On Books

Applying a Selectionist Analysis of Culture: A Review of *Cultural Contingencies: Behavior Analytic Perspectives on Cultural Practices*

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In 1986 Malagodi suggested that behavior analysts were leaving largely unexplored the social or cultural contingencies that govern so much of our behavior and the cultural circumstances responsible for those contingencies. He suggested that a cultural level of analysis was required for such an undertaking. Skinner suggested as much: "The contingencies to be observed in the social environment easily explain the behavior of the conforming individual. The problem is to explain the contingencies" (1953, p. 416). Eventually Skinner (1981) applied a selectionist approach to culture analogous to that applied to the evolution of species and the development of operant behavior.

It seemed that behavior analysts were ready to heed Malagodi's call. Several authors (Baum, 1995; Glenn, 1988; Malagodi & Jackson, 1989; Malott, 1988) presented their visions of a behavior-analytic approach to cultural analysis. Most of these incorporated in some manner the work of the cultural anthropologist Marvin Harris (1979), whose materialistic approach to cultural evolution struck a familiar chord to behavior analysts. Of the several useful ideas offered in those papers, two have clearly survived the last decade to appear frequently in the volume edited by

Lamal, *Cultural Contingencies: Behavior Analytic Perspectives on Cultural Practices* (1997). They include an emphasis on the role of verbal behavior, typically in the form of rules (Baum, 1995; Malott, 1988), in allowing long-delayed consequences to have an impact on behavior, and the concept of the metacontingency (Glenn, 1988). The metacontingency is the functional relation between cultural practices and group-level outcomes; it is the "unit of analysis" at the cultural level that corresponds to the contingency of reinforcement at the behavioral level. It expresses how interlocking contingencies allow the behavior of people in groups to yield aggregate outcomes that bear on the survival of the group, and thus is a clear application of selectionism to the evolution of cultural practices. The chapters in Lamal (1997) differ considerably in the extent to which verbal rules and metacontingencies are applied to cultural concerns, and are vague, perhaps necessarily, about the roles the concepts will play in an eventual understanding of culture.

The goal of the book is not necessarily to advance a particular theoretical approach to cultural issues, however. Rather, the goal is to highlight ways in which behavior analysts may bridge the gap between psychology and the concerns of the culture. The chapters deal with real-life troubles and issues (Malagodi & Jackson, 1989) ranging from health care to welfare, from economics to art, and from production to reproduction. They are time-

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ly, useful, thought-provoking, and even entertaining works about intrinsically interesting subject matters. If a single conclusion can be drawn from the book it is that the functional contexts of an individual's behavior go so far beyond the environments actually experienced by the individual that, without a broader cultural perspective, one is guaranteed to misrepresent the nature of human behavior. The chapters are also uniformly scholarly works, and as such the book makes a welcome addition to the well-rounded behavior analyst's shelf. I will briefly review each of the chapters before commenting on the uniting concepts: verbal behavior and the metacontingency.

Chapters 1 through 5 concern matters of public health. In chapter 1, Hovell, Wahlgren, and Russos offer a convincing explanation for why preventive medicine is not typically a priority of modern managed care and suggest why it should be. Although the interacting contingencies that are responsible for the behaviors of patient, doctor, and managed-care professionals are numerous and complicated, the problem may be summarized as follows: (a) Most people are not behaviorally prepared to engage in prevention; and (b) preventive practices of doctors are not trained, enabled, or reinforced. Of course, both behavior problems, of patient and doctor, are reflections of numerous cultural and behavioral circumstances. For example, a typical patient's experience with medical care involves fairly rapid relief and recovery following medical treatment prompted by illness or injury. Currently healthy people often have no experience seeking a doctor's assistance in remaining healthy, and doctors are neither trained nor paid to offer such assistance. As the authors state, despite the potential for managed care providers to save money, "managed care has yet to fully embrace preventive medicine" (p. 13). Hovell et al. describe the reasons for this state of affairs in this insightful chapter.

In chapter 4, Russos, Fawcett, Fran-

cisco, Berkley, and Lopez describe what community partnerships are and how they may be employed to promote healthy behaviors. "A community partnership aims to change the environmental context of behavior so that distal consequences bear on the environmental factors and behaviors leading to them" (p. 88). This goal may summarize the role of culture in general; membership in a culture allows individuals to make useful contact with events in spatially and temporally distant environments. This chapter offered considerable promise for practical application of behavior analysis to cultural concerns, because the community partnership is an attempt to involve most of the relevant actors (community leaders, health care professionals, citizens, and behavior analysts) in the behavior-change program. The authors proposed an important *research* practice, as well:

Future research must clarify the relationship between unique patterns of community change and change in community-level indicators of problems experienced by community members (e.g., the incidence and prevalence of youth violence, adolescent pregnancy, or cardiovascular disease). Preliminary evidence indicates that this connection is at least correlational. (p. 92)

The "connection" Russos et al. refer to here is between the contingencies arranged for individuals and the cultural outcomes important to communities. Showing how individual contingencies of reinforcement alter community-level outcomes is a necessary first step toward advancing the metacontingency from an interpretive concept to a true unit of analysis. The next step is to show that changes in community-level outcomes feed back on the maintenance and stability of the individual contingencies. At that point, it seems, a metacontingency will truly have been established and measured.

In chapter 5, Krull and Pierce describe attempts by the government of Quebec to reverse falling birth rates in that province. After two centuries of impressive population growth, cultural changes beginning in the 1960s result-

ed in a reduction in control by the Catholic church, greater use of modern contraceptives and abortion, and increases in the proportion of individuals seeking an education and entering the workplace. These changes combined to bring the birth rate to below "replacement" levels (i.e., the birth rate required to maintain current population). Explicit attempts to increase birth rates began in 1988 in the form of graduated monetary payments to parents contingent on the birth of children. This graduated payment plan was designed to increase the likelihood of families having two or more children. Krull and Pierce analyze the success of the program by construing it as an experiment with an AB design, in which the period prior to the introduction of the program is the A phase and the period after its introduction is the B phase. In a series of analyses of available data, they show that the program did increase birth rates; birth rates had been falling prior to 1988, and they climbed rapidly in the years following the introduction of the program. However, "from a demographic perspective" (p. 124), the program failed to increase total birth rate to the replacement level.

The Krull and Pierce chapter is noteworthy for several reasons. First, it is interesting that people in power would so readily choose to deal with declining birth rates by trying to increase birth rates. An alternative strategy is simply to accept declining birth rates and work to become a successful smaller (less populous) province. What was it (what *is* it) about the Quebec government that led to the adoption of pronatal policies, and why might other governments pursue the same goal under these circumstances? It is the mirror image to the dilemma pointed out by Malthus (1798/1976); animal populations respond to increases in resource availability (most often produced by intensification of production in the human case) not by enjoying the increased access to the resources but by having more offspring and increasing the population, which eventually

leads to a shortage of resources. Because "resource availability" is a function of both the quantity of resources and the size of the population, reducing the population would increase resource availability, at least until the population fell to levels that would make it impossible to exploit those resources (which I assume was not a problem in Quebec). So why choose the pronatal strategy? Perhaps it is the surest way to maintain revenues for the government and for businesses; economic growth depends on an adequate supply of workers and buyers.

Krull and Pierce bring behavior analysis to bear on an interpretation of the success of Quebec's birth allowance program. Because the long-term outcomes of giving birth and receiving payments have not been directly experienced by individuals, verbal behavior about having babies must "mediate" the effects of those long-term outcomes. In the authors' words,

If "talking about having babies" is correlated with "unprotected sexual intercourse" (e.g., in the same response class), then social reinforcement of talking about having children could further increase unprotected sexual intercourse (and reduce the use of birth control devices). At the same time, family, friends, and spouses would be more inclined to approve of (reinforce) conversations about having more children when they learned of the government incentives, especially for higher-order births. Thus, immediate social contingencies of reinforcement would mediate the long-term contingencies for births arranged by the government. (p. 127)

Thus, the successful birth allowance program would figure into a family's plans, swaying the decision toward having the baby (or keeping the baby).

Finally, Krull and Pierce use the matching law (Baum, 1974; Herrnstein, 1961) to account for the relative frequency of having "unprotected" sex (i.e., sex in which pregnancy is a potential outcome) versus "protected" sex (i.e., sex in which pregnancy is prevented). Their innovation is to suggest that the value of the outcomes of the two types of sex is determined by short-term and long-term consequences. The latter can only be the case (pre-

sumably) in the context of "talking about having babies," a presumption that Krull and Pierce do not make clear. Thus, this matching law analysis seems to offer little new to the understanding of how Quebec's pronatal programs alter the behavior of individuals that is not addressed by Krull and Pierce's discussion of the verbal mediation of long-term contingencies. The assertion in passing, however, that something like the matching law may apply to the accumulated decisions of groups of individuals (p. 129) is an interesting possibility.

Chapters 2 and 3 both deal with matters of public health but differ considerably from each other and from the other chapters (1, 4, and 5) that deal with health issues. In chapter 2, Greenspoon provides an excellent review of the applied behavior analysis literature on compliance with medical regimens. It is a good introduction to the behavioral issues, both practical and theoretical, involved in compliance. Although compliance is not analyzed by Greenspoon as a cultural practice, there are, of course, culturally relevant issues involved in compliance. For example, as a culture we tend to approach many problems of public health by using "education programs." As applied to compliance, however, Greenspoon's review suggests that education programs that do not make use of contingencies have not been highly effective. On the other hand, several contingency-based approaches to increasing compliance have been shown to be effective, and they are reviewed in this chapter.

Pierce and Epling (chap. 3) discovered several years ago that when food-restricted rats have access to a running wheel, activity increases while food intake decreases over the course of several days. The unfortunate outcome is that rats reach very low body weights. Neither food restriction nor access to the running wheel alone produces this anorectic effect. In this chapter, Pierce and Epling attempt to show the relevance of this effect to human anorexia. The authors point out that there are

many social contingencies that may establish weight loss and thinness as valuable reinforcers. For example, even grade school children are likely to attribute negative characteristics to people who are obese; this tendency continues into adulthood. These and other circumstances often lead, especially in women, to dieting and exercise, a combination shown to be a powerful and detrimental one for Pierce and Epling's rat subjects. After this insightful review of the social basis for the self-initiation of the activity-anorexia regimen, the authors review their biobehavioral data (obtained mostly from rats) on the subject. The result is an interesting juxtaposition of a biobehaviorally complex organism behaving in a cultural context that may reflect laboratory circumstances more than many of us would care to admit.

Chapters 6 through 8 are concerned with current economic matters. In chapter 6, Tazaki and Baer argue that Japan's recent economic success has come at a cost to its people in the form of undue stress for business people and for students working to pass national examinations, promiscuity of young women and sex problems of married folks, and the growth of religious cults. They also argue that women (mothers and wives, in particular) play a central role in much of this cultural pathology. The authors characterize Japanese women as stay-at-home mothers who push their children to study hard so they can pass examinations that determine whether they will get into good schools, good universities, and, ultimately, good jobs (what the authors call "examination hell"). Although they suggest that the role of women is much broader, the authors offer little evidence that women *in particular* are any more responsible than the economic and social circumstances in which Japanese women, men, and children find themselves. In the end they conclude, "If change is to occur, it follows that it must begin with the roles of women" (p. 146). By itself, such a statement seems wrong; why target

mothers and wives for behavior change when their behavior reflects so clearly the larger, mostly corporate contingencies? Fortunately Tazaki and Baer recognize this, as indicated in their final paragraph when they say, "Logic and an understanding of the metacontingencies that make or break societies might not cause a change in the status of women, but the contingencies of a down-turning economy in a society increasingly overwhelmed by an aging population will" (p. 146). This supports nicely the assertion that a cultural perspective is ultimately necessary to make sense of human behavior.

Mattaini and Magnabosco write, in chapter 7, "a society in which everyone contributes is likely to have better overall outcomes than one in which only a portion do so" (p. 152). This is suggested as a guide for determining the success of the recent large-scale changes in the welfare system in this country. What counts as a contribution is not entirely clear; from the perspective of the government, little apart from working-for-pay would suffice. In this chapter the authors consider the consequences of the "end of welfare as we know it," and its replacement by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. Aid to Families with Dependent Children (AFDC) has been replaced by Temporary Assistance for Needy Families; states are awarded block grants and allowed some flexibility in determining how their programs will be administered; the total time that individuals will be helped is now limited to a maximum of 5 years; and adults on the program will be required to work in some manner. The basic question addressed in this chapter is, "Are behavioral and cultural contingencies in place to allow such changes in regulations to produce the desired changes in behavior?" The answer, not surprisingly, is "no," and the authors suggest ways that behavior analysts can help solve this problem.

Using the antecedent-behavior-consequences framework, Mattaini and

Magnabosco show, for example, why attending school, a key component of a successful workfare program, may not be likely to occur and what it will take to make it more likely. For example, there may be several reinforcing alternatives to attending school that are modeled by high-status peers, and school itself may be aversive, frustrating, and in some cases, dangerous. Wisconsin has adopted "learnfare," which makes the maximum level of assistance to a family contingent on the children's school attendance; if they cut class, the state cuts the assistance check. The program seems a ham-fisted attempt to produce a desirable result, and so far it is a failure. Surely behavior analysts can improve on such a program, perhaps by attending carefully to the antecedents and consequences that are present and missing, as the authors put it. They close the chapter with an ambitious proposal to involve behavior analysts in welfare planning that is sensitive to metacontingencies and contingencies of reinforcement.

Chapter 8, by Nackerud, Waller, Waller, and Thyer, is also about welfare, but focuses on the successes and failures of the AFDC. The program had its roots in the Social Security Act of 1935, and although it was not intended to be a long-term program, by the 1990s over 5 million families were enrolled. Over the years, as its inadequacies were revealed in the contexts of ever-changing political circumstances, the program was altered repeatedly. Two examples illustrate this tinkering: Because it was perceived that AFDC unwittingly supported the break-up of families by eliminating benefits to families with parents who lived together, in 1961 it was decided that benefits could be extended to families as long as they were unemployed. And, in 1969, in order to provide an incentive for mothers to work, the reduction in benefits produced by earnings was reduced from 100% of earnings to 67%. Under these circumstances working could increase the family's monthly in-

come (but only if inexpensive or free child care were available). Congress returned the benefits reduction rate to 100% in 1981.

Nackerud et al. thoroughly examine the unfortunate contingencies arranged for AFDC recipients by our government over the years. To summarize, AFDC "reinforces dependency and punishes employment" (p. 175). The authors make the important distinction between the contingencies that govern the behavior of the recipients and those that govern the behavior of the policy makers, which points to a general concern regarding public policy; policy makers are not under sufficient control of the long-term consequences of their policies. Despite the stated, and perhaps even intended, goals of the AFDC and the multiple revisions in the program, the program never worked in the way that it was hoped; families remained dependent and enrollments rose steadily. The authors outline the program's many problems from a behavior-analytic perspective, and the result is a valuable example of behavior-analytic social critique. Among the suggestions with which they close the chapter is one that, if taken seriously, may help to mitigate the deleterious effects of politics on the development of social policy: "We recommend that pilot tests on policy be rigorous, empirical studies conducted with strict adherence to methodological concerns" (p. 181). Although politics will likely prevent some interventions from even being tried, the authors' call for research may increase the likelihood that the most successful of the politically acceptable alternatives will be enacted more broadly.

Of course, AFDC had a lot to do with insuring the welfare of children. Chapter 9, by Biglan, Metzler, Fowler, Gunn, Taylor, Rusby, and Irvine, is more directly concerned with child-rearing practices. The authors review four broad sources of influence over child development—the family, schools, peers, and the community—and describe what is known within

each realm about the optimal conditions for raising children. The chapter highlights a peculiar issue faced by behavior analysts who are interested in culture: the relation between correlational studies and applied and experimental research. The authors' task in this chapter is, first, to describe those environments in which successful child rearing is most likely, and then to identify ways in which the prevalence of those environments can be increased. Both goals are achieved by a painstaking and scholarly review of research familiar to behavior analysts and studies noting correlations between social and behavioral circumstances and desirable behavioral and psychological outcomes. For example, they cite a set of studies showing that coercive interactions between parents and children are correlated with antisocial behavior on the part of the children. This finding leads the authors in two directions: In one, it is noted that economic difficulties contribute to harmful parent-child interactions; in the other, behavioral research shows that parent skills training can greatly reduce such harmful interactions. Thus, it is possible to conceive of multiple levels of attack on the problem of reducing coercive parent-child interactions, with the ultimate goal of producing more behaviorally healthy children. This chapter by Biglan et al. provides a model approach to a culturally important problem that stresses that issues in addition to behavioral ones must be addressed. Collaborative partnerships with communities and other professionals, similar to those proposed in detail by Russos et al. in chapter 4, are also endorsed.

Various other cultural issues are considered in the final three chapters. In chapter 10, Nevin identified 248 "experimental communities" established in the United States from 1663 to 1920. Splitting his list of 248 into 111 religious and 137 secular communities, he then traced the rate at which they were established and their longevity. He plotted the number of communities surviving over the years on logarithmic

y axes, and determined that religious communities generally survived longer than secular communities. The reasons for the differences in longevity are not clear. Most practices of long-lived and short-lived communities (involving governance, property ownership, work, housing, child care, meals, mutual criticism, personal abstinence, outside interaction, and admission procedures) were not clearly different. In other words, more successful communities were not obviously more successful because they adopted different ways of dealing with community life.

In this brief but fascinating chapter, Nevin speculates that the enhanced success of religious communities may reflect the beneficial effects of "a shared history of interaction and social reinforcement before joining the community" (p. 228). As Nevin puts it,

This would have the effect of establishing patterns of social interaction during shared work on church projects, caring for elderly members, and the like, that could carry over naturally to communal life. This precommunal repertoire of cooperative behavior and its accompanying social reinforcement would probably be conducive to persistent cooperative action in a community, even in the face of adversity. (p. 228)

This "precommunal repertoire" may establish a "we-spirit" as opposed to an "I-spirit" (here Nevin quotes French & French, 1975), which could be understood as a situation in which an individual's benefits are clearly dependent on the well-being of the community, and on work aimed at the community's well-being. Religious communities may have provided additional, other-worldly inducements for individuals to behave in ways that enhanced community well-being. Regardless of the rewards available to community members, it may be that turning "community well-being" into an important outcome for individuals is at the root of a successful society. Conversely, a society that allows large portions of its members to isolate and behave "selfishly" are likely to fail when times get hard.

In chapter 11, Laitinen and Rakos

express concern over the continuing acquisition of media companies by huge multinational corporations. As noted frequently, this allows the corporations to exert editorial control over content of television, radio, and print outlets (whether the Internet becomes subject to the same sort of editorial homogenization is unknown). The consequences of such control could be serious and far-reaching, particularly in a context of less well-informed consumers of the media who "lack the skills to resist or even recognize the [modern media] palaver" (p. 238). In this chapter the authors present facts about the ownership of the media that show that the ability to exert such control is established and that such control has already been exerted to the detriment of the "free press." Furthermore, newsmakers have learned how to play the media to their advantage. The authors make thorough and sophisticated use of both behavioral and cultural concepts in this fascinating analysis. They clearly unite Harris' (1964) units of culture to Glenn's (1988) metacontingencies (a necessary union because Harris was never entirely clear about the mechanisms of selection). They also use relational frame theory (Barnes, Healy, & Hayes, 2000; Hayes, 1994) to show how propagandists can alter the behavioral functions of images and statements to make them less or more evocative, as necessary, to the consumers of media. They also present a clear direction for behavior-analytic research on propaganda.

In a case example from the Gulf War, Laitinen and Rakos present a behavioral analysis of the steps taken by our government to "manufacture consent" for armed intervention. They present a sequence of rules, responses, and reinforcers designed to establish Iraq as an evil presence whose action in Kuwait demanded intervention by the United States. Table 11.1 presents a hierarchy for counterconditioning, in which the American people were the subjects and the target behavior was support for armed intervention. Early

in the hierarchy, armed conflict was merely hinted at and public support was low, but by the time the air war on Iraq was begun, details of military action had been presented and public support was substantial. After the war started, public support for President Bush's action was very high (a 75% approval rating). Although a 6-month survey of news reports of the President's statements about Iraq and the potential for conflict does not provide conclusive evidence that the President's *goal* was to establish public support prior to the initiation of the war, statements by Bush and others regarding their handling of the media suggest strongly that that is indeed what was intended. This case study, in combination with a brief review of the outrageous disinformation surrounding the Gulf War, are certainly enough to evoke concern among behavior analysts that precisely the mechanisms required to establish widespread support for otherwise unsupportable practices are, indeed, in place.

Lamal ends the volume with chapter 12, in which culture is addressed in the more popular sense having to do with a society's art. The bottom line of this chapter is that what counts as "good" in the visual arts is not a property of the art itself, but is rather a function of contingencies of reinforcement acting on artists, sellers, exhibitors, and consumers (viewers and buyers) of art. Such contingencies are changeable over time and across social groups. For example, "From his arrival in France, Picasso cultivated those who could develop his reputation and help to make him rich" (p. 276). He did so by painting portraits of his benefactors and giving his paintings away to backers, patrons, and critics. They in turn spoke well of him and brought him more buyers. Thus, Picasso's success was not solely a function of his talent, but reflected contingencies operating on multiple individuals that eventually influenced the appraisal of the artistic merit of his work. This is an interesting and thought-provoking chapter from a

behavior-analytic perspective, but it left me wondering about the cultural-level circumstances that control artistic activity. What is the role of the teacher of art? How do community, state, and national support of art influence its overall level and, importantly, its content? What is the influence of commercial art in magazines, television, and, increasingly, the Internet, on the amount and content of a society's art? Finally, what are the functions of art for a society? Does art serve a communicative function that is not served more straightforwardly in other ways?

Conclusions

The chapters are not explicitly organized around a specific theory about the role of culture in determining human behavior, but verbal behavior and metacontingencies are common themes. Verbal behavior, often in the form of rules, is frequently invoked to bridge the gaps in time and space between individual behavior-consequence relations and relations between cultural practices and their outcomes. Although there is ample evidence of culture (at least of a sort) among non-verbal animals (e.g., de Waal, 2001), one can hardly argue with the assertion that the evolution of verbal behavior made possible the key role of human culture in the lives of humans. Nevertheless, although we continue to struggle to understand concepts as basic to a behavioral analysis of culture as, for example, rule-governed behavior (Baum, 1995; Blakely & Schlinger, 1987; Cerutti, 1989; Malott, 1988), the contribution of a behavior analysis of verbal behavior to the understanding of human culture is far from certain.

We struggle even more strenuously to understand and appreciate the metacontingency, the selecting mechanism by which clusters of individual operants interlock and yield outcomes that bear on the survival of cultural practices. From waking to Raisin Bran and the Today Show to retiring after a cup of tea and the 11 o'clock news, all

our movements (in our homes, in our cars on the streets, at our workplaces, in the stores, etc.) are constituents of larger cultural units composed of our behavior and its consequences and the behavior of dozens to millions of others and their consequences. Nevertheless, trying to explain the cultural-level outcomes by appealing only to contingencies of reinforcement may be something like trying to understand the behavior of an individual by appealing to the activity of the neurons that allow the behavior to occur. In both cases we can be sure that the larger units are *composed of* the smaller units, but at the very least the larger context confers a kind of meaning on the aggregated smaller units that is not apparent from observation of the smaller units alone. My online purchase of a book, for example, may be understood in terms of the contingencies that operate on my behavior, but that same purchase is a reflection of, and a determinant of, larger economic contingencies involving millions of others (computer programmers, authors, publishers, editors, communications workers, shipping clerks, government workers, postal workers, truck drivers, highway workers, air traffic controllers, teachers of reading, etc.) whose behavior is determined by vastly different contingencies operating in the recent and distant past. The metacontingency, as difficult as it is, offers a way to unite the very different behaviors of these very different people so that their participation in the same cultural practices can be appreciated. It remains for authors such as those whose work fills this interesting book to clarify the concept further.

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