Crucial Issues in the Applied Analysis of Verbal Behavior: Reflections on *Crucial Conversations: Tools for Talking When the Stakes Are High*

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A popular-press self-help manual is reviewed with an eye toward two issues. First, the popularity of such books documents the existence of considerable demand for technologies that address the everyday problems (in the present case, troublesome conversations) of nondisordered individuals. Second, many ideas invoked in popular-press books may be interpretable within an analysis of verbal behavior, although much more than casual translation is required to develop technologies that outperform self-help manuals. I discuss several challenges relevant to research, theory refinement, technology development, and dissemination, and conclude that behavioral alternatives to existing popular-press resources may not emerge anytime soon.

Key words: conversation, evidence-based practice, transportability, middle-level concepts

One of the first people I met when I entered graduate school was a brilliant former student in my program (“Mack”) who spent his days in industrial safety consulting and his nights in misanthropic brooding at a local watering hole, in the latter case passing cynical pronouncements (with which I mostly agreed) about the folly of everything created or touched by humankind. One night, however, the topic of Skinner’s (1957) *Verbal Behavior* came up, and Mack’s countenance changed. “That book is the freakin’ Bible,” he said, his intensity now laced with optimism. He explained how Skinner’s analysis allowed him to understand the complex communicative dynamics that arise among regulators, industry barons, union officials, and other players in the industrial safety game. According to Mack, *Verbal Behavior* cut through surface trivialities and revealed the true function of everyday conversation.

I am grateful to Mack for introducing me to, Ernie and Julie Vargas for clearly elucidating, and Kim Epting for nudging me toward the uncomfortable boundaries of existing behavioral accounts of verbal behavior. I thank Ronnie Detrich, Kelly Wilson, and Steve Hayes for directing me to sources cited here, and to Ed Morris for organizing a convention symposium for which an early version of this paper was created.

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So was ignited my first scholarly passion. I wanted to understand the secrets of Skinner’s analysis that would allow *me* to decode the nuances of “applied human communication.” Unfortunately, even after an exceptional year-long course on *Verbal Behavior* (taught by Ernest and Julie Vargas) and decades of refresher readings, I don’t think I have glimpsed this particular grail (my most frequent conversation partner, my wife, would agree). It was with great interest, therefore, that I picked up *Crucial Conversations: Tools for Talking When the Stakes Are High* (Patterson, Grenny, McMillan, & Switzer, 2002), a popular-press manual that promises to help the reader “discover how to communicate best when it matters most” (dust jacket). The book is based on the authors’ decades of collective experience in organizational consulting. Many of the examples that accompany the exposition are drawn from the corporate world, but the book’s mission is to identify principles that apply anywhere people can interact at cross purposes: “Here’s the audacious claim. Master your crucial conversations and you’ll kick-start your career, strengthen your relationships, and improve your health. As you and others master high-stakes discussions, you’ll also vitalize your organization and your community” (p. 9).

BRIEF SYNOPSIS OF THE BOOK’S THESIS

A crucial conversation is “a discussion between two or more people where (1) stakes

are high, (2) opinions vary, and (3) emotions run strong” (p. 3). According to the authors, most people perform poorly in such situations, in part because they have been immersed in a culture that is full of poor examples (i.e., most of the people with whom they have interacted lack the requisite skills) and in part because human tendencies under threat run counter to best practices for resolving conflict. According to a companion Web site, “People’s ability to confront emotionally and politically risky topics (crucial conversations) with each other is the #1 predictor of rapid problem-solving” (retrieved May 22, 2005, from <http://www.vitalsmarts.com>).

The book asserts that in crucial conversations the most common tendencies are *silence* (failures to communicate clearly or sufficiently) and *violence* (attempts to coerce compliance). Both strategies derail the problem solving that should take place under better circumstances. Handled badly, crucial conversations can lead to adverse outcomes for everyone involved. Not only does a divisive issue not get resolved but relationships are harmed, making future crucial conversations even less productive. Health is invoked because of the assumption that botched conversations create stress, and much research (not that of the authors) shows that stress compromises immune function, and self-disclosure (of the sort that presumably occurs in well-executed crucial conversations) is a powerful buffer against these ill effects (e.g., Rice, 1999).

The keys to better conversations are twofold: detecting crucial conversations before they turn ugly, and taking special steps to promote a “free flow of meaning” between the participants. Steps to accomplish the latter can be summarized with subtitles from some of the book’s chapters: “How to make it safe to talk about almost anything,” “How to stay in dialogue when you’re angry, scared, or hurt,” “How to speak persuasively, not abrasively,” and “How to listen when others blow up or clam up.”

WHY WE SHOULD CARE

If the preceding sounds steeped in murky everyday vocabulary, then welcome to the world of popular-press self-help manuals,

where snappy catchphrases substitute for clear statements of principle and entertaining anecdotes stand in lieu of evidence. In the latter case, it is not clear whether there is any empirical basis for the advice offered in *Crucial Conversations*. The book lists only 10 published references, many of them other self-help manuals. Neither of the two peer-reviewed empirical articles in the reference list specifically address the principles or techniques espoused in *Crucial Conversations*, and a literature search conducted at the time of this writing (using PsycINFO) turned up no peer-reviewed publications by any of the book’s four authors. But that is, in a sense, beside the point. It is easy to dismiss popular-press works because they do not follow the conventions of serious scholarship, but there are at least two reasons why *Crucial Conversations* is compelling reading for students of verbal behavior (and of *Verbal Behavior*).

Demand Is Not Frivolous

The book identifies a clear societal demand. Numerous major corporations (more than 300 of the Fortune 500 companies, according to an “About the Authors” postscript) have contracted for its authors’ services. After its release, the reading public made *Crucial Conversations* a *New York Times* best seller, and, more than 7 years after publication, the book remains the top seller in three categories tallied by the online bookseller Amazon. A companion volume (Patterson, Grenny, McMillan, & Switzler, 2004) also is a top seller in several Amazon categories. Obviously, a lot of people are concerned with how to handle conflict in conversation; this is not a revelation. Many other scholarly and popular-press sources have emphasized general themes that loom large in *Crucial Conversations*. For example, Gilbert’s (1978) *Human Competence* stressed the importance of understanding that different individuals may have different “vantage points” on the same problem, and therefore are likely to talk at cross purposes unless special steps are taken. Gordon’s (1970) *Parent Effectiveness Training* stressed that emotional responses, once elicited, interfere with effective parent–child communication. This recycling of themes across books, eras,

and subject areas suggests that *Crucial Conversations* taps into something in which many people are quite interested and for which many are willing to pay. A scholarly analysis of verbal behavior need not be predicated on practical problems, but as Skinner (1953, 1957, 1974, 1991) strongly insinuated, to be credible in society a scientific account must shed light on practical problems.

There's Verbal Behavior in There

A reader who is familiar with the analysis of verbal behavior can detect many opportunities to translate portions of *Crucial Conversations* into more palatable terms. Let me say by way of disclaimer that post hoc translations take us only so far. Psychodynamic theory, for example, can generate a just-so story for nearly every event in the human condition, but these stories do not promote testable predictions or useful behavioral technology. Presumably, however, behavior analysis can do better, and the process of translating can be viewed as a reminder that the complex, dynamic interactions that serve as the focus of *Crucial Conversations* are not beyond the conceptual grasp of behavior analysts. Consider a few examples (relevant chapter of *Crucial Conversations* noted in parentheses).

Verbal behavior as behavior (Chapter 4). The book includes a self-diagnostic, "Style Under Stress," questionnaire to help readers identify their communication problems. The authors emphasize that the questionnaire diagnoses behaviors that can be changed rather than enduring personality traits to which readers must remain perpetually victim. This is a broad theme with which any behavior analyst could find favor.

Importance of shared controlling variables (Chapter 5). *Crucial Conversations* emphasizes that productive conversations depend on "mutual purpose," or common goals. In more technical terms, this means that speaker and audience must be under control of overlapping networks of controlling variables (e.g., Skinner, 1957, Chapter 7). Otherwise, "meaning" (mutually reinforcing effects generated from mutually embraced verbal practices) will collapse.

Structure versus function (Chapter 4). Key aspects of the analysis in *Crucial Conversations* focus on distinguishing between the "content" of conversation (i.e., structure or topography) and its "conditions" (i.e., controlling relations). This distinction between structure and function is one of the foundational notions of Skinner's (1957) analysis.

Effects of aversive control (Chapter 5). One defining feature of a crucial conversation is that it places the "safety" of one or more conversation participants at risk. By contrast, "when it's safe, you can say anything" (Patterson et al., 2002, p. 49). Here, *safety* apparently refers to the absence of aversive control. The book describes a number of ways that aversive control can enter into conversations, and asserts that aversive control leads to two general classes of responses. *Silence* describes various forms of self-editing that widen the gulf between the structure and function of verbal behavior and make it harder for the conversation to be controlled by "mutual purpose." *Violence* refers to various forms of countercontrol. Self-editing is discussed at great length in *Verbal Behavior* (1957, Chapters 15 and 16), and countercontrol is a major focus in many of Skinner's conceptual works.

The role of emotion (Chapter 2). *Crucial Conversations* stresses that conversations that lack safety generate unpleasant emotion, which in turn contributes to many types of behavior that can derail a conversation. A key to good conversation, therefore, is to recognize one's emotional responses when they occur (something the authors suggest does not come naturally to everyone) or, preferably, to recognize the precursors of situations that elicit emotion. The goal: not to confuse one's own emotions for the content of conversation. In *Verbal Behavior*, Skinner (1957, e.g., pp. 31–33, 214–218) noted that emotions may mediate the composition of verbal behavior, and that private events of many sorts may be difficult to learn to discriminate (e.g., pp. 130–146).

Rule governance (Chapter 6). *Crucial Conversations* warns that, in the listener's role, conversation participants have a tendency to interpret the verbal behavior of others in ways that are not necessarily supported by facts. Responses to others'

verbal behavior include the manufacture of covert “stories” that describe the speaker’s intent. These stories, in turn, often generate emotional responses that interfere with productive conversation. In *Verbal Behavior* terms, stories are large intraverbal units, reflecting some combination of present controlling variables and extension from an individual’s behavioral history. Think of stories as self-generated rules that describe the variables that control another’s verbal behavior. Self-generated rules, of course, can make that behavior insensitive to contingency control (e.g., Hayes, 1989), an outcome that, given the dynamic nature of conversations, presumably impairs the “free flow of meaning.”

TOWARD A BEHAVIOR-ANALYTIC TECHNOLOGY OF EFFECTIVE CONVERSATION

For the sake of expedience, I will not comment on the prescription for self-change offered by *Crucial Conversations* except to say that it is so heavily laced with anecdote and abstraction that I am not sure I understand it. The salient point, however, is that a prescription *is* explicitly offered (the “audacious claim” mentioned above). This matters because when people encounter problems, they are driven to seek solutions, and the brisk sales of *Crucial Conversations* (along with associated goods and services; see <http://www.vitalsmarts.com>) are testament to the power of this drive. The exercise in translation of the preceding section, although cursory, provides sufficient basis to wonder: *If* there is a pressing need to help people improve their interactions, and if it is possible to think of this problem in behavior-analytic terms, and *if*, as Mack asserted, Skinner (1957) wrote “the freakin’ *Bible*” on the functional analysis of verbal behavior, then why are there no behavior-analytic programs that translate the fruits of Skinner’s analysis into benefits for the common person?

It would be unfortunate for behavior analysts to cede problems about which many people care deeply to others who are willing to be more “audacious.” And even if a behavior-analytic approach to verbal behavior offers superior raw material for solutions

to problems of dysfunctional conversation, whether it *will* generate effective technologies currently is not known. What can be confronted immediately, however, is the magnitude of the task that lies ahead if large numbers of people are to one day to benefit from the fruits of an analysis of verbal behavior. Below, for the sake of stimulating discussion, I address some of the issues that might be faced in developing needed technologies.

Professional Expertise

Whenever established principles are applied to a new domain, research is required to ground the process; this is what separates a scientific approach to technology development from anecdote-driven approaches like that of *Crucial Conversations*. A key concern is who will take on the massive challenge of investigating a domain as vast as verbal behavior (Critchfield, 2000) or even a component of that domain like conversation dynamics. One obvious constraint is that, historically, few individuals have been familiar enough with Skinner’s (1957) analysis to conduct relevant studies. This may be true in part because *Verbal Behavior* is notoriously difficult for even practiced scholars to absorb in isolation, and although no relevant data are available it seems likely that the number of universities that offer a behavioral course in verbal behavior can be counted on the fingers of a careless woodworker.

The situation may be changing with the emergence of new books that target the remedial instruction of people with disabilities (e.g., Barbera & Rasmussen, 2007; Greer & Ross, 2008; Sturmey, 2008). In general, these books are more accessible than Skinner’s (1957), and they focus explicitly on developing technology to address practical problems of great social interest. It is reasonable to predict that, collectively, these books will be read more widely than *Verbal Behavior* is today. Yet I am skeptical of the capacity of existing “applied verbal behavior” books to expand the base of expertise that is needed to develop applications for the general public. These books tend to focus on how to implement special-population-specific interventions that have uncertain bearing on problems of dynamic communication

among typical adults. Whatever its shortcomings in terms of accessibility, *Verbal Behavior* has the advantage of focusing on selected aspects of “normal” verbal behavior.

No discussion of verbal behavior expertise would be complete without considering that applied technologies ideally reflect a deep understanding of both basic behavior principles and everyday phenomena that the principles will be used to explain (e.g., Critchfield & Reed, 2004, 2009). When the interest is in the dynamics of everyday conversation, behavior analysts, even those who have mastered *Verbal Behavior*, may be at a disadvantage. Outside behavior analysis, conversation has been vigorously studied; a great deal already is known about patterns in conversation that require explanation and, potentially, intervention. Often it is possible to appreciate others’ published data at a descriptive level and use them as a basis for extending behavioral analyses (for an example involving psycholinguistic data on self-editing, see Epting & Critchfield, 2006). Unfortunately, we behavior analysts sometimes fault the theoretical perspectives that other scholars apply to data without giving a great deal of attention to the data themselves. I cannot vouch for what behavior analysts read, but what they write provides little evidence of contact with mainstream works on topics like conversation dynamics. For example, an electronic search conducted at this writing turned up 210 articles in *The Analysis of Verbal Behavior* that I cross-indexed with terms that are commonly used in the mainstream study of conversation dynamics (e.g., Hutchby & Wooffitt, 2008). Key-word connections were found for three articles with respect to *conversation* (Cihon, 2007; Hall, 1992; Leigland, 2000), for one article with respect to *persuasion* (Hutchison, 1998), and for no articles with respect to *coercion*, *formulations*, *rhetoric*, *interruption*, and *overlapping talk*. This suggests that, in translating between theoretical principles of verbal behavior and specific practical problems, behavior analysts may be handicapped by limited knowledge about the latter.

Basic Research

Selected aspects of nondisordered conversation in typically developing individuals

have been the focus of occasional behavior-analytic studies (e.g., Azrin, Holz, Ulrich, & Goldiamond, 1973; Borrero et al., 2007; Minkin et al., 1976), but collectively these studies do not comprise an imposing body of work. To create a frame of reference for this claim, compare the number of empirical behavior-analytic studies on all aspects of Skinner’s analysis (e.g., Petursdottir, Peterson, & Peters, in press) with the number on topics such as operant choice or stimulus equivalence, both of which have been in the behavior-analytic mainstream for fewer years. If you really want to become depressed, use as a frame of reference the number of research articles in social psychology on topics such as impression formation and other forms of affiliation. I confess that other commentators are more sanguine in their appraisals of existing verbal behavior research (e.g., Eshleman, 1991; Petursdottir et al.; Sautter & LeBlanc, 2006; Schlinger, 2008), but probably no one disagrees with the notion that we need much more behavioral research on verbal phenomena.

If tomorrow morning we awoke to a flood of new verbal behavior research, that research probably would have to include basic investigations that explore the integrity and ubiquity of basic verbal operants (e.g., Dixon, Small, & Rosales, 2007). Although it is possible, indeed desirable, to study verbal behavior strictly for the sake of theory building and intellectual curiosity, the process of examining dynamic everyday conversations may raise questions about core verbal behavior principles that previous research and Skinner’s (1957) conceptual analyses do not adequately answer. For example, “slips of the tongue” and overt self-editing are thought to provide clues about the variables that control speaker behavior (as may covert self-editing; note the discussion in *Crucial Conversations*, chap. 5, on silence as a conversational byproduct of aversive control). Skinner (1957) discussed self-editing at length, but this does not guarantee that his analysis explains or supports technologies that involve all forms of self-editing (e.g., Epting & Critchfield, 2006). This is particularly true given that basic research on aversive control (which is thought to underpin self-editing) has been neglected in behavior analysis for

many decades (Critchfield & Rasmussen, 2007). One route to rectifying this state of affairs is to conduct well-controlled laboratory experiments on aversive-control processes generally and on aversively motivated self-editing effects specifically, even if the relevant studies do not directly address conversation.

Research on Technology Development

Behavior analysts embrace a scientific approach to practice in which “audacious claims” about practical solutions are backed with empirical evidence of effectiveness. In the contemporary language of the evidence-based practice movement, such evidence often is considered to have two key components (Chorpita, 2003). *Efficacy* research focuses on developing new technologies under favorable implementation conditions. For instance, intervention research conducted in a university training clinic may be relatively unconstrained by such practical concerns as the availability, expertise, motivation, and treatment integrity of treatment staff. Efficacy research establishes that a given intervention *can* work. When confidence has been established in an intervention’s efficacy, its success must be further evaluated through *transportability* research that examines whether a given intervention *will* work when exported to a particular field setting in which the practical realities may not be ideal.

Transportability appears to be a special concern for self-help resources, whose technology is designed for lay people who may or may not implement it well. At best, such individuals may be influenced through brief contacts (similar to the clinical therapy hour), and a challenge for any technology is to assure that benefits seen in these relatively controlled conditions will extend more broadly. Often they do not, as the authors of *Crucial Conversations*, in a moment of uncharacteristic humility, concede:

Early in our research we once examined forty-eight front-line supervisors who were learning how to hold crucial conversations. As we watched the trainees back at work, it became clear that only a few of them transferred what they had learned in the classroom back to

their work site. ... Most of them didn’t change an iota. (Patterson et al., 2002, p. 219)

A critical point regarding transportability is that an intervention’s success depends heavily on whether it is designed with a specific implementation context in mind (e.g., Ring-eisen, Henderson, & Hoagwood, 2003). Whatever their shortcomings, self-help manuals control a lot of behavior in the reading public (whether this leads to socially useful changes is another matter, of course). By contrast, in behavior analysis it often is assumed that behavioral technologies can be employed only by individuals with specialized training; this is, for example, a foundational assumption in the contemporary movement toward practitioner credentialing (see <http://www.bacb.com>). It is not too far a leap to suggest that when credentialing is necessary, behavioral technologies have not been built for transportability, and this has the unfortunate consequence of linking dissemination to the possibly limited supply of individuals with specialized training. The most transportable technologies can be implemented reasonably well by intelligent lay persons, thereby eliminating highly trained professionals as gatekeepers for dissemination.

Where self-help manuals are concerned, it is tempting to view *easily implemented* as synonymous with *ineffective*. Note, however, the existence of highly transportable behavioral technologies for reading instruction (Engelmann, Haddox, & Bruner, 1983), toilet training (Azrin & Foxx, 1974), and parenting (Kazdin, 2009). There is no a priori reason, therefore, to think that transportable technology cannot be developed for use by laypersons to remedy their problems with conversation and other types of verbal behavior.

Conceptual System

Skinner’s (1957) analysis focused mainly on the composition of minute snippets—elements, if you will—of verbal behavior. *Verbal Behavior* barely mentioned the extended, dynamic flow of everyday conversation, and it remains an open question whether Skinner’s concepts anticipate and promote a rubric for analyzing and controlling conversation. In terms of general explanatory style,

behavior analysts tended to have followed Skinner's lead by constructing reality from small, well-understood building blocks, and one can point to other areas of interest within behavior analysis in which this approach has not yielded much fruit. For example, although social behavior patterns like trust (e.g., Hake & Schmid, 1981) and cooperation (e.g., Skinner, 1962) have received a smattering of attention in behavior analysis across many decades, the relevant lines of inquiry have supported little research overall and have had little discernible impact on the general understanding and engineering of social behavior (e.g., Guerin, 1995; Schmitt, 1995; Sherburne & Buskist, 1995). Many explanations can be offered for this sad outcome, but one possibility is that the vocabulary and analytical framework that suit one level of analysis do not necessarily suit another (Guerin). For instance, social behavior as examined in tightly controlled laboratory experiments is much simpler than social behavior in everyday settings; perhaps ways of talking about and measuring simple laboratory behavior do not map easily onto the complex interactions among social forces that can be encountered outside the laboratory.

An analogy from outside behavior analysis helps to explain this possibility. Laboratory physicists have worked out many of the principles that govern the actions of atoms in a vacuum, but they do a lousy job of employing the same principles to predict the weather. By contrast, the folks at the Weather Channel may know little of atomic physics but they do a reasonable job of analyzing current atmospheric conditions and guessing whether it is likely to rain tomorrow. In both of these cases, the action of particles in space is of paramount importance, but the concepts and measurement systems that prove most useful differ in the two cases. A meteorologist might view a cold front as an elemental phenomenon, one of a host of fundamental factors that must be considered in predicting tomorrow's weather, whereas to the laboratory physicist a cold front consists of innumerable individual particles, each with its own properties. From our present perspective, it matters little that the laboratory physicist's level of analysis promotes more reliable predictions (at that

level of analysis), because meteorologists and laboratory physicists predict different things. Only the meteorologist can help me plan my picnic, and in many respects picnics are more foundational to everyday life than the actions of individual atoms.

So it may be with verbal behavior as expressed in conversation. Even if we take as given that conversations encompass many elemental verbal operants such as mands or intraverbals, it remains possible that these operants, itemized individually, do not define or capture the essence of conversations. More likely, *sequences* and *interactions* of primary verbal operants define different kinds of conversations, but whether it is parsimonious to speak of conversation in these terms remains to be explored. And, although some readers may regard it as heretical to say so, the dynamic flow of conversation may even encompass verbal phenomena that Skinner (1957) did not anticipate. We will never know until we have energetically attempted to analyze everyday problems in verbal behavior at various levels of analysis.

Within behavior analysis, different types of analysis than Skinner's (1957) are being explored but to date have not been widely embraced. Consider relational frame theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001), which has inspired a large but underappreciated body of research that, arguably, would not have emerged under preexisting behavioral frameworks. Among the many intriguing fruits of this research are suggestions of how verbal experience can create outcomes such as social stereotyping (e.g., Kohlenberg, Hayes, & Hayes, 1991), humor (Dymond & Ferguson, 2007), and analogical reasoning (e.g., Stewart, Barnes-Holmes, Roche, & Smeets, 2002) that were not addressed substantively in Skinner's writings. The unit of analysis in RFT is a generalized ability called *framing*, which (as far as I can tell) means relating one event to another in a characteristic way (e.g., relations of same as and opposite to). Critics have argued that the genesis of, and variables that control, framing have not been adequately explained (e.g., Galizio, 2003). Proponents of RFT, however, appear to view framing as an elemental process, and their account focuses not so much on why it occurs as on the implications of its occurrence. It may be

safest to say that shifting to new levels of analysis inevitably leaves some problems unsolved while simultaneously opening the door to new lines of inquiry. This is not a novel observation. When molar accounts of operant choice such as the matching law (Baum, 1974; Herrnstein, 1961) began to predominate, much was left unexplained about the moment-to-moment dynamics of choice (e.g., Davison & Baum, 2000). But the molar matching law opened the door to new lines of inquiry and to the integration of vast numbers of observations about choice behavior (e.g., Davison & McCarthy, 1988; Davison & Nevin, 1999), including, increasingly, in translational investigations that help to explain everyday behavior (e.g., Critchfield & Reed, 2009). These successes stand independently of what may ultimately be understood about molecular choice dynamics.

To cite a second example, RFT is part of the conceptual inspiration for acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999), a behavior-analytic (Wilson & Dufrene, 2008) approach to “conversations” between therapists and clients. ACT was devised explicitly to rely heavily on concepts at a different level of analysis than Skinner (1957):

Traditional behavioral analyses have relied on a very specific language using terms such as discriminative stimuli, responses, and reinforcers. Our concern is that this level of analysis is too molecular for a readily applied clinical model. ACT processes are clusters of broadly and readily applicable functional analyses. They all could be analyzed in the more specific molecular language of basic behavior analysis, and in fact, such analyses are often undertaken by RFT researchers. However, this basic language is too far abstracted from the phenomenon dealt with by the clinician. Imagine a continuum of abstraction, which has at one end a lay description of a particular psychological event. At the other end of the continuum, we might produce a description of the same event in terms of discriminative stimuli, operant responses, establishing operations, consequential operations, conditioned and unconditioned stimuli and responses, with, perhaps, the interaction of streams of operant and respondent stimulus control. An ACT process account lies somewhere mid-way on this continuum. [It] is cast in a language

that is intended to be amenable to clinical troubles and clinical practice. (Wilson, Bordieri, Flynn, Lucas, & Slater, in press)

Thus, one important purpose served by the concepts explored in ACT is that they encompass sequences of and interactions among events that are familiar to behavior analysts but collectively are difficult to discuss parsimoniously using molecular language (e.g., see Wilson & Dufrene, 2008, Chapters 2 and 3). The resulting product may strike most readers as unfamiliar and difficult to decipher, as the following paragraph illustrates.

Psychological inflexibility is argued to emerge from experiential avoidance, cognitive entanglement, attachment of a conceptualized self, loss of contact with the present, and the resulting failure to take needed behavioral steps in accord with core values. ... ACT takes the view that trying to change difficult thoughts and feelings as a means of coping can be counterproductive, but new, powerful alternatives are available, including acceptance, mindfulness, cognitive defusion, values, and committed action. (retrieved February 18, 2009, from https://www.contextualpsychology.org/about_act)

Evidence is emerging of ACT's effectiveness with a variety of problems involving both clients and therapists (e.g., Branstetter-Rost, Cushing, & Douleh, 2009; Brown et al., 2008; Forman, Herbert, Moitra, Yeomans, & Geller, 2007; Varra, Hayes, Roget, & Fisher, 2008). Although successes associated with a movement that “talks funny” do not necessarily imply that “talking funny” is fundamental to success, this possibility must at least be entertained in the absence of alternative behavioral formulations that succeed just as well. Proponents of ACT argue explicitly that a second purpose served by their conceptual system is to make contact with the existing verbal repertoires of “consumers” (therapists and clients), that is, to control the behavior of people who will use ACT.

Behavioral principles do not provide specific guidance about the circumstances under which those principles can be applied. The principle of reinforcement does not tell us about the adequate

reinforcers in an applied population, for example.... When complex human behavior is targeted, terms are needed to help to apply behavioral principles to a domain, or to specify critical targets and means of intervention without requiring every practitioner to master the basic account.

We call these terms ... *middle-level functional terms*. These are scientific constructs that serve as shortcuts for applying basic principles and theories to complex situations. ... Many behavior analysts have recognized the need to create a more user-friendly interface for non-behavior analysts to use behavior-analytic knowledge. ... Middle-level functional terms are designed to help accomplish this goal.

Middle-level functional terms have four important roles to play. They are designed to orient the listener to key features of a domain, encourage the application of analytic abstractive theories and basic behavioral principles, ensure better outcomes, and facilitate knowledge development. These terms have long been used in behavior analysis, but their role has often been underappreciated. *Attention*, for example, is not a behavioral principle: It is a functional class of reinforcers that is useful in many applied areas because many forms of behavior can be attention maintained. *Aggression* is not a behavioral principle: It is a functional class of behaviors. *Attention* and *aggression* are middle-level functional terms (Vilardaga, Hayes, Levin, & Muto, 2009, pp. 115–116)

Skinner (1957) relied on middle-level concepts such as *aphasia*, *composition*, and *self-editing*. Whether, in the context of a specific problem such as improving difficult conversations, Skinner's middle-level concepts will fulfill the four roles mentioned above is something that can only be revealed by extensive programs of research and technology development.

Dissemination: Our "Crucial Conversations" with Consumers

A final point, although anticipated by the role of middle-level concepts in contacting the existing verbal repertoires of consumers (Vilardaga et al., 2009), bears separate emphasis because the consumers of a technology of better conversations are likely to

be individuals who roam freely about the everyday world and who, unlike the developmentally disabled beneficiaries of many conventional behavior-analytic interventions, can freely choose the "interventions" in which they wish to participate. Whatever else may be said about the producers of popular-press manuals, they know how to gain the public's attention. On the whole, we behavior analysts have not been especially sophisticated in approaching this issue. We tend to decry the lay and scientific public's tendency to appreciate others rather than analyze the contingencies that govern public acceptance (e.g., Johnston, Foxx, Jacobson, Green, & Mulick, 2006; Skinner, 1977, 1987, 1991), and we seem to be unaware of the widely appreciated fact that even under the best of circumstances innovations may be slow to propagate through a culture:

Many technologists believe that advantageous innovations will sell themselves, that the obvious benefits of a new idea will be widely realized by potential adopters, and that the innovation will diffuse rapidly. Seldom is this the case. Most innovations, in fact, diffuse at a disappointingly slow rate, at least in the eyes of the inventors and technologists who create innovations and promote them to others. (Rogers, 2003, p. 7)

Thus, a major concern is how members of the general public might encounter the fruits of the applied analysis of verbal behavior and how they can be convinced to give these fruits a try in the first place (e.g., Schoenwald & Hoagwood, 2001).

One maxim is that disseminating through scholarly publications alone is a risky gambit. There is a well-documented tendency toward disconnection between research findings and cultural practices, along with the public policies that are intended to influence them (e.g., Ringeisen et al., 2003; Rogers, 2003). People do not necessarily line up to obtain a better mousetrap, no matter how many peer-reviewed publications extol its virtues. The means by which end-users may be persuaded to embrace an innovation is the focus of considerable discussion elsewhere (e.g., Rogers; Schoenwald & Hoagwood, 2001), so I will not attempt to summarize except to say that sometimes a good story

line, of the sort that popular-press authors clearly have mastered, can make a big difference. To be clear, a “story line” means more than a titillating narrative. As Rogers has noted, “An important factor regarding the adoption rate of an innovation is its compatibility with the values, beliefs, and past experiences of individuals in the social system” (p. 4). Middle-level concepts may help to engineer this compatibility; a good story line contributes further by harnessing important establishing operations that make an innovation’s outcomes salient (discriminable) and appealing (reinforcing). For instance, the interests of physicists and astronomers did not propel Americans to the moon; public interest in getting there before the Soviet Union did, perhaps aided by several generations of science fiction novels that catalyzed the imagination of countless nonscientists.

Consider an example closer to home in behavior analysis: How did behavioral interventions become a treatment strategy of choice for autism? Arguably, this outcome does not trace simply to the tribulations of persons with autism, to a strong empirical literature documenting the effectiveness of applied behavior-analytic services, or to efforts to credential behavior-analytic service providers and organize them as a political lobby. Instead, the catalyst seems to have been Maurice’s (1994) popular-press book,¹ which was read by highly motivated parents who were desperate for guidance about how to help their children and whose word-of-mouth campaign drove not only the sales of Maurice’s book but also a revolution in consumer demand for services. Incidentally, this social movement also has created what appears to be the only substantial lay interest enjoyed by *Verbal Behavior* in the 50-plus years since it was published.

Imagine what might happen if people on the street viewed *Verbal Behavior*, or at least

behavior analysts who understand verbal behavior, as a key to everyday happiness and success. Skinner, in the heady days of youth, once endeavored to “remake psychology” (Skinner, 1979, p. 58). In autism, we have seen the extent to which the general public can mobilize such a remaking. What a fantasy to think that something similar could happen with respect to everyday issues in the analysis of verbal behavior.

MACK’S VISION IN HINDSIGHT

Some 25 years ago, in a smoky bar, I came to believe in verbal behavior technologies that provide everyday benefits to the general public. This belief has been sustained over the years by my inability to identify anything inaccurate in the analyses of verbal behavior that have been distributed to date. Yet, with apologies to Mack (of my opening anecdote), increasingly I wonder whether existing behavioral analyses are enough. As I have attempted to detail, standing between the status quo and the lofty goal of deep public impact may be considerable hurdles in basic research, theory refinement, technology development, and dissemination.

In the meantime, the alternatives are discouraging. For instance, a folksy tone and imprecise analysis make *Crucial Conversations* a frustrating read. But books like *Crucial Conversations* pose a challenge that behavior analysts cannot afford to ignore. Such books should be devoured with the goal of helping us to define what the general public needs from an applied analysis of verbal behavior. And although the temptation always exists to deride “technology” like that of *Crucial Conversations* as vague or unvalidated, to those who believe in the superiority of a behavioral approach, the imperative is clear: Do better.

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¹I acknowledge that this is an untestable proposition. We cannot know what might have transpired for applied behavior analysis had Maurice’s book not appeared. My assertion, however, is grounded in the empirically supported principle that an effective technology may not be adopted unless something, like a good narrative, links it to the existing values, knowledge, and ways of speaking of potential adopters (Rogers, 2003).

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