e.g., opposites: given a short line pick a long line) then these same cues will produce the same kind of relational pattern even in arbitrary situations. For example, via such relational cues subjects in the Steele and Hayes (1991) experiment learned that A1 was the opposite of B3 and C3 and the same as B1 and C1. Testing showed that the subjects then derived that B3 and C3 were the same, and that each of these were the opposite of B1 and C1. When they later learned that the arbitrary stimulus D1 was opposite to C3, during a test phase they then treated D1 as the opposite and not the same as B3.

Derived multiple stimulus relations lead to behavioral functions that are extremely indirect in the sense that they have not been established directly through training. The psychological functions of an event in a relational network can alter, under some contextual conditions, the functions of other events in such a network. While the *transfer* of stimulus function correctly describes the process of one member of a class coming to have one or more functions of another member of an equivalence class, the term *transfer* is too narrow when the primary relations involved move beyond the relation of equivalence. Consider, for example, the relation of oppositeness. If a training history established A as the opposite of B, and A is given a punishing function, it would be expected that B may have a reinforcing function. In this example, it would actually be misleading to say that the stimulus functions of B transferred from A to B because the trained and derived functions are different. Rather, the stimulus functions of B are *transformed* based on its derived relation to A. Demonstrations of transformed stimulus functions are becoming increasingly common (Dymond & Barnes, 1995; Roche & Barnes, 1997).

At the present time there is only one well-developed behavioral theory in this area, relational frame theory (Hayes, Barnes-Holmes, and Roche, in press), but even without theoretical agreement about the etiological processes involved, derived stimulus relations begin to offer a more comprehensive analysis of verbal stimuli. It is increasingly common for behavior analysts to think of verbal stimuli and stimuli that have functions based on derived stimulus relations and the transformation of stimulus functions. If so, one can think of rule-governance as involving the transformation of psychological functions among networks of derived stimulus relations (Hayes & Hayes, 1989, 1992).

The Clinical Impact of Modern Behavioral Approaches to Language

Thinking of human language and cognition in terms of derived stimulus relations has many important impacts on the identification of the variables and processes that play a role in the development, maintenance, and treatment of clinical disorders. We will briefly point to a few examples.

Emotions

While Skinner argued that an analysis of private events such as emotions was scientifically legitimate (Skinner, 1945), he also argued that emotions were co-occurring phenomena of the same contingencies that precipitate overt motor behaviors and that they have "no functional significance, either in a theoretical analysis or the practical control of behavior" (p. 181; Skinner, 1953). However, to the extent that emotional labels are bidirectionally reactive (negative experiences adhere to words and vice versa), it is not necessarily true that "the change in feeling and the change in behavior have a common cause" (p. 62; Skinner, 1974) because both nonverbal and verbal contingencies are mixed in the control of the overt and emotional behavior (Friman, Hayes, & Wilson, 1998). For example, many fears and phobias seem to be indirect and verbally entangled. Oftentimes, even careful clinical interviews can reveal no direct history to account for a client's fear. The transformation of derived stimulus relations provides a working model for such indirectly acquired functions.

Experiential Avoidance

If the core of human language is derived stimulus relations, then experiential avoidance is built into human language. A derived stimulus relation based view of language suggests that the event and the description of the event interact bidirectionally with one another. If so, verbal self-awareness will be painful when what is known is painful. For example, a trauma survivor may avoid thinking or talking about the trauma, because the very process of contacting it verbally will bring some of the stimulus functions of the original experience to bear in the description (Hayes & Gifford, 1997).

This simple insight has profound implications for clinical behavior analysis, because it suggests that when humans construct private events verbally, they promptly tend to avoid or escape those that they do not like: a process termed "experiential avoidance" (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996). There is substantial evidence that experiential avoidance can be harmful (Hayes et al., 1996). Perhaps for that reason, clinical behavior analysis has been foremost among areas that have attempted to find ways to undermine these avoidance processes.

Plausibility of Indirect Cause and Indirect Interventions

Indirectness refers the degree to which behavioral interactions can be regulated by historical features that are remote in terms of formal similarity, contiguity, or direct contingencies. If derived stimulus relations are at the core of human language, then verbal stimuli can acquire functions very indirectly. This indirectness makes the analysis of clinical problems difficult, but it also makes the use of verbal interactions to change these problems plausibly useful. For that reason, modern behavioral accounts of human language make sense of the special attention clinical behavior analysts pay the role and use of verbal events both in the analysis of clinical disorders and their treatment.

There are many other examples of how thinking of human language and cognition in terms of derived stimulus relations has guided the development of clinical behavior analysis. We will return to this topic after first describing some examples of clinical behavior analysis.

Examples of Modern Behavioral Psychotherapy

Dialectical Behavior Therapy (DBT)

Dialectical Behavior Therapy (DBT; Linehan, 1993) was designed to treat the parasuicidal behavior of individuals diagnosed with borderline personality disorder (BPD). The treatment is dialectical in its conceptualization of the process of change as an ongoing synthesis between alternative and even contradictory positions. Perhaps the primary dialectical principle within DBT is that between acceptance and change. Acceptance strategies are closely aligned with the notion of unconditional positive regard in client-centered therapy, while change strategies are very similar to those of traditional cognitive or behavioral therapies in which the therapeutic objective is direct change of thoughts or overt behavior. Neither strategy is viewed as superior; each alone can be problematic. For example, change-based initiatives may come to be viewed as invalidating. The underlying message may be interpreted by the client as "I am not good enough. I have to change to be good enough." Alternatively, acceptance initiatives may also prove to be equally invalidating. Here the underlying message may be "You need to learn to accept that your life will continue to be painful." Therapy is viewed as an ever finer balancing of acceptance and change themes.

DBT defines three broad stages of therapy. In Stage 1 the objective is for the client to obtain basic capabilities, such as decreasing suicidal and other dysfunctional behaviors, and increasing behavioral skills, such as core mindfulness skills, interpersonal effectiveness, emotional regulation, distress tolerance, and self-management. Stage 2 focuses on reducing any post-traumatic stress through exposure. Finally, in Stage 3, the therapeutic focus moves to increasing self respect and the achieving individual goals. At this stage DBT focuses on the interpersonal client behaviors within the therapy session, and how the evolving client-therapist relationship can be generalized to relations with other important people in the client's environment.

The acceptance strategies utilized in DBT seek to foster within clients an awareness of their private emotions and thoughts and the workings of the real physical world through both an inward and outward focusing of attention. Mindfulness training may be conceptualized as a behavioral translation of meditation, and includes exercises in "just observing" one's private events, focused awareness, and distancing from the content of personal experiences (i.e., the content of various thoughts, the reactions to various emotions, etc.). Distress tolerance training applies mindfulness skills to personal experience. The intention of distress tolerance is for the client to view their experience (thoughts, emotions, behaviors) as they are, beyond any evaluative component or attempt to change, avoid, or control them. The change strategies that DBT utilizes include skills training, contingency manage-

ment, cognitive modification, and exposure. Direct cognitive modification along the lines of those advocated by Ellis (1962, 1973) or Beck (Beck, Rush, Shaw, & Emery, 1979; Beck & Freeman, 1990) are utilized, although to a far lesser degree than contingency clarification.

Integrative Couple's Therapy

Integrative Couple's Therapy (ICT; Jacobson & Christensen, 1996) conceptualizes couple distress behaviorally as primarily due to a decrease in the value of reinforcement received from the relationship. ICT utilizes a combination of change and acceptance strategies. Change strategies include behavior exchange (BE) and communication/problem-solving training (CPT). BE consists of identifying individual behaviors of one partner that the other partner will find reinforcing, and then increasing the frequencies of those behaviors. Communication training consists of teaching couples how to listen actively, maintain good eye contact, paraphrase and summarize what is heard, and reflect and validate the speaker. Problem-solving consists of training in problem definition and solution. While these rule-based strategies are often effective, there are other areas that do not lend themselves to rule control. For example, many problems reflect deep-seated individual differences that are likely to be highly resistant to change. In other areas, a couple may have the ability to change, but may remain unwilling. Finally, the pressure to change is often itself a major barrier to change (Lawrence, Eldridge, Christensen, 1998). For these situations, especially, ICT promotes acceptance-based strategies.

Strategies to augment the acceptance of one's emotional responding include 1) empathic joining, 2) viewing the problematic pattern as an "it", 3) building tolerance for a partner's aversive behavior, and 4) fostering self-care. These acceptance strategies are believed to achieve their effect through contingency-shaped, rather than rule-governed, processes. For example, in behavior exchange, the couple is not given a clearly stated rule. Rather, they are given a rather open-ended directive to choose to give their partners something favorable sometime during the week and to also choose whether to acknowledge any behavioral gifts they may receive from their partner. A partner may speculate that there is an underlying rule (such as "if I can do more nice things for my partner, things will get better"), but the power of behavioral exchange really comes from the couple getting in touch directly with the contingencies of giving and receiving (e.g., it may be nice to be the recipient of a back rub, and it may be also nice to receive appreciation for giving a partner a back rub, and these positive results may generalize to other contexts).

Functional Analytic Psychotherapy

Functional Analytic Psychotherapy (FAP; Kohlenberg and Tsai, 1987) is based on a behavioral analysis of the therapeutic relationship. FAP is meant to be used either in conjunction with traditional behavioral approaches or when the client's presenting issues are such that the interpersonal aspects of the client's ability to relate are the collective problem that needs to be treated. These interpersonal difficulties may be due to discrimination deficits or a deficient, excessive, or aversive behavioral

repertoire. FAP consciously attempts to avoid certain kinds of rule-governed behavior, since many rules may keep clients from contacting important feedback in the form of real-world contingencies. Instead, FAP assumes that new and more useful behavior can be shaped during the process of psychotherapy by the contingent responding of the therapist to client problems that occur in session, as well as to improvements in those behaviors. The underlying therapeutic assumption is that it is easier to deal with actual relevant behavior within session than with a mere description of the behavior. Essentially, the core therapeutic behavioral intention within FAP is to have the clients come under the control of rules that are effective – rules that produce valuable contingencies.

The FAP therapist is asked to a) notice instances of problematic client behaviors; b) structure the therapy environment to increase the likelihood of observing these behaviors; c) be aware of occasioning these behaviors; d) contingently respond to instances of client improvement in these behaviors; and e) describe and train the client to describe his or her problematic behavior in functional terms – e.g., what is the relationship between behaviors (e.g., thoughts and feelings), the conditions that give rise to the behavior, and the consequences following the behavior.

Acceptance and Commitment Therapy

This approach derives from the philosophy of functional contextualism (Biglan & Hayes, 1996; Hayes, 1993) and contemporary behavior analysis (Hayes & Wilson, 1993). The core idea in Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999; Hayes & Wilson, 1994) is that the relation between private events (e.g., thoughts, emotions, physical sensations, memories) and overt behavior is contextually established and maintained. Rather than try to change the content of these private events, the context that relates them to undesirable overt behavior is challenged.

ACT argues that humans are unique to the degree they substitute cognitions for direct experience ('cognitive fusion') and work to avoid negatively evaluated private experiences ('experiential avoidance'). Many forms of psychopathology can be conceptualized as unhealthy efforts to escape or avoid or control or suppress emotions, thoughts, memories, and other private experiences (Hayes et al., 1996), based on the domination of derived stimulus relations over other forms of behavioral regulation. The general goal of ACT is to encourage a client to contact private events without needless defense ('psychological acceptance'), and to reduce the needless domination of language ("deliteralization") while at the same time setting concrete goals based on overall values and behaving in a way that moves toward these goals ("commitment"). Thus, ACT seek to redirect direct change efforts toward more readily changeable domains, such as overt behavior or life situations, rather than personal history or automatic thoughts and feelings (see Hayes, Jacobson, Follette, & Dougher, 1994 for a book length review of acceptance methods) by altering the context in which such efforts occur. More specifically, ACT is designed to: a) lessen the degree to which thoughts are taken literally and to

promote the evaluation of thoughts on the basis of the degree to which they lead to valued life changes, b) undermine reason giving and believability of reasons in areas where these efforts have been used to justify and excuse ineffective behavior, c) foster the experience of private events, rather than engage in counterproductive avoidance behavior, d) clarify life values and identify barriers to implementation of life goals, and e) foster commitments to actions linked to life values. ACT shares common ground with experiential therapies in that experiencing and feeling are accepted and valued, not controlled out of existence. While some of the techniques used in ACT are borrowed from experiential approaches, the core conceptualization remains thoroughly behavioral.

Common Characteristics of Modern Behavioral Psychotherapy

All four of these approaches have been shown to produce significant behavior change, but we will not review those data here. Our focus, instead, is conceptual. In what sense are these four examples of innovative psychotherapies also examples of "clinical behavior analysis?" There are several notable commonalties, but we will describe only two here in any detail.

Contextualism and Radical Functionalism

Behavior analysis is based on a pragmatic philosophy: what is true is what works. Behavior is understood in terms of its function, not its form, and function is always understood in relation to a context.

Not all of these therapies are self-consciously cast in terms of contextual and pragmatic philosophy, but even a superficial analysis of each show them to be both contextual and radically functional. They all display a notable and quite unusual disinterest in changes in formally defined behaviors until the larger function of those behaviors are understood. There is little interest in pathologizing either the client, or certain formal behavioral events. Importantly, the contextual features of these approaches often deal explicitly with the referential nature of language, showing some sensitivity to the philosophical and theoretical developments in the behavioral analysis of human verbal events.

For example, ACT challenges the context of literality and control that is thought to bring together private behaviors (e.g., thoughts and emotions) and public overt behaviors, and attempts to refocus client energies from changing dysfunctional thoughts or avoiding feelings to contacting real-world contingencies. DBT accomplishes employs mindfulness exercises to change the functions of various thoughts and emotions. FAP attempts to increase the proportion of the client's experience that is contingency-shaped, rather than rule-governed, by providing a new social/verbal context, namely the therapeutic relationship itself. ICP encourages a focus on the function and utility of behavior so as to allow the client to contact contingencies that may have always been available but which were never contacted because of holding on to a posture of the need to change one's partner.

Another indication of the contextual and radically functional nature of these treatments, is their focus on both acceptance and change. When problematic

behavior is defined solely in structural terms, direct change efforts are seemingly the only option available. To a structuralist, acceptance is a kind of admission of failure. In all of these therapies, a given behavior may or may not be targeted for direct change efforts, and the distinction between the two is no topographical but functional.

ICT explicitly includes both acceptance and change strategies, distinguishing acceptance strategies as being contingency-shaped and change strategies as being rule-governed. Both are viewed as fundamental change processes, however, as moving to an acceptance posture is itself a change from equilibrium. For ICT, the acceptance/change distinction also reflects the differing effects of verbal behavior on private versus public behavior (Cordova & Jacobson, 1993). Specifically, acceptance strategies have as their objective an acceptance of private thoughts, memories, emotions, etc., while change strategies have as their objective a change in publicly observable behaviors. This distinction is similar to ACT's distinction between rule-based control efforts applied to private versus public events. For example, there is evidence that attempts to control private thoughts or avoid emotions can paradoxically lead to the opposite effect of increasing those very thoughts or emotional reactions (e.g., Wegner, Schneider, Carter, & White, 1987; Wegner, Schneider, Knutson, & McMahon, 1991). These findings suggest that rules of control and change, while often effective in the overt behavioral domain, may not work as well in the world of private events.

For DBT the chief therapy focus is the acceptance and change dialectic. Basically, the therapeutic initiative is one of both accepting/validating the client and, within this context, introducing the possibility of change. DBT encourages clients to experience distressful thoughts and emotions as they are, without changing or avoiding them, and also to attempt to titrate or otherwise control (i.e., change) the experience.

FAP pays the least attention to acceptance, except in the area of client acceptance. The therapeutic relationship is built both on positive regard and on contingent reinforcement of change (i.e., shaping). Thus, the tension between acceptance and change exists in this treatment approach as well.

Caution About Rule-Based Insensitivity

One of the biggest distinctions between traditional behavior therapy or cognitive therapy and clinical behavior analysis is the caution the latter show about the use of direct instructions and rules. In the 1980's, the basic behavior analytic literature provided ample evidence of the need for this caution, and due to the link between these approaches and behavior analysis, all of them have attended to this concern.

FAP is very aware that rules can make people insensitive to contingencies, even when the contingencies are contacted (e.g., Hayes et al., 1986). Accordingly, FAP has been designed to avoid most therapist-generated rules altogether, although FAP encourages clients to verbalize rules that work. FAP achieves this intention by its

great emphasis on shaping, in which instructions are minimized and contingent responding maximized. DBT is also explicitly cautious about the negative consequences that sometimes attend rule-based interventions and concerned that therapist suggestions (rules) may be perceived by the client as invalidating. The dialectical nature of DBT is expressed in its conceptualization of reality as containing natural contradictions or polarities. Clients may have a history of rather rigidly following rules, and they may become confused in a context in which it is not easy to identify or describe the underlying regularity (e.g., in a situation in which there are many exceptions). DBT therapists often respond to this confusion through means other than logical advice, which is not effective in accounting for the (apparently) illogical. Instead, metaphor, narrative, mythology, and paradox are offered as less literal means to somehow make sense of and accept ambiguity. Clients are encouraged to become comfortable with holding inconsistent or contradictory thoughts (rules) and to work toward finding a balance or integration.

ICT explicitly added acceptance strategies to help overcome the problems that can surround rule-based insensitivity. ICT conceptualizes these acceptance strategies as contingency-shaped, as opposed to more rule-governed change strategies. The underlying ICT assumption appears to be similar to ACT, in which, once freed from ineffective change efforts, clients may begin responding to newly perceived contingencies.

ACT is keenly aware that rules and other verbal behavior can desensitize the listener to the effects of environmental contingencies. ACT targets this phenomenon directly through cognitive deliteralization techniques and by emphasizing that clients trust their own direct experience. In some of these approaches (e.g., DBT and ACT) derived stimulus relations and the functions produced by them are weakened by deliberate deliteralization procedures such as mediation, repeating a word over and over, deliberate use of paradox or confusion, and use of metaphors (Hayes & Wilson, 1994). In others (e.g., FAP) dysfunctional verbal behaviors may simply be ignored.

This does not mean that rules are not used. Rather, all four psychotherapy models work to increase the influence of rules in the areas in which they are effective (e.g., values; noticing natural contingencies) and reduce the influence of rules in those areas in which they are a hindrance (e.g., self-avoidance). For example, FAP attempts to augment effective forms of verbal control by having clients tact in detail relevant controlling stimuli and contingencies. DBT therapists, like FAP therapists, spend a great deal of time just stating the contingent relationships that are currently in force. ACT augments rules and verbal control in the form of values clarification, overt commitments, and the statement of contact with meaningful contingencies as "rules of effective living."

Other Dimensions

There are several other dimensions that could be analyzed in much the same way including the avoidance of arbitrary contingencies and attention to natural contingencies, the use of the therapeutic relationship, and the importance of values and

purposes. In each of these areas, among others, these four therapies show that they are "fellow travelers."

Conclusion

We have defined clinical behavior analysis as that part of applied behavior analysis that applies the assumptions, principles and methods of modern functional contextual behavior analysis to the range of problems, settings, and issues typically confronted by clinical psychologists working in outpatient settings including the identification of the variables and processes that play a role in the development, maintenance, and treatment of clinical disorders. If nothing else was added to the definition, clinical behavior analysis is a small but recognizable aspect of applied behavior analysis since its inception. What is new, however, is the special attention clinical behavior analysts have paid to the role and use of verbal events in disorders and their treatment, based on a modern behavioral interpretation of the processes and principles involved in language and cognition.

We have tried to show that this new emphasis has removed the barriers that previously existed to the development of clinical behavior analysis, namely, the treatment of private events as epiphenomena and extreme skepticism about indirect verbal methods of behavior change. A view of language based on derived stimulus relations changes both of these attributes. Thus, it is no surprise that several new behavioral psychotherapies have emerged in the last ten years, very much in parallel to the rise of interest in rule governance and derived stimulus relations. As we have tried to show, the four major examples of systems of treatment in clinical behavior analysis, are recognizably related to the assumptions of modern contextual behavioral thinking. That does not make these approaches good, but it does make our more general point: something quite new has arrived in the world of applied behavior analysis.

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