Belief, Its Inconsistency, and the Implications for the Teaching Faculty

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The traditional concept of belief is analyzed and compared with a behavior analytic concept of belief. Beliefs and belief statements are differentiated and relationships between them are examined. The often troublesome inconsistencies in people's beliefs are examined in general and explained, including the phenomena of compartmentalization and repression. Social implications are pursued relative to both punishment for inconsistency in belief and counter-controls thwarting such punishment. The role of teachers in shaping beliefs is analyzed, and appropriate teaching strategies are reviewed.

Community pride in a nearby town focuses on the high school marching band. But when the band swings smartly down Main Street on parade, flags neatly aligned, high-stepping with precision, with nearly a hundred young citizens performing in unison, one anomaly stands out. The band uniform features trousers, but one young woman wears a long skirt to her ankles thereby marring the uniform appearance of the unit. This student belongs to a fundamentalist religious sect which has conditioned its female members to feel sin upon donning trousers. The courts have ruled students eligible for a complete public education without imposition of dress standards violating religious beliefs, and the band exhibits the salient implication of those decisions. While members of some local subcommunities point to the disunity, appeal to the principle of group rights, and ask what long range cultural benefits are to accrue from disparity, defenders argue that accommodation of individual difference is a greater value than uniformity even in instances where uniformity is otherwise the principal objective.

This young woman and her family bear an unusually high cost to uphold beliefs shaped by her religious community when she operates within the substantially different social communities centering

around her high school. The notoriety of her case attests to its rarity. Although members of the student body represent several diverse social communities, one finds surprisingly little evidence of those differences manifested by social conflict at school. Ubiquitous contingencies characterizing the American culture tend to preclude it. American peers punish one another for respecting subgroup values in large group settings if conflict with the large group values results. Incidents tend not to occur, and inchoate violations elicit shame and negatively reinforce escape from the predicament. When these mechanics of cultural cohesiveness fail during episodes of conflicting beliefs, radical behavioral analyses can helpfully serve the social analysts who must resolve the difficulties.

BELIEFS AND BELIEF STATEMENTS BEHAVIORALLY DEFINED AND ANALYZED

Beliefs Defined and Located

Examples of such conflicts appear in the literature of values, rights, ethics, and beliefs. Skinner (1953) has noted that one's values are one's reinforcers if we seek to identify *what* is valued. Individuals behave in ways that in the past have provided access to their reinforcers, and through conditioning, individuals also come to "value" the arrangements for such access. When access to reinforcers

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is jeopardized, persons tend to make verbal declarations of unrestricted access to the threatened reinforcers called rights statements. Vargas (1975) has provided a basic analysis of rights as this kind of verbal behavior, a contribution that in turn supported Schnaitter's (1980) exploration of a student's right to personal beliefs when certain social agencies ally with the student in the defense of that student's "beliefs" against educational arrangements that have presumably been put in place to change those beliefs. In a concurrent summarization clarifying these issues, Fraley (1980) defined ethical behavior as behavior respectful of rights statements and, referring to Skinner's (1953) chapter on group arranged controls, described an ethical community as a group which arranges contingencies for the respect of rights claims either idiosyncratic or common.

Skinner (1957) speaks of a belief as a probability that the speaker will take certain actions. Patterns of behavior exhibiting consistency control assertions, both by believers and observers, that belief exists. Schnaitter (1980) noted that Skinner discussed "belief" as a tendency to behave in a given observable way following a certain reinforcement history and given a certain set of current stimulus controls. Schnaitter suggested also that a belief might be a private accompaniment of a tendency to behave in a certain way and that a person who would say something like "I believe that Darwin's theory of evolution is fundamentally true," might be describing much an accompaniment. Since a pattern of behavior depends on the special controlling relationship between the organism and the environment, the independent variables, according to Skinner's concept of belief as a tendency to behave in a certain pattern, reside in the environmental stimulus controls to which the individual has been conditioned to respond. Schnaitter's private accompaniment is manifested in the form of certain autoclitics in one's belief statements ("*I believe Darwin was fundamentally correct*"), but any such autoclitics are themselves under certain controls and may be accurately described

as verbal behaviors under control of the controlling properties of belief statements. The adverb "fundamentally" in its autoclitic function serves only to qualify the implicit belief. It reserves an increment of the otherwise total implication that the speaker would assert that those who behave as Darwin will be fully effective. The speaker has contacted Darwin's writings and now lets us know that in order to be effective when encountering stimuli similar to those that Darwin encountered, the speaker will behave almost but not exactly as Darwin behaved, although the differences remain unspecified. The speaker's belief in Darwin's ideas consists of similarities between the speaker's and Darwin's behavior in the presence of similar environmental controls. These relationships between the speaker's behavior and Darwin's might or might not come to control belief statements and related verbal behavior by the speaker. The speaker might not consciously observe that his or her personal beliefs (behavior controls) are similar to those that determined Darwin's behavior. However, in the present example, the speaker does emit verbal behavior under control of even subtle properties of those relationships. The speaker's lack of an exact match with Darwin's behavior controls the speaker's term "fundamentally" in the above statement. As a matter of scientific accuracy, "belief" and "believing" should be reserved as descriptors of those behavior-controlling relationships yielding consistent patterns of behavior. Beliefs could then exist prior to verbal discovery ("I must always have believed as Darwin believed, because I'm now beginning to see that in similar situations I have tended to behave as he behaved"). Beliefs, as operantly shaped behavior-controlling relationships, differ from statements about those relationships and from any particular characteristics of such statements.

Belief, upon analysis, reduces from a hypothetical construct embedded somewhere in the individual to the controlling relationships between the environment and reliably effective behavior. The phenomena involved are already understood

within the broader concepts of behavior shaping and operant conditioning. What the terms "belief" and "believing" signify resides in the circumstances controlling the verbal emergence of the term "belief."

Relationships between Speakers and Listeners

Although a belief is frequently implied to have ontological status ("*I have a belief* that dinosaurs were warm blooded") and is proffered in the guise of a tact, the underlined phrase is functionally autoclitic insofar as its emission is controlled antecedently by properties of the controlling relationships for the remainder of the statement and consequentially by the reinforcing effect of shaping the listener's behavior. If the controls on the basic statement, "dinosaurs were warm blooded," are varied, then the autoclitic part of the statement tends to change in an orderly way. For example, if the controls on the statement "dinosaurs had warm blood" are weakened, the speaker might add an autoclitic like "perhaps," and the listener's behavior would shift away from dependence on the speaker behaving in other ways as if dinosaurs had been warm blooded. If the speaker does behave consistently in various ways as if dinosaurs had warm blood but recognizes that others might not be similarly controlled by their available data base on dinosaur blood temperature, then the speaker might say (with emphasis on the "I"), "I believe that dinosaurs had warm blood," thus autoclitically implying that certain controls governing the speaker's behavior about dinosaur blood heat are not operating commonly for all members of the community. Many additional autoclitic permutations could be suggested and analyzed in similar fashion to show how autoclitic allusions to behavioral controls by a speaker function to refine the behavior of a listener.

For a listener to classify a statement as a belief statement, the listener must somehow respond to the type of controls on the statement and also to the effectiveness (or "strength") of those controls.

When a belief statement occurs—for example, "I believe that the moon's average density is about equal to that of a storm cloud"—its essential quality as a belief *statement* is the nature and strength of the controls over it. The controlling relationships governing the speaker's unconscious behavior relevant to lunar density constitute the belief *per se*. Listeners might ask, "Does the speaker *believe* that?," a question of reference to the type and strength of certain controls on the speaker's unconscious behavior toward the moon. A listener might also ask, "Is that a true *statement* of belief?," a question of reference to the nature of the controls on the speaker's *vocal behavior*. Has the belief statement come under control by the speaker's otherwise unconscious behavior about lunar density and its environmental controls, or is the belief statement controlled under contingencies, perhaps social in nature and featuring other kinds of antecedent stimuli? For example, did the speaker lie to avoid social punishment for a different statement that would have more accurately reflected how lunar density controls his or her non-verbal behavior?

A listener's acceptance of the statement as descriptive of the speaker's true belief is proportional to the listener's estimation of the strength of the implied controls exerted *by the density of the moon* over the unconscious behavior of the speaker. If the controls cannot be identified and measured, at least intuitively, the statement cannot validly be said by the listener to refer to the speaker's true belief. Suppose, for example, the speaker had merely been mandated under strong threat to repeat verbatim the lunar density statement as first spoken by a threatening party. To qualify as reflective of the kind of controls called believing, a putative belief statement must be under control of the unconscious behavior to which the belief pertains, in this case, controlled by the speaker's behavior toward the moon and clouds instead of by other events. As a further example, suppose the statement about cloud density had simply been read from a text. *The control from the text alone*, however

strong, would have required special conditioning of the reader known to the listener, to let the listener call the verbal behavior a belief statement. One alludes to this special conditioning by reporting that a text is *credible* or not. If the listener deemed the density statement to be under strong stimulus control of the speaker's behavior toward the moon and clouds, but atypical, the listener would describe the vocal behavior of the speaker as a strong though invalid belief statement ("he really believes it, but he's wrong"). This might be the case if the speaker were a novice lunar scholar still largely insensitive to the properties of the moon. The listener might qualify the statement as a belief statement because the properties of the speaker's unconscious (in this case, non-verbal) behavior toward the moon controlled it, but the listener would accept the statement as pertinent only to weak, shallow, or superficial belief. In addition to being strongly controlled, but wrong because the non-verbal behavior controlling the belief statement is ineffective (a good verbal allusion to an ineffective non-verbal process), a belief statement can be weak or ineffective as verbal behavior because of weak or tenuous control exerted by the unconscious behavior to which it alludes. Here the problem lies not with faulty control of behavior exerted by the moon, to pursue the previous example, but with poor self-observation skills by the speaker. If the verbal community has not shaped an effective verbal repertoire around tacts of the controls exerted directly on behavior by the environment, then the speaker might not be able to accurately imply the strength of those controls through belief statements. A listener might say, "She's not aware of the strength of her own convictions," or "He doesn't seem to know what he believes."

The speaker's own behavior per se serves as the evidence functionally controlling the speaker's belief statements rather than anything within the neural physiology. One can see a functionally unified set of responses in one's own behavior and observe the characteristics of that self in the same manner that one

observes such characteristics in the behavior of another person. The property of consistency, if present, whether observed or not, might serve as the occasion for an autoclitic observation. For example, "I believe that your window has a pane of glass in it," is a statement under multiple stimulus control, first of the window, and second of the consistency in the pattern of my behavior with respect to your window. I *reliably* behave as if glass were there, and though perhaps unconscious of that consistency, I can nevertheless emit a directly controlled response in the form of the autoclitic part of my belief statement (viz., "I believe that . . ."). In addition to my autoclitic utterance of belief under *direct* stimulus control of the consistency in my behavior (a kind of tact of the properties of other tacts), I might also observe it consciously and describe it, but no such concomitant awareness-type responses are necessary to the directly controlled autoclitic once the response has become well established on occasions of its antecedent stimuli. The class of concomitant responding called consciousness functions as a temporary "crutch" or supplement during the conditioning of other human behavior and economically tends to fade from the control of even other *verbal* behavior (such as speaking) once the environmental controls are sufficiently strengthened. Subsequently, a person need not be conscious of what he or she is talking about or alluding to, including one's autoclitic allusions to the behavior controlling relationships called beliefs.

Troublesome Implications of Ontological Status for Beliefs

The common misconceiving of belief as a possessed entity has always led to some dismay among members of the teaching faculty when they confront the prevalent inconsistency of belief among students. When a belief is mistakenly treated as a possessed entity, such a belief must respect the principle of conservation of mass. By analogy to other things possessed, an existing belief, though at times concealed, must be there somewhere. Such belief could not vanish sim-

ply because it is hidden within the body of its possessor. Also, in cases of incompatible beliefs, only one could actually be possessed, just as either a car or a tractor, but not both, can fit into a small garage. The invalid concept of "true belief" emerges: One belief, the true one, is presumed by observers to be the one actually held by a speaker, although for personal reasons an individual might temporarily maintain pretenses of different beliefs. Confusion can then arise as to which belief is the one actually possessed by the speaker. A teacher who might have been convinced that he or she previously constructed a now apparently missing belief within a student, upon pursuit of this fallacy, would be drawn away from validly concluding that controllors over a behavioral *process* have changed and would instead be attempting to analyze the apparent camouflaging or loss of a belief entity. Accounting for the actions of things that do not exist is almost always troublesome.

Most people carelessly assert and uncritically accept that teachers *introduce* new ideas to students. These new ideas often conflict with existing beliefs (e.g., scientific concepts contradicting previously shaped religious notions, or economic realities incompatible with patriotic or social customs). But ideas do not exist as entities to be introduced; teachers simply manipulate environmental variables to condition an organism to emit new behavior, and the new responses might, under certain stimulus circumstances, be incompatible with others programmed earlier. Arguments about rights to control verbal behavior can erupt, and often do. [See Schnaitter (1980) for an analytical discussion of students' rights to their beliefs. Disputes about which ideas are right or wrong ultimately resolve to arguments about which responses are more effective in interactions with the environment. The essence of final arbiters mistakenly thought to hand down rules for such value judgment turns out, upon careful analysis, to be survival. (For detailed discussions of this point, see Skinner, 1953, Ch. 28, and 1971, Ch. 7-8.)]

The Assumption that Beliefs Cause Behavior

Presuming beliefs to be there as entities implies that beliefs must have some role, so they are commonly presumed to determine other behaviors related to their topics. Belief statements such as "I believe in an expanding universe," "he believes in astrology," or "they believe in Marxist ideology" are said to indicate internalized "beliefs" that determine large patterns of behavior (e.g., he opposes textbooks teaching biological evolution *because he believes in divine creation*). Although *both* a belief statement *and* the unspecified repertoire of the behaviors it is said to cause are *behavioral effects of some shared but unmentioned controlling variables*, the belief statement is mistakenly implied to evidence something ontological. That belief entity is in turn tautologically elevated to causal status to explain the behaviors that suggested its existence. One class of dependent variables is presumed to govern another while their common independent variables are ignored. The fallacy of causal traits, repeatedly analyzed in the writings of B. F. Skinner, is perhaps treated most carefully in Chapter XIII, entitled "Function Versus Aspect," *Science and Human Behavior* (1953). No internal trait or entity called a belief is needed to explain a person's opposition to biological evolution; it has been shaped by contingencies in the person's social environment—contingencies that, along with others, have also shaped the verbal declarations of believing. The elusive internal beliefs perse survive as nothing more than degrees of the "strength" of responses in the presence of certain sets of discriminative stimuli.

The "strength" of a response is its determined probability. The probability estimate is a verbal response by the observer who is estimating the strength of the subject's belief statement. The observer's verbal behavior of probability estimation will have been shaped either as an inference through a history with the frequency of the subject's prior relevant behavior (a procedure of the statistical

genre) or through a tight analysis of the controls over the subject's belief statements (a direct analytical alternative to statistical procedures). Thus, the observer's view of the subject's belief is a bit of the observer's verbal behavior under control of the statistically inferred or directly measured controls on the subject's belief statements. The observer is sometimes helped insofar as the nature of those controls has been autoclitically implied within the speaker's belief statements.

Interestingly, the status of belief statements can be shifted validly in the direction of the traditionally presumed causal role through a common social practice. In most cultures, compliance with the general rule that one's behavior should comport to one's belief statements is strongly reinforced and non-compliance punished. Thus, any belief statement, once it occurs as a co-effect (along with other behavioral effects) of independent environmental events, thereafter gains at least partial control over further occurrences of those compatible behaviors that have initially occurred simply as co-effects with the belief statements. A statement of what one believes becomes a prescription for responding compatibly with that statement. Any deviations from behavior comporting to the belief statement are thereafter punished even by the speaker himself (i.e., by shame). But here the belief statement functions as an environmental event antecedent to the responses that it controls and not as an internal hypothetical construct. Thus belief statements and the behaviors to which they refer can be compatible either as co-effects in functional relationships sharing common environmental antecedents or as the independent and partially dependent variables in a functional relationship.

Independent of knowing the reasons for this compatibility, if belief statements in some way match other behaviors, then belief statements can be used for prediction. Belief statements are thus often interpreted as probability statements: "Since Senator Smith claims to believe in capital punishment, he is expected to

support the measure now before Congress." Of course, using belief statements to predict behavior follows from a statistical induction akin to a trait analysis and does not approach an analysis of the fundamental contingencies that shape and maintain both the belief statements and the actions thought to follow from them.

Conclusions Relevant to Defining Belief

A functional analysis easily dispenses with ontological status for beliefs as hypothetical constructs and also excludes a reified behavioral equivalent. There is believing, but no belief. As stimulus controls become strengthened through operant conditioning the frequency of the relevant responses tends to increase or, as is often observed, to occur more reliably. As this sort of change occurs in the behavior of a subject, observers say that the subject's beliefs become stronger. Weak belief and strong belief refer to the degrees of control exerted by the relevant environmental events. "Believing" is a variation implying a process and refers to the function per se wherein changes in the environmental variables are followed in an orderly way by changes in the behavior. To be "believing" is to be behaving in accordance with previously shaped controlling relationships so as to consistently produce a particular consequence.

The effort here has been to describe the phenomena that control the emission of "belief" and "believing" as verbal behavior. But those phenomena can be in place whether they control any descriptive verbal behavior or not. Thus there can be belief and believing without belief statements of any kind and without any belief-awareness behaviors by the believer or other observers. The behaviors of being conscious of both belief and of believing are verbal and are separate from the behavior-controlling relationships called beliefs and from their functional aspects called believing. One may or may not know about, describe, or otherwise be aware of one's beliefs (be aware of the controlling relationships between one's

operants and one's environment). To the extent that such verbal behavior does occur, it can be inaccurate (not "tightly" controlled in an exclusive way by the behavioral events subsummed under "belief" and "believing"). The analysis of belief statements (and any private or public verbal manifestations of belief awareness) require separate analyses from the belief and believing as they are separate and different behaviors.

Some readers may raise the question of whether a particular set of definitions is being asserted and proffered or whether some established definitions are being reiterated, clarified, and exemplified. But neither perspective accurately addresses the issue. When what is said becomes analytically and conceptually divorced from what is talked about, a new level of linguistic precision becomes necessary, a principle often reiterated by Skinner. The Vargas article on rights (1975) provided a good example, first by discriminating between access to reinforcers and verbal declarations of access to reinforcers (rights) and subsequently showing why each requires a separate functional analysis. No new terms have been invented here, but old terms, which in the past have been controlled by previously integral phenomena now conceptually divided, cannot remain effective if they continue to be emitted indiscriminantly. "Belief" and "believing" have been retained in the domain of directly controlled or unconscious behavior, while "belief statements" and, less formally, both verbal implication of belief and verbal allusion to belief have been reserved for the domain of verbal behavior about the controls and controlling relationships governing other behavior.

THE ANALYSIS OF SOME RELEVANT SOCIAL EFFECTS

Compartmentalization and Repression

An advanced graduate student in behavior analysis with a well documented history of academic excellence in a rigorous scientific training program produced substantial scholarly products respecting the principle that behavior is a

natural event functionally related to environmental variables. Nevertheless, this individual pursued religious practices including praying to a mystical deified hypothetical construct for supernatural interventions into human behavior. The paradox was obvious. But the individual seemed blind to it in spite of expectations among the science faculty that well-trained persons should show more intellectual consistency with respect to phenomena in their own fields. This student bore the social costs that are inevitably attached to such discrepant behavior.

For practical reasons, the social community places a premium on consistent beliefs. Those who must contend with us depend on accurate predictions of our behavior. Violators are deemed unreliable and suffer rather universal punishment. They are held in contempt (especially among members of the intellectual community) for what are regarded as lapses in their integrity, whereas intellectual consistency merits respect. Those whose beliefs do not oscillate with temporary changes in their social environments gain reinforcers upon holding to espoused principles, sometimes without regard to the reinforcing community's agreement or disagreement with the positions they proclaim. This occasionally explains the virtue in someone described as a "worthy adversary." At least one knows "where the person stands."

As verbal behavior, belief statements are shaped by a verbal community, but the culture at large functions as a single verbal community only to a limited degree. While some beliefs are shaped in most individuals across a culture, sub-cultural groups form special verbal communities, each shaping beliefs some of which prove incompatible with those of other such groups. By remaining within one group, an individual might be respected as a person of intellectual integrity, but a person who moves into a new group and publically comports to the beliefs reinforced in another might be greeted as a fanatic, fool, or alien. Nevertheless, such forays can yield increased respect and support from the sympathetic community. Creating the image of

martyr within one group by publically subjecting oneself to the social punishments of another is a frequently used political ploy.

However, under the diverse contingencies of our complex society, most individuals must move into and out of different communities, frequently for short periods and sometimes on a regular basis. When moving back and forth between different social groups, a person can become conditioned to switch belief statements thus avoiding the punishment and gaining the reinforcers of each group. Belief statements change and so do the sets of behaviors that comport to them, an effect that sometimes becomes extreme when the respective communities reinforce incompatible behaviors. Often such transient persons are preoccupied under strong political, social, or economic contingencies and fail to tact or otherwise respond to their naturally shaped inconsistency. If consistency has not been strongly conditioned as a personal reinforcer either by at least one of the communities or by the culture at large, the person might pursue this alternating pattern indefinitely. In other cases, the person might indeed be aware of his or her oscillating mode of behavior. If inconsistency in publically expressed belief is sufficiently punished, people, if privately aware of their reversals of belief, might escape from the conditioned aversive emotional stimulus (called shame, sin, or guilt) by asserting to themselves the validity of one set of beliefs while publically exhibiting whatever behavior is respected in the immediate community. They might tell themselves that they are shrewd or that they "know how to get along with others," which is reinforcing to hear.

The term "compartmentalization" has been applied to persons who entertain differing and incompatible ideas that are readjusted as necessary to maintain congruence with the community in which they find themselves. The term tends to be reserved for cases in which the persons appear oblivious to the discrepancies in their behavior. Although compartmentalization is often difficult for observers in an intellectual community to under-

stand, for, after all, the term describes rather than explains what is observed, the effects of punishment are adequate to explain it (Skinner, 1953, pp. 188-190). Verbal expressions of certain beliefs, or exhibitions of the behaviors that those belief statements describe, get punished upon occurrence. Aversive emotional effects are conditioned by this punishment and later occur not only with the punished behavior but also to some lesser but significant degree with the incipient or antecedent events relevant to the punished behavior. By escaping from those aversive antecedent circumstances, the person avoids the impending punishment insofar as the escape from the conditioned aversive antecedent events amounts to engaging in behaviors different from those that would have been punished. Since antecedent events for belief statements and behaviors that comport to them frequently consist of private thinking, such thinking per se can become conditioned to elicit the aversive emotions. The escape is then from that thinking. The abortion of that thinking and preoccupation with other thinking under different controls tends to preclude the belief statements, if not the actions that those statements suggest, thus insuring that the person avoids the punishments reserved for such private and public verbal behaviors. (For a technical description of this phenomenon, see Skinner, 1953, Ch. 11-12.)

When the behaviors (verbal and non-verbal) disapproved in an immediate community are punished and subsequent avoidance behaviors include switching one's behavior to match local practices, then no community among those visited can claim the person as a loyalist. Once out of sight of a group, the person ignores the ideas of that group and might even compromise its interests. While the person might avoid the punishment of the proximate group, the punishment from the group left behind is unmitigated, especially if the person has to return there, or, to exacerbate the situation, if the person must cycle back and forth. In such cases, emotional conditioning can become strongly attached to the property

of switching one's belief statements, and awareness responses pertinent to one's verbal inconsistency come to elicit the aversive emotional reactions conditioned by the punishment. The switching in general becomes aversive apart from emotional effects attached to specific positions being taken. There are two subsequent effects: first, the self-punished thinking about the inconsistency (the self-awareness of one's oscillating verbal behavior) tends not to occur. Sometimes called repression, no special cognitive process need be invented. The person simply does not behave in a way previously followed by aversive stimuli (in this case, thinking about how inconsistently one behaves upon changing communities). The alternative to such thinking, usually other thinking, is negatively reinforced (regardless of what alternative stimuli might control it, or, as is commonly said, "no matter what else the person thinks about"). In cognitive parlance, "the person contentedly ignores his or her changes in code," but more parsimoniously, the person's behavior merely occurs in a form more reinforcing or at least less punishing than the thinking said to be repressed. The second effect of conditioning a person to find changes in belief statements aversive is that the person will act in each community so as to hide evidence of changes in behavior when the person switches communities. Through these two kinds of effects two kinds of punishers are avoided: (1) the conditioned emotional self-punishing responses elicited by awareness of being inconsistent and (2) the social punishers directly inflicted by the immediate community upon discovery that the person shows disrespect for its principles whenever the person goes elsewhere.

Countercontrols Against Group Punishment for Inconsistency

Persons who exhibit compartmentalization, when challenged, tend to claim a right not to be punished for the inconsistency in their behavior, but the claim is usually couched in other terms such as the right to freedom of conscience. This

resistance acts to countercontrol the general cultural punishment of inconsistent beliefs, and to the extent that it succeeds, permits people to operate unpunished within two or more social communities that happen to reinforce incompatible ideas. Critics suffer a twinge of guilt upon seeing themselves as intolerant. The American "melting pot" might not have lasted long enough for much melting to occur had this countercontrol not emerged under the strong practical, mostly economic contingencies imposed across divergent subgroups. Movement among communities has been facilitated. Commerce and other types of free access characterize the resulting nation. Salespersons, a class that operates under strong economic contingencies, often make an explicit virtue of cross-communal inconsistency in belief statements. So do politicians.

Summary of the Analysis of Inconsistent Beliefs

Practical behavior tends to be less affected by belief statements than by the natural contingencies, social and otherwise, prevailing in the environment. In such cases, verbal behavior descriptive of those natural contingencies need not be particularly accurate or reliable, and need not even occur, whether suppressed by punishment or not. A person can respond directly to the natural contingencies thereby operating effectively within different environments. Different audiences, mistakenly thinking beliefs to be causal internal entities, might then infer that a given individual "possesses different and conflicting beliefs" as that person moves among different social communities, and members of those audiences will assume that the transient person must necessarily know it. Consider, for example, how the beliefs implied by an executive in the boardroom might be quite different from those implied by that same person at house parties in academic company, and again different from beliefs implied during weekly participation in religious services. But insofar as beliefs may be conceptualized as probabilities of be-

having in certain ways under prevailing contingencies, and insofar as each community maintains effective controls yielding consistent behavior within its own domain, no basis for surprise inheres in the different patterns exhibited without apparent conflict by a person when moving from one community to another. One simply comes directly under the prevailing controls over one's verbal and nonverbal behaviors. While self-observations of belief statements and related behaviors are a different analytical matter and people can be taught to observe and analyze their inconsistent behavior, such analyses do not necessarily occur automatically.

Audiences do tend to assume that people know, in a conscious sense, when they are behaving inconsistently and what beliefs "are held." But in the example of the inconsistent executive, observers cannot directly confirm the executive's putative concomitant private verbal behavior to which we refer as that executive's awareness of his or her inconsistency. Traditional audiences tend to infer a self-awareness of belief from consistent patterns of behavior on the assumption that any inconsistent pattern of behavior must be caused by such private belief statements or thoughts. The belief is misconstrued to be necessary causal verbal behavior: Since Ms. Adkins seldom turns on lights or other electrical appliances, she *must* believe in the conservation of electricity. When forced to interpret behavior in the absence of behavior analysis, audiences tend to invent causal beliefs insofar as they do not know how to seek and identify controlling contingencies in the environment—contingencies that are entirely capable of directly generating the observed patterns of behavior in the absence of the verbal behavior called belief. The person thought to be guided by explicitly formulated verbal belief statements might instead be rather naturally responding to each environmental situation without being under partial control of belief statements or any analytical verbal behavior. Persons alternating among different communities might not take analytical notice of either

their patterns of behavior within each group or of the inconsistency in their behavior when they change groups. Under social punishment for behavioral incompatibility, any such analytical verbal behavior, public or private, might "tend to be repressed" insofar as a punished behavior tends not to occur. Thus, the self-analysis, either of belief statements made or of implied "beliefs," would not necessarily exist outside of the invalid assumptions of persons with whom the individual interacts. Since belief statements are, in fact, not necessary for the control of behavior occurring under natural contingencies prevailing in the environment, those who might wonder how a person can live with beliefs that would have to be incompatible might be assuming some private and potentially punishing verbal behavior that has not occurred to the person in question.

Rather than something complex and fraught with conflict that a person would knowingly have to do, the phenomenon of inconsistent beliefs can consist instead of some natural reactions that simply occur to the unaware person. This, like all of the behavior subsumed under the rubric of "life," is not something that is *done*—it merely *happens*. The apparently irresponsible agent is exonerated by disappearing as an outcome of analysis, and the mindless residual creature simply does what comes naturally, in the case of inconsistent beliefs either responding in a direct way or in certain instances showing some negatively reinforced escape behavior yielding short-term relief. But both varieties portend occasional troublesome social implications.

Implications Pertaining to Strategy for The Teaching Faculty

Teachers, having struggled to shape respect for the principles of a discipline in students, can be dismayed at the abandonment of those repertoires when the students travel into other social communities. Professors of behavior analysis usually suffer at least a mild disappointment when their students, upon entering other social settings, fail to exhibit the

behavior analytic perspective or fail to behave in accordance with its implications. The emotion is the same as that of any teacher whose students show no increased appreciation of the subject matter beyond the boundaries of their coursework.

Under the powerful and ubiquitous contingencies of economy, we are all to some extent inconsistent in our beliefs as we move among different communities. It's often expedient, and if nothing significant is at risk, we tend to do it. This effect is in that sense a natural one. Though a student's conduct in abandoning belief upon entering new communities can be natural and acceptable to the student, that abandonment might fail to fulfill the major production contingency acting on the teacher who has shaped the forsaken ideas. After all, "dedicated" teachers mediate their own social objectives through controls arranged over the behavior of their students. A university professor of the comprehensive basic science called behavior analysis is, for many reasons, under strong contingencies to improve his or her applied field by supporting that field with behavior analytic foundations. To accomplish this, such a professor trains behavior analytic students who must go forth and change the applied field, for example, clinical practice, education, law, management, sociology, etc. The consequence requirement of the behavior analysis teacher's commitment contingency goes unsatisfied if the students abandon their behavior analytic convictions upon departure from the academic community in which the teacher and students have interacted. Those students may not be under similar contingencies with respect to revolutionizing an applied field and thus may not be concerned if their behavior analytic beliefs are inconsistent. But the teacher does usually care. In this sense, the students' personal desires are not factors in that faculty member's equation; the students mediate the accomplishment of the teacher's professional objectives, and indulgence in fictions to the contrary adds nothing useful to the analysis. The professor's task is not only to teach behavior

analysis but also to shape beliefs that resist social punishment. Certain teaching strategies address this latter concern.

First, intellectual integrity can be strengthened by delineating it in verbal form as a principle. Students can be taught to tact behavioral evidence of respect for the principle of consistency in intellectual foundations both in themselves and in others. Already a recognized virtue among intellectuals, behavioral consistency can be more explicitly and overtly espoused as a value. Changing one's arm-bands with temporary changes in community, beyond some reasonable limits of civility and tolerance, can be made more disgraceful.

As a second element of teaching strategy, students must be persuaded that behaviors congruent with the discipline of concern are of greater effectiveness than behaviors occurring under the alternatives, for, after all, consistency is wasted if it pertains to the less effective practices of an alien community. Compromise with eclecticism can in most cases be exposed as intellectual prostitution through an explicit analysis of the normally latent political, social, and economic contingencies that tend to control such arrangements. Eclectic compromises of the comprehensive basic science of behavior analysis, proffered and defended under the guise of technical contingencies, can be classified either as incompetent exercises or as frauds. Teachers of the physical sciences have long maintained the technical integrity of their disciplines by avoiding such accommodations with weak alternatives. Few scholars of a specialty such as groundwater, for example, abandon their convictions and seriously espouse water dowsing upon moving into a community that believes in divining for water. The intellectual integrity of most geologists can in part be attributed to the fact that their training curricula were not compromised with pseudoscience or weak science by self-serving faculty members.

A third strategy appeals to the principle of long-range benefit. If all behavior is controlled, then entry into a community featuring substantially different val-

ues does tend to produce a shift in beliefs. If, however, the initially shaped beliefs portend the greater long-range benefit while the changes made to fit the new community reflect only short-range protections from social punishment, then the strategy for the initial teacher becomes clear. The sacrifice of short-term gain for deferred but greater benefit should be made explicit as a principle. Students must be taught to examine the long-range implications of any ideas that come under attack in a newly entered community. The sacrifice of long-range benefit for short-term comfort can be made an occasion for shame, and students can be reinforced for "keeping the faith."

Moral or righteous claims by either community to justify preemption are fallacious and are to be eschewed in favor of appeals to survival potential. Those with more effective practices are not better in any moral sense, they will simply be the survivors. Nor is there fundamental virtue in survival per se; it is simply the resultant condition of those who have been more effective. The contingencies of survival have selected effective individuals, and the contingencies of reinforcement have selected effective behaviors. Contemporary individuals possess both a genetic legacy and a behavioral repertoire that constrain each to behave as if its personal and group survival "mattered," although the "mattering" is a conjecture without basis and largely devoid of functional relationship to the practices that insure survival. Interestingly, survival is not jeopardized by this understanding as those who enjoy this perspective continue to work for their survival just as vigorously as those without it, nor, as the principles of radical behaviorism imply, should that come as a surprise. (See Skinner, 1953, pp. 432-433 for a discussion of these issues.)

Beliefs are not the private property of students to be respected by educators, but

are instead types and degrees of stimulus control over the behavior of students. Insofar as the technology of teaching is directed as establishing new stimulus controls over student behavior, teachers are in the belief construction business. The cultural agency called government is in charge of issuing limited belief construction permits called teaching credentials, and is overseen by the agency of law in that duty. Teachers have a belief construction permit bounded by what is called their subject matters. Other agencies and individuals have social permits to construct beliefs relevant to other domains of events. Conflicts arise when two or more shaping agencies focus on the same event: Shall the origin of life on earth affect the behavior of a student according to controls shaped by a religious agency or according to controls shaped by a scientific academy? While such agencies engage in conflict, changes in the consistency with which students behave often serve a metric function reflecting the gains and losses accruing in that inter-agency struggle.

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