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ABOUT BEHAVIOROLOGY

BEHAVIOROLOGY IS AN INDEPENDENTLY ORGANIZED DISCIPLINE FEATURING THE NATURAL SCIENCE OF BEHAVIOR. BEHAVIOROLOGISTS STUDY THE FUNCTIONAL RELATIONS BETWEEN BEHAVIOR AND ITS INDEPENDENT VARIABLES IN THE BEHAVIOR-DETERMINING ENVIRONMENT. BEHAVIOROLOGICAL ACCOUNTS ARE BASED ON THE BEHAVIORAL CAPACITY OF THE SPECIES, THE PERSONAL HISTORY OF THE BEHAVING ORGANISM, AND THE CURRENT PHYSICAL AND SOCIAL ENVIRONMENT IN WHICH BEHAVIOR OCCURS. BEHAVIOROLOGISTS DISCOVER THE NATURAL LAWS GOVERNING BEHAVIOR. THEY THEN DEVELOP BENEFICIAL BEHAVIOR-ENGINEERING TECHNOLOGIES APPLICABLE TO BEHAVIOR RELATED CONCERNS IN ALL FIELDS INCLUDING CHILD REARING, EDUCATION, EMPLOYMENT, ENTERTAINMENT, GOVERNMENT, LAW, MARKETING, MEDICINE, AND SELF-MANAGEMENT.

BEHAVIOROLOGY FEATURES STRICTLY NATURAL ACCOUNTS FOR BEHAVIORAL EVENTS. IN THIS WAY BEHAVIOROLOGY DIFFERS FROM DISCIPLINES THAT ENTERTAIN FUNDAMENTALLY SUPERSTITIOUS ASSUMPTIONS ABOUT HUMANS AND THEIR BEHAVIOR. BEHAVIOROLOGY EXCLUDES THE MYSTICAL NOTION OF A RATHER SPONTANEOUS ORIGINATION OF BEHAVIOR BY THE WILLFUL ACTION OF ETHEREAL, BODY-DWELLING AGENTS CONNOTED BY SUCH TERMS AS *mind*, *psyche*, *self*, *muse*, OR EVEN PRONOUNS LIKE *I*, *me*, and *you*.

AMONG BEHAVIOR SCIENTISTS WHO RESPECT THE PHILOSOPHY OF NATURALISM, TWO MAJOR STRATEGIES HAVE EMERGED THROUGH WHICH THEIR RESPECTIVE PROPONENTS WOULD HAVE THE NATURAL SCIENCE OF BEHAVIOR CONTRIBUTE TO THE CULTURE. ONE STRATEGY IS TO WORK IN BASIC NON-NATURAL SCIENCE UNITS AND DEMONSTRATE TO THE OTHER MEMBERS THE KIND OF EFFECTIVE SCIENCE THAT NATURAL PHILOSOPHY CAN INFORM. IN CONTRAST, BEHAVIOROLOGISTS ARE ORGANIZING AN ENTIRELY INDEPENDENT DISCIPLINE FOR THE STUDY OF BEHAVIOR THAT CAN TAKE ITS PLACE AS ONE OF THE RECOGNIZED BASIC NATURAL SCIENCES.

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NOTE: This issue contains one *new* TIBI online course syllabus. In some future issues, other new syllabi or updates of previous syllabi will appear. (See the *Syllabus Directory* near the back of each issue.)—Ed.

Volume 9 Number 2 Contents Plan

Here are some of the featured items planned for the next issue (Fall 2006) of *Behaviorology Today*, although these plans may change:

- ✧ *Personhood & Superstition Part II (& III?)*
(Lawrence E. Fraley)
- ✧ The TIBI Course Syllabus for BEHG 470:
Advanced Behaviorology II.
- ✧ The first two (of seven) chapters of “Origins, Status, and Mission of Behaviorology”
(Lawrence E. Fraley & Stephen F. Ledoux).
- ✧ An article or two from among those that are currently in process from several other authors. *When will YOUR article arrive?* (Staff writers can maintain the publication schedule with worthy contributions, but worthy articles from guest authors make even more valuable disciplinary literature contributions.)—Ed.☺

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PROVIDE AT LEAST MINIMALLY PEER-REVIEWED ARTICLES AS WELL AS, ON OCCASION AND WITH EXPLICIT DESIGNATION, FULLY PEER-REVIEWED ARTICLES. THEY WRITE ON THE FULL RANGE OF DISCIPLINARY TOPICS INCLUDING HISTORICAL, PHILOSOPHICAL, CONCEPTUAL, EDUCATIONAL, EXPERIMENTAL, AND TECHNOLOGICAL (APPLIED) CONSIDERATIONS. PLEASE JOIN US—IF YOU HAVE NOT ALREADY DONE SO—AND SUPPORT BRINGING THE BENEFITS OF BEHAVIOROLOGY TO HUMANITY. (CONTRIBUTIONS TO TIBI OR TIBIA ARE TAX-DEDUCTIBLE.)☺

The Ethics of Medical Practices During Protracted Dying: A Natural Science Perspective

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Editor's note: This article may be construed as the middle part in a trilogy, the first and third parts having been published in 1998. Part 1 is: Fraley, L.E. (1998). A behaviorological thanatology: Foundations and implications. *The Behavior Analyst*, 21 (1), 1-26. Part 3 is: Fraley, L.E. (1998). New ethics and practices for death and dying from an analysis of the sociocultural metacontingencies. *Behavior and Social Issues*, 8 (1), 9-31. Also, see Fraley, L.E. (2001). Behaviorological principles for the analysis of bereavement. *European Journal of Behavior Analysis*, 2 (II), 143-153. (Additional references are in the syllabus of TIBI'S BEHG 410 course "Behaviorological Thanatology and Dignified Dying"; see Ledoux, 2005.)—Ed.

Abstract: Philosophy, insofar as it consists of the assumptions by which evidence is interpreted, substantially informs one's interpretations of practical matters and thus determines the pattern of one's reactions to them. This is especially evident in how medical personnel and others cope with death and dying. The philosophy of the natural sciences and the traditional mystical philosophy underlying most of religion and much of psychology are comparatively reviewed, especially their respective implications for medical practices to treat the dying. Differing philosophical foundations lead to differing values and ethics, and on the basis of various examples, it is argued that the culture would be better served with respect to thanatological matters if the philosophy of the natural sciences prevailed as the philosophical foundation for the medical establishment.

Unlike natural scientists of behavior, the practitioners of traditional social and behavior sciences have explained observed operant behavioral events as the manifest will of a mystical construct presumed to dwell within the body. Traditional social scientists have tended to avoid the precise technical term *operant*, referring instead to *voluntary* or *willful* behavior that a self-agent within the individual putatively has chosen to exhibit and for which that indi-

vidual is subsequently to be held responsible. In the context of such assertions, the term *individual* alludes to that internal behavior-determining and directing self-agent. The familiar causal traits (e.g., generosity, empathy, greed, etc.) to which patterns of behavior are often attributed are implicitly the predilections of the behavior-controlling self-agent.

Within the traditional social science community, that ethereal behavior-producing engine is said to possess whatever powers would be necessary to generate the observed behavior. Science has then been brought to bear only on the problems of how that internal body-driving agent may operate. Within those traditional behavior-related fields, the science has been invoked in pursuit of the implications of that fundamental mystical assumption but has not been allowed to challenge it. That mystical inner agent has been identified by various names: In the religious community it is known as the soul; among the traditional behavior sciences it is the autonomous self (which in some versions operates from a somewhat mystical realm called the *mind* or in other versions simply *is* the mind); in the civic arena people often refer to it as the human spirit or simply a person's character; occult versions include ghost and demon; the muse is a special-purpose version popular in literary circles. Grammatically, that spirit attains a conceptual embodiment upon its reference via proper names and personal pronouns (e.g., *George, he, him; Laura, she, her; I, me*).

The Natural Science of Behavior and its Philosophy

In contrast, the prevailing philosophy in any of the natural sciences excludes explanatory reliance on such mystical constructs. For example, in physics, chemistry, biology, and behaviorology, observed events are assumed to be defined only by measurable variables such as distance, mass, and time.¹ All detected events, including behavioral events, are assumed to have a natural history consisting of a chain of prior natural events that are functionally linked. In any natural science, whatever occurs is explained by discovering and describing the functional relations that link that event to its functional antecedents. Until those functional relations can be found, natu-

¹ For a somewhat extensive list of topics that are typically covered in the subject matter of behaviorology, see the list of the 30 chapter titles in *General Behaviorology: The Natural Science of Human Behavior*. Those titles can be viewed by visiting www.behaviorology.org. At that site, click in succession on *Complete Behaviorology Resources*, *General Behaviorology page*, and *Information/Contents: General Behaviorology*. See also Ledoux, S.F. (2002). *Origins and components of behaviorology—Second Edition*. Canton, NY: ABCs.

ral scientists must settle for ignorance, uncomfortable though that may be. Within the natural science community, the substitution of an imaginary mystical force to complete an account is regarded as intellectually immature, unsophisticated, and foolish.

Spontaneity is a fallacy insofar as it precludes or denies the functional antecedents of an event. Thus, we do not explain an observed behavior (verbal, motor, or emotional) by inventing a mystical, internal, and autonomous self possessed of whatever mystical capability would be required to initiate that behavior as if from nothing. In a natural science of behavior, I cannot explain my utterance of a phrase by saying that "I" (the mystical agent within me) *decided* or *chose* to say it and then issued the necessary performance instructions to my vocal apparatus. To rely on such an expedient device is a philosophically unacceptable intellectual shortcut, and spending the remainder of one's life being progressively more profound about one's doing so cannot restore validity to that fundamental mistake.

The Natural Science Perspective on Values, Rights, and Ethics

Except for primary reinforcers (food, water, sexual contact, etc.) the things that we value did not have pre-existing status as values that needed only to be recognized as such. Instead, each of them acquired status as a reinforcer through the behavioral process called operant conditioning, which occurs during the lifetime of the individual. One is said "to value" any stimulus either that comes to function or innately functions in that reinforcing way. A conditioned reinforcer may come to be such either via naturally occurring contingencies or via socially arranged operant processes. Cultural values related to death and dying, like other kinds of values, are reinforcers, and an individual will behave in ways that are consequated by contacts with those reinforcers. That is, cultural values pertain to socially conditioned reinforcers and consist of whatever the group at large has conditioned its members to cherish (behave so as to contact).

A *right* is defined as unhindered access to a reinforcer (i.e., to a value). When that access is threatened, the affected person tends to claim rights with respect to the obstructed reinforcer (see Vargas, 1975/1977). *Ethical behavior* is then defined as behavior that respects those claims to uninhibited access. Obviously, this view is antithetical to the notion that values, and the ethics prescribed with respect to them, are handed down from some mystical absolute arbiter of what is good and right.

One's acquired values, and the related ethical practices, are all arbitrary, and all subject to change in the sense that conditioning can be reversed via counterconditioning. There is nothing absolute or immutable about any acquired value. Its endurance is proportional to the

duration of the contingencies that maintain it. Thus, because current functionally reinforcing stimuli (values) remain subject to change through various behavior change procedures, anyone can be conditioned or reconditioned to value anything. If access to it is then threatened, that person will claim the right of access to it and will regard as ethical any behavior by others that respects that claim. Thus, nothing absolute or fixed stands in the way either of entirely new personal or cultural values with respect to death and dying or of whatever new cultural practices would follow from those new values.

One important implication of the fact that values are not endowed with some immutable intrinsic merit is that the defense of conditioned values cannot logically be based on their mere existence. Prevailing cultural values do not have to be accepted passively. A culture is subject to behaviorological engineering. Arguably, the defense of values is best based on their practical implications. Values pertinent to death and dying have implications for the quality of life of individuals, of groups, and of cultures, and it is among those qualitative implications that criteria inhere by which to evaluate for potential change any prevailing death-related cultural value and its associated ethics.

Ethicists and Advocates of Ethical Agendas

According to the previous definition, the term *ethic* pertains to a class of verbal behavior defined by its relation to reinforcers and by the kind of contingencies under which that verbal behavior occurs. To be an ethicist, one must be able to define and describe both ethics and ethical behavior in terms of their class, constituent variables, and behavior-affecting properties. One must be capable of prescribing ethical behavior and of setting forth programs of conditioning that would prepare people to exhibit it to prespecification. Thus, an ethicist is skilled in the natural science of behavior, especially verbal behavior, and particularly in the special domain of that science that is relevant to ethics. An ethicist knows enough about the nature of ethics to predict ethical behavior and to produce it to specification in the behavior engineering sense of *produce*.

A person who merely has a preconceived agenda featuring a prescription by which others are to behave is not necessarily thereby an ethicist. That person is merely an advocate for a particular ethical agenda. An ethicist explains ethical behavior, and if that individual is the competent scientist and behavior engineer that is implicit in the term *ethicist*, the person can also produce ethical behavior according to prescription. Merely specifying the thematic content of such a prescription is to practice only advocacy, and one is not thereby qualified as an ethicist in the scientific and engineering sense.

Arguments about what behaviors *ought* to occur are not resolved in the scientific field of ethics, which per-

tains to making them happen, but rather are to be resolved in light of their respective implications for the well being of individuals, groups, and cultures. However, if one mistakenly assumes that ethics cannot be understood scientifically, it is easy to suppose that self-promotion as an ethicist requires only that one have strongly conditioned values that one then touts to others.

For example, the issues pertaining to whether, and on whom, to drop the first nuclear weapon were not resolvable within the analytical framework of the field of physics in which that weapon had been produced. In the same sense, ethics is a value-free scientific field that deals with the nature of ethical behavior, the circumstances under which such behavior appears, and how, exactly, it is produced. Ethics, as a scientific field, is a constituent field within the general behaviorological sphere of scientific activity. Just as the former weapon inventor who would persuade us to drop nuclear bombs on a particular foreign nation is not thereby practicing as a physicist, the person who would insist that we all behave ethically by participating in a particular boycott is not thereby practicing as an ethicist merely because of that advocacy.

We are all advocates of sorts, including those of us who happen to be ethicists, but the ethical prescriptions that are advocated by members of our culture at large differ greatly in their implications and hence in their quality. The values to which we are respectively conditioned throughout our lifetimes, and which give rise to our respective ethical perspectives, have arisen from the teachings of our diverse communities. As a scholar of the natural science of behavior, and a former university professor of that discipline, some of my teaching was focused on the behavioral science and technology of ethics. But, as is true of everyone else, when I transition from what *is* to what *ought* to be—that is, when I move from (a) the demonstrable reality of the functional relations with which I operate as a scientist and behavior engineer to (b) the ethical itinerary that I argue should be pursued by others—I leap across a long recognized discontinuity.² What I say that doctors should do in cases of death and dying has not been established under the same set of contingencies as were the principles of the science and technology of behavior that I have practiced and taught.

Nevertheless, my scientific concepts of the nature of ethics per se seem to afford me some advantage with my constructs of what *ought* to be. That advantage accrues when I respect the rule that my ethical agenda comport with the reality defined by the relations that comprise my

science. In general, those whose ethical prescriptions disrespect the demonstrably real relations that define their topics have seldom prevailed in the long run, because, when people have continued to behave in ways that do not comport to an objectively established reality, their activities have become increasingly susceptible to the often severe corrections that nature ultimately tends to impose on such deviations.

For instance, consider a person who superstitiously assumes that a fetus has been infused with a sacrosanct spiritual soul that would suffer some kind of grievous insult if biological death followed from certain kinds of events rather than from others. That person may insist on the birth and subsequent care of a fetus that is known in advance of its birth to be afflicted with uncorrectable defects that among other problems will leave the resulting infant without the capacity for the kind of behavioral conditioning that is known as intellectual development. After its birth the infant enjoys the legal rights of a citizen while imposing great personal, social, and monetary costs on those who are charged with its maintenance. Such an ethically controlled deviation from reality, if the deviator is the infant's caregiver, can soon bring to bear on the deviator a wide variety of aversive natural contingencies of the kinds that are commonly said to "ruin lives." And when, via the social agencies of government and law, such people impose their own superstitiously derived ethical agenda on all others, the peril of such ruination is extended from the superstitious subset to the whole.

Contemporary Ethical Practices to Cope with Death and Dying

The media. Contemporary entertainment media continue to address the ethics of death and dying, a long prevailing theme, with familiar emotion and drama that usually pertains to conflicting ethics. When I first began to direct serious attention to this topic back in 1988, I took notes on its treatment in the popular media across a single week. The next several paragraphs provide typical examples extracted from those notes.

A medical intern reportedly acceded to the request of a dying cancer patient and administered a lethal dose of a depressant drug, then anonymously reported doing so in the *Journal of The American Medical Association* ("It's Over, Debbie," 1988). A wave of pro and con reactions were precipitated, including attacks on the staff of the journal for allowing the issue to surface (Grady, 1988).

The Wall Street Journal published a review of medical ethicist Daniel Callahan's arguments to limit health care for the aged, especially for patients whose deteriorated quality of life could not be restored by available treatment (Otten, 1988). The article included a variety of diverse reactions to Callahan's views.

² An early explicative treatment of this distinction was provided by David Hume. See Hume, D.A. (1739/1888 ed.). *Treatise of Human Nature*. Edited (1888) by L.A. Silby-Bigge. Oxford: Clarendon Press. Reprinted 1967; originally printed by John Noon, 1739.

The weekly episode of a popular television dramatic series featured a sub-plot in which an attorney asked a judge to order the Cesarean extraction of a viable fetus from a pregnant but dying leukemia patient (L.A. Law, 1988). The patient opposed that action because she wanted to try to stay alive long enough to give birth vaginally, although her doctors expected her to die prior to doing so, which would probably result in the death of the fetus as well. The dramatic twist was that the patient, struggling to remain alive long enough to experience giving birth normally, would probably not survive a court ordered Cesarean operation to insure the life of the fetus and hence not only would miss giving birth naturally but, in dying during the Cesarean operation, would never even see her baby.

The local newspaper carried a wire service report of a Florida man who had been convicted of the mercy killing of his suffering wife, a victim of Alzheimer's disease and osteoporosis ("Mercy Killer," 1988). The man was asking for a new trial on the grounds that his lawyer had botched his defense because the lawyer had been preoccupied with conflicting concerns about enhancing the market value of both a book and movie rights based on the case.

And finally, a Paulist priest contributed a newspaper editorial in support of his contention that a Christian perspective allowed withholding care from certain kinds of dying patients. He focused on those whose bodies could be maintained "alive" but whose behavioral repertoire could not again be exhibited (Tavella, 1988)—although he did not say it in those terms.

All things considered, it was a typical media week for our contemporary culture. Although the monitored interval happened almost 20 years ago, absent the time-designations, these examples would not seem atypical of the media content during the current week.

Medical versus ethical technologies. The prime derivative of biological evolution, namely, the multifaceted capacity for survival, renders organisms resistant to dying, although that outcome is inevitable. Witnesses tend to find the loss of such a struggle to be depressing. The aversive contingencies on those whose work or condition keeps them in close proximity to the slow-death process are so strong that few of those who are forced to remain close to such dying will argue with conviction that dying, as it actually occurs to most people, is acceptable, appropriate, and to be enjoyed as just another interesting phase in one's existence. Few people who are slowly dying experience a long, comfortable, and peaceful subsidence that they accept with equanimity. Such an interval is also typically characterized by an uncomfortable degradation of the body that in many cases can arouse aversive extremes. The slow dying that many people will experience is a horrible ordeal both for them and for close others, and those who spend time in close proximity to slowly dying people have usu-

ally come to understand that reality. Dying slowly, peacefully, and comfortably while remaining fully conscious of what is happening, perhaps over many months, is sufficiently rare that instances are deemed noteworthy.

Modern medical science has developed on the foundation of objective data derived from observational and experimental contact with patients. But medical personnel must turn to behavior science rather than medical science for their ethical practices, and behavior science has not kept pace. Unfortunately, too, much in the field of contemporary medical ethics has evolved out of theory-based traditions, some handed down from antiquity. Thus, many contemporary ethical prescriptions have developed apart from the realities of dying. Medical ethics are still heavily influenced by theological ideologies, and by fallacious intellectual tactics such as reification. The result is that contemporary medical personnel are trained in conflicting repertoires—on the one hand, modern scientific medical skills, both verbal and nonverbal, and on the other hand, a verbal repertoire of ethical strictures that often conflict with data-based realities to the extent that the practitioner's effectiveness can be neutralized.³

Theoretically, to escape from their aversive dilemma, medical practitioners could study the science of ethics *per se* and, after gaining some facility with the production of ethics, work to produce some better ones that would be of more help in their practice. But the vast majority of current medical personnel is untrained in behaviorology, the natural science discipline upon which such verbal behavioral engineering is based.⁴ As a result, while medical people can get technical with respect to the physical, chemical, or biological aspects of medical issues, they cannot get equally technical about the related ethics.

A miscarried ethic: maintain treatment. One traditional medical ethic dictates that the patient, if still alive, must be treated, if merely with palliative care, and provided with nourishment. That course of action often affords a beneficial reduction of the ongoing pain. However, insofar as it keeps the person alive, if the patient is also still behaving consciously, it can prolong suffering of another kind by extending the capability of patients to appreciate and contemplate their hopeless plight. A patient, whose body is still functioning in a slowly degrading mode, will often have ceased exhibiting most of the behavior that defines the person and will never again do so regardless of medical attention. The patient, kept alive *and conscious*, can function as little more than a reluctant

³ For another discussion of how reliance on irrelevantly based theory can produce ineffective practice, see Skinner, 1974, pp. ix–xiii.

⁴ For a comprehensive history of the late 20th Century emergence of behaviorology, see Ledoux, 2002.

witness to his or her own slow fading. In some cases, doctors terminate those aversive remnants of person–life by sedating the individual until the body is rendered incapable of mediating the behaviors of consciousness. In that way they “kill” what is left of the person while allowing the body to continue its slow organic degradation toward body–death.

Once the person–defining operant behavior has given way to unconsciousness, and is being kept that way to eliminate pain and suffering, the still–functioning body is then more subject to the dispositions reserved for live bodies that will not again mediate a person (e.g. organ harvesting). Such sequences, with final person–death preceding body–death are, to some degree, obviously physician–controlled.

The harvesting of viable organs from a person–dead but biologically alive body may require the circumvention of some prevailing ethics that are pertinent to the maintenance of life. That often seems to require an exercise in self–deception whereby the physician is able to construe certain prevailing ethics as irrelevant. The approach is to redefine death so that, although the traditional ethics remain in place, they no longer apply, because an individual per se is redefined in a way that allows death to be declared legally at an earlier point in the total dying process. This is accomplished by detaching the legal definition of death from the later body–death and attaching it to the earlier person–death. A typical approach involves setting forth precise biological definitions of death in relation to certain neural events. Abandoning older definitions pertaining to termination of respiration and circulation, modern physicians may say that death occurs precisely when certain other physiological events first exceed critical limits, for example, the onset of irreversible brain disorganization marked by the cessation of certain measurable brain activities that constitute or support consciousness.

The metacriterion for applying those newer criteria is always some imprecisely defined lower limits in the frequencies of the outwardly exhibited behaviors that define the person, but that relation may not even be mentioned, or if it is, treated only as a symptom of putatively more important internal biological events. A widely adopted definition of death that marks the onset of permanent unconsciousness as the “death” of a “person” was set forth by K.G. Gervais (1986, p. 181). While correlated closely with internal physiological events, her definition pertains directly to a class of *behavior* (although it is not clear from her book that Gervais knew that the consciousness essential to her definition is a kind of behavior per se). But both biological *and* behavioral definitions of death can be manipulated to allow the convenient circumvention of the ancient rule that the physician must treat the patient until the patient is “dead.”

Interestingly, Gervais called her concept of death the “death of a *person*.” However, she did not pursue the implications of her position to deal with *differential behavioral dying* over the preceding interval during which the body is still capable of mediating more behavior than the increasingly irrelevant environment can evoke. For persons who know that they are facing death, the behavioral processes of person–death can get ahead of the physiological processes of body death. We say technically that this disparity results from a progressive reduction in the contingencies to behave. Thus, Gervais’s loss–of–consciousness criterion does not address that potentially long interval of slow person–dying and tends to apply only when specific physiological breakdowns within the body destroy its capacity to produce the behavior called consciousness. That is, Gervais’s redefinition pertains only to the biologically alive body after the behaviorally defined “person” has entirely ceased happening, and, importantly, only after all suffering of which the person had been capable has been fully experienced.

Another overextended ethic: preserve “life.” Another ancient ethical stricture requires members of the medical profession to prolong and maintain biological life in general, an ethic that, through various laws, is bolstered with supplementary protection by the state. Killing a patient as a prescribed medical practice is forbidden, but here again is an ethic has been carried forward from a time preceding (a) modern life support technologies, (b) the recently emergent distinction between a biologically alive body and a behaviorally defined person, and (c) the emergence of a pragmatic natural science of values and ethics.⁵

Doctors daily confront patients who will never again manifest the mostly operant behavioral repertoires that gave those patients identity as specific persons, ... patients who will never again contribute through their own behavior to their own interests or to the interests of their communities or to their culture at large, and whose personless bodies, by their continued biological life, extract substantial costs of many kinds.

Doctors also confront other patients who, though terminally ill, are still able to respond behaviorally to their environments, but whose environments can provide only continuous exposure to aversive stimuli, with few if any significant interruptions. Those patients continue to appreciate both their physical pain and their anguish at loss of capacity to respond effectively under a wide variety of once strong contingencies that previously determined the persons that they were. One’s greatest personal investment is in the production, management, and re-

⁵ The author’s 30–chapter book, *General Behaviorology—The Natural Science of Human Behavior*, includes an explication of a pragmatic natural science of values and ethics in Chapter 25.

finement of the behavioral repertoires that define the various facets of one's character. To be compelled to witness, from the confines of a body that is losing its capability to mediate those person-defining behaviors, the permanent extinguishing of those mature products is to face the ultimate in depressing and discouraging events. (For development of the concept of a person as a set of behavioral repertoires, see Skinner, 1953, Ch. 28.)

Not surprisingly, many people in that condition rationally engage in escape behaviors common among which are (a) requests for strong sedatives that will render them unconscious, (b) requests to be allowed to die from lack of further medical care, (c) requests to be allowed to die from lack of further nutrition and perhaps other routine necessities for body maintenance, (d) requests to be killed painlessly but quickly (euthanasia), and (e) requests for the right and the means to commit suicide. That some people accept relief in the form of agonizingly slow starvation suggests the degree of aversiveness from which that starvation would afford a preferable escape.

Quality of life is a function of the frequency and variety of positive reinforcement (Cautella, 1994). Strong practical reasons exist for the option to terminate the biological life of personless bodies where quality of life cannot even be an issue insofar as operant reinforcement is no longer possible. And the argument can be extended to cover still conscious individuals for whom arrangements to contact significant positive reinforcers lie beyond the capability of all parties. For example, while worthwhile quality of life can be restored to some patients simply by eliminating their pain, for many others, a worthwhile quality of life is not restored simply by rendering them pain free. That is because many diseases so ravage the body that, pain free or not, it can no longer mediate the behaviors that would yield contacts with the patient's previously effective reinforcers. In such cases, euthanasia and assisted suicide comport both to the principles of economics and to humane principles about minimizing suffering (of whatever kinds). Relative to practical criteria, life is not always worth living, and physical pain is not the only thing that can be wrong with it.

In addition to the aversive changes faced by the dying person, those who surround the patient also have to deal with changes of other kinds. The normal behavior of others toward a person who is in those advanced stages of dying is necessarily on an extinction schedule, because the dying person—in many cases a lifelong source of positive social reinforcement—becomes unable to provide those reinforcers. To maintain the previous level of regard for the dying person, the socially close others must rely on self-managing verbal supplements in increasing frequencies, thus substantially altering the nature of the controls on their own continuing behaviors of “appropri-

ate regard” for the fading person (or for the lingering personless body, as the case may be).⁶

Close associates of the dying often do not understand such transitions in the control of their own behavior, sometimes experiencing dismay at their own loss of “feeling” for the dying person. But behavior can only occur in response to the *available* controls; there is no alternative to that. A prolonged episode of slow dying is characterized by a long slow reduction in the person-defining behaviors of the dying person, and those declining behaviors are precisely what have been controlling the social behaviors of others toward that person. As the frequency of those normal evocatives progressively diminishes, the normal social behavior of those who surround the dying person can be maintained only under supplemental controls that those people have been conditioned to exhibit on such occasions in what are called exercises of self-management. The resulting behavior can be recognized as pretense by those players, who are then left to act out their parts in quiet shame that they seldom understand. In many cases, their behavior is also easily recognized as pretense by the dying person. Not only may these events serve little useful purpose, but the aversive respondents that they condition later interfere with the kind of pleasant memories of the terminated individual that survivors want and need.

Doctors are also affected by all of this. They not only see it; they are parties to it. The rational action in many cases would be to end the dying person's behavioral and bodily life functions. Often, however, the patients themselves, as a matter of principle, have been strongly conditioned to abhor deliberately arranged dying and have been taught to believe that the endurance of prolonged death agony is each person's moral obligation. The people who have conditioned them throughout their life times have thus prepared them to serve as willing participants in their own prolonged episodes of culturally imposed and enforced agony.

In most cases in which such a course has been made to seem appropriate and acceptable, it has been asserted by its conditioners to be part of a divine plan. People will

⁶ Technically, this represents a shift in the nature of the controls on the social behavior of those who surround the slowly dying patient. Verbal supplements to the antecedent control increasingly compensate for the weakening postcedent control, which the dying person increasingly fails to provide. That is, the social behavior that can no longer be sustained by its former consequences is increasingly maintained by strengthening its antecedent evocatives through an addition of verbal supplements. Such a change in control may maintain the ongoing pattern of social behavior, but the associated emotional elicitation is often different—a difference that a person may describe candidly as the activity having changed from fun to work.

have been conditioned to regard the endurance of a prolonged death agony rather like a moral duty. And in many cases, the avoidance of an escape via an arranged quick death along with the full endurance of the agony of a slow one is construed as a kind of martyrdom, because it earns admiration—presumably from a posited deity and certainly from the community of similarly conditioned people who await their own inevitable turns to demonstrate the steadfastness of their respect for the prevailing ideology.

At the same time, strong legally bolstered ethics prevent participation in any activity by medical personnel or others that could be interpreted as direct euthanasia. Also, doctors are strongly conditioned to experience what was hoped by their trainers to be intolerable guilt, shame, or sin should they become aware of practices on their part that kill by prescription. However, because it is often so rational that they do it anyhow, and the contingencies to do it are so strong, doctors have arranged elaborate ways of euthanizing patients while hiding even from themselves the fact that they are doing so. While it can make a pathetic spectacle of doctors, such curious behavior lets doctors approximate (often poorly) some sensible actions while avoiding legal obstacles and while escaping or avoiding otherwise associated emotional aversers originally potentiated by their trainers to be intolerable. How doctors manage to do that will be discussed in detail.

Since “life,” in the biological sense, refers to physiological processes exhibiting a dynamic equilibrium in relation to the environment, two classes of interventions are available to end the life of an individual. One involves direct changes to bodily structure, anyplace along the macro-to-micro scale, so that the body can no longer mediate its interactive “life” functions with its environment. This trauma category includes any severance of, removal of, or irrecoverable damage to life-sustaining body parts. The trauma can be represented by something as gross as the result of a body impacting the ground after a long plunge or as quiet and unspectacular as the severing of an essential nerve or vessel.

The other domain of interventions involves interrupting the normal input and output operations by which the body maintains equilibrium relative to the environment. One does not, in that case, intervene physically or chemically with a direct destruction of the body or its critical parts, though similar destruction is what ultimately happens. One merely interrupts the body’s sustaining relations with its environment, a somewhat less direct intervention. Such actions set in motion a series of naturally occurring events that ultimately prevent or preclude the internal life-defining operations of the body. Possibilities on the input side include starvation, suffocation, and withholding water. On the output side is any action that precludes the elimination of bodily waste products of any

kind—gas, liquid, or solid. One can also add or withdraw thermal energy, exceeding the thermotaxic capacity of the body (e.g., as in freezing or over-heating).

At first blush, the distinction between these different approaches to lethal intervention can seem irrelevant. But doctors, who occasionally need to terminate certain of their patients for the most compelling and humane reasons, yet who are strongly conditioned to avoid doing that, must exploit differences in these domains of lethal intervention in order to find ways of terminating patients without eliciting the pre-conditioned automatic emotional aversers within themselves, and perhaps in other observers as well, and without attracting the attention of legal enforcers. To better understand this kind of self management, let us now review some basic principles that must be taken into analytical account.

First, consider that a person is often concurrently under two (or more) sets of contingencies to behave in ways that are mutually incompatible. Contingencies affecting behavior function algebraically. Thus, contingencies to act in one way and contingencies to act in another incompatible way, if concurrently in effect, resolve via the emergence of the behavior controlled by the stronger of the two sets of opposing contingencies. Close to the indifference point (where the strengths of the two sets of contingencies are equal) the exhibited behavior may be poorly organized or ill-defined, and perhaps accompanied, as is typical, by some aversive emotional reactions. Except in the very rare case in which the mutually countering contingencies remain equally strong, and the person flounders disconcertingly in what is commonly called a “breakdown,” some net behavior will occur as the strength of one set of contingencies exceeds the strength of the other, perhaps only slightly. In inverse proportion to the difference in the strength of the concurrent but incompatible contingencies, the person will be acting “reluctantly” or “indecisively” in one way or the other.

Next, we note that automatically elicited emotions are less susceptible to self-management practices than are operant behavioral activities. The doctors’ capacity for aversive emotional arousal lingers from earlier conditioning, and those aversive emotions, if elicited, can function as disrupters of currently appropriate behavior. Furthermore, those emotional aversers are *automatically* elicited by the particular stimuli to which the person was much earlier conditioned respondently, and because concurrent operant and respondent behaviors involve different bodily systems and hence exhibit some mutual independence, the aversive emotional reactions can still be triggered even after one’s relevant thinking has undergone operant processes of change so that one now “knows better” than to pursue the old course of action. Regardless of such changes in the operant behaviors of intellectuality, those somewhat-independently-operating, much-more-

slowly–deconditioning, and still–lingering aversive emotional capacities will still allow aversive emotions to be triggered inevitably by any action contrary to the old ways of behaving. And that will happen unless the body's emotional capacity can be fooled in an exercise of self–deception so that an automatic elicitation of the aversive emotions will not be triggered when one behaves operantly in new ways that would normally make one feel sinful, shameful, or guilty.⁷

Powerful feelings of guilt, shame, or sin (the automatically elicited respondents to which this discussion pertains), once conditioned and thus potentially ready to occur, are, by their nature, later triggered only upon encountering certain *specific* stimuli present on the occasion of the earlier conditioning. Only *those* stimuli will subsequently function to elicit the aversive emotional feelings. Therefore, one must avoid those triggering events. But the problem is that those eliciting stimuli happen to be the salient features of both the training situations and the later situations to which the training is applicable.

One such situational aspect is the associated prescriptive or descriptive verbal behavior of the practitioners themselves ...that is, what the practitioners say or think about what they are doing. Often the conditioned eliciting stimulus (the emotional trigger) is tied less to the direct interventions among the variables of concern and more to the person's own descriptions of those acts and of their effects and outcomes, ...in lay terms, to how the person "views" his or her own actions rather than to the actions or their outcomes per se. When that is the case, as it often is, the person will subsequently experience the elicited aversive emotions, not necessarily upon exhibiting the actual practices of intervention, but upon thinking and saying certain kinds of prescriptive or descriptive things pertinent to those acts.

And in that distinction inheres the key with which doctors can and do escape from their ethical dilemma. If only they can do what must be done in a practical sense, but in ways that do not have to be described or considered in the terms to which the old emotional conditioning applied, those doctors can avoid eliciting in themselves at least some of the overwhelming aversive emotions that would disrupt the important practical actions that otherwise seem appropriate.

How to do what must be done for logically compelling reasons, but in ways that preclude one's knowing in

⁷ This discussion pertains to cases in which the aversive emotion would be strong enough to evoke an escape in the form of an alternative operant behavior. In cases where the aversive emotion is relatively weak, the new operant behavior occurs in spite of it, and in common terms the person may later be said to have borne the emotional cost of taking that action.

particular ways that one is doing it, may seem at first like an impossible problem for the behaving individual. But "outsmarting one's conscience" is actually a somewhat common occurrence, and people tend to do it from time to time. The all too common incongruence of emotion and logic has resulted in such self–deception becoming a well honed human skill.

The science of behaviorology is necessary to understand how this occurs, but that science is not necessary merely for it to happen. Although a logically necessary action would seemingly arouse strongly adverse emotional reactions, with the necessary conditioning that appropriate action can nevertheless occur naturally or intuitively without the person thinking analytically about it. But with a scientific understanding of the process, the arrangements for its occurrence can also happen more deliberately. Before doctors can trick their bodies into not producing the troublesome emotional respondents, whether acting deliberately or under verbally unsupplemented natural contingencies, they must self–manage the contingencies controlling any verbal operants that would automatically elicit those aversive emotional respondents. That is often accomplished, with respect to euthanasia, by changing how one thinks and talks about what one is doing when terminating a patient.

One approach is to redefine death so that some patients can be terminated rather directly, especially those whose conscious behavior (awareness, recognition, comprehension, thinking, etc.) has permanently ceased. Typically, this is done through over–sedation, without explicitly regarding the action as killing. According to the new definition of death, the patient (as a person) is already dead, so the issue of killing a person is off the table. What one does construe to be occurring remains a problem, but a lesser one if the avoided emotional onslaught would have been triggered *only* by construing the action to be killing. It may suffice to describe what one is doing in almost any other way. Most physicians will take the opportunity to redescribe the action to themselves, not simply in neutral ways, but in ways that are reinforcing to hear (e.g., "I've behaved mercifully"). In a common but less direct approach, those patients who should be helped to die, are sometimes killed via a withholding of medication or nourishment after first defining such a deliberate program to be other than killing (e.g., as "rational stages in a course of treatment"). Doctors can then withhold certain substances that are critically necessary for bodily maintenance, doing so under the rubric of "treatment." The patient weakens and may appear to die rather naturally while under what is construed to be appropriate treatment by the medical staff.

As far back as 1983 a California court agreed with two doctors, who had withheld nutrition and hydration, that nourishing and hydrating a permanently unconscious

patient was a form of “treatment” and that, as the courts had earlier ruled, physicians had no duty to continue “ineffective” treatment that incidentally may be keeping the patient alive (Burleigh, 1988, p. 72; Collins, 1987, p. 272).

In other cases the patient is killed by deliberately withholding more direct surgical interventions to repair body damage or to reverse certain processes that have lethal implications, either after defining “refusal to operate” *not* to be a kind of euthanasia or after declaring that such an intervention would be “pointless” (Nagler, 1986). By 1988 Rymer (1988) could present brief summaries of ten critical court decisions that provided definitions or rationalizations helpful to doctors in circumventing their aversive emotional reactions to their participation in some form of euthanasia. These trends have continued and are reflected in the currently popular “do not resuscitate” directives that people are now often encouraged to sign when they seek medical attention. In cases of both temporarily or permanently person–dead bodies, this allows doctors to avoid describing their own actions to themselves as what *they* opt to do and instead describe their rational actions to terminate the still biologically alive body as a fulfillment of the behaviorally dead patient’s wishes.

In matters of euthanasia, the fallacy that withholding treatment is not to kill the patient is promoted in the field of medicine. It may seem that little significant difference actually exists between sticking a knife into an individual and deliberately failing to remove one found to be there. However, doctors have discovered that emphasizing a distinction between those approaches is convenient in their own self–management strategies. If the example is made less extreme and more common, for example, by substituting “blocking a patient’s urinary excretion” for “inserting the knife”, and “providing urinary diversion” for “removing the knife”, the example falls within the realm of practice for many physicians today.

Given a patient whose quality of life has deteriorated to an extreme and irreversible low, most doctors would find that intervening to shut off that patient’s excretion of urine, so as to kill that patient, would readily elicit a substantial aversive emotional reaction, not only in that physician but also in many others. However, if the patient’s disease has blocked the urinary flow, the physician, after acknowledging that certain quality criteria pertain to the definition of “life,” can kill the involuntarily continent patient by withholding procedures of diversion and at the same time avoid eliciting the aversive emotions that would be triggered by deliberately “taking a life.” That is especially true if the patient has provided an implicit endorsement via an earlier signature on a preliminary directive. Also, because of the new quality–of–life criteria, a legally defined murder would not have been committed, because the terminated body–life, and possibly person–

life, no longer supported or constituted what would now be described by doctor and patient as a human life worth living. As Harris Nagler (1986) concluded in an article called “Uremia—A Way Out,”

Technically, we have made great advances in our ability to afford comfortable urinary diversion to patients with a malignant urethral obstruction. However, the capacity to act does not in itself justify the action. The need to treat because we are trained to prolong life and because we are capable of prolonging life is no longer acceptable. The patient, the quality of life, and the dignity of life and death must be taken into consideration before a urinary diversion should be offered to those with progressive carcinoma that has not responded to other available therapies. Indeed, renal failure may offer a painless, peaceful demise to a patient who might otherwise be subjected to a tormenting death. (p. 159)

The Fallacy of Doing Nothing

As noted, certain evasion strategies for the circumvention of emotionally bolstered but irrational ethics have been based on the proposition that withholding treatment, which is *not* to act, must preclude physicians being punished for *taking actions* to end life. As the assumption goes, punishment for ethical violations is attached only to *acts* that breach ethical rules, so *not* acting insures that breaches are impossible.

Another twist of the same genre depends on the distinction that doctors, when performing in the medical roles for which they can be held professionally responsible, are engaging in *medical* practices. It follows that when they are not engaging in *medical* practices they cannot possibly be performing bad ones for which they should be held responsible as medical professionals. Whatever they do instead, if described as nonmedical practice, falls beyond the umbrella of standard medical ethics and professional responsibility, which in such cases are not applicable. It amounts to the old device of “changing hats” while doing a chore that falls outside of one’s job description. One tends not to feel bad about what could otherwise be construed as a violation of medical ethics if the action is not strictly within the scope of medical practice. The doctors’ trick is to become able conceptually to shift the status of a behavior between the medical and nonmedical domains with few if any publicly evident affectations.

An ecclesiastically inspired version posits that God directs nature, and when nature is permitted to take its course without the physician’s medical intervention, any

consequence—the death of the patient, for example—is therefore God’s doing, ...and surely the physician is not to be punished by self or others for allowing *God* to prevail. Thus, any death that can be made to seem natural leaves God, not the doctor, to answer for that outcome. Under those circumstances the aversive emotional arousal of sin is unlikely to be triggered in the doctor.

Another version, derived from the notion of personal autonomy, appeals to the putatively inviolate right of patients to exercise control over their own behavior and bodies. (The cases of Bouvia and Young, described by Rymer [1988], were classic examples). If a patient indicates, or has indicated, that death is preferred, the physicians can arrange for that to occur while reassuring themselves that their actions are not in accordance with their *own* professional ethics but are nevertheless performed out of respect for a higher order of right, namely, the patient’s right of self-determination. Doctors can then reaffirm the righteousness of their own ethics while violating them in practice, and that reaffirmation mitigates the self-offense in what those doctors are doing—and, importantly, may not trigger the aversive emotional reactions from which they otherwise could escape only by doing something other than arranging for such patients to die.

To construe these various and sometimes elaborate self-management practices, which avoid strongly aversive ethical respondents (felt as guilt, sin, or shame), as “doing nothing” is to overlook the fact that the result is a carefully arranged outcome of the doctor’s behavior. Clearly, a doctor’s circumvention of his or her own unhelpful ethics involves a lot of behavior—in particular, the special and rather elaborate contrivance of some rather powerful countercontrols over well strengthened opposing behavior. To then imply, when describing one’s role in such programs to withhold treatment, that one is *not* acting, is to entertain a major fallacy. When physicians pretend that they are not accountable to themselves for ethical violations because, for example, they are not conducting a medical intervention to maintain life, their “inaction” has actually been produced through an elaborate sequence of behavior. Though often self-unanalyzed, it amounts to a multifaceted circumvention of their own ethics.

What doctors need are better ethics in the first place, which would tend to follow from training in the appropriate basic natural science of the behavioral aspects of their profession. Arguably it is objectively based science that best prepares doctors to cope effectively with the behavioral complexities and demands of their profession. However, that level of preparation cannot be realized until medical training programs abandon the mystical accommodations that pass for foundation behavior science and teach doctors a natural science of human behavior to match the natural science training that they get in physics, chemistry, and biology.

Summary of the Doctor’s Dilemma

Doctors who are managing episodes of patient dying often find themselves in complex situations that afford high potential for punishment and low potential for reinforcement—a kind of circumstance that often evokes the rhetorical question, “What can I possibly gain from this?” One widely reported large scale study of doctors’ behavior under these circumstances, conducted over a decade ago (Brink, 1995), found that two-thirds of doctors who received reports on patient’s wishes about life-sustaining care did not even look at those reports.

Were a physician to arrange for the patient to die immediately, quickly, and painlessly, a wide variety of severe punishments are usually contingent on any action that would be understood to have yielded that result. The reinforcers for taking such action (e.g., relief from various aversive circumstances and possibly a measure of professional satisfaction) could be overwhelmed by several potential punishers including a) automatically elicited feelings of guilt, sin, or shame, b) severe censure by colleagues and administrators, c) costly and professionally detrimental legal actions both civil and criminal, d) attacks in the public media, especially by self-appointed ethicists, e) retaliations by friends and relatives of the deceased, and (f) attacks by remote parties who have personal interests in proclaiming all human life, no matter how defined, to be sacrosanct regardless of its quality or any other considerations.

While considering those potential consequences of euthanasia, a doctor confronted with a slowly dying patient also faces the alternative prospect of having to preside over that extended course of horrible and, from a realistic practical perspective, pointless suffering—aversive for all parties, not just the patient. In such cases of prolonged torment, doctors may find themselves presiding over a kind of protracted horror show. Obviously the physician is under strong contingencies to avoid both the severe punishment reserved for those who assist in a patient’s death and the demeaning role as head of a team that teases the maximum possible anguish out of a hopeless situation. Self-management practices, often of a self-deceptive nature, can make a doctor feel better about acting directly or indirectly to discontinue a terminally suffering patient, but defenses against other kinds of threats, especially those of external origin, are more difficult to arrange. Few physicians have special behavioral histories that would prepare them for direct battle with a monster as large and complex as a misdeveloped culture. Nor are many physicians sufficiently clever to avoid all of those punishments while behaving in ways that would normally precipitate them.

To be Rendered Inhumane by the Prevailing Ethics

Floundering among the confusing mix of ethical strictures pertinent to death and dying, both doctor and patient can lose their dignity and their humanity, although the plight of the patient is better understood. Changes to the body of a terminal patient increasingly render ineffective the contingencies that produce that behaviorally defined person. As those functional relations between environment and behavior lose strength, the behaviors that define most of the person will approach zero frequency. At the same time, what remains of the dying individual's behavior-controlling environment is often little more than a set of overwhelming and increasingly intense aversive stimuli. The verbal repertoire can become totally preoccupied with mands for escape—many of them magical, given the futility of the situation (Skinner, 1957, pp. 48–49). Often the particular escape being requested is death.

In such cases, the wretched lingering remnants of the former person typically exemplify extreme erosion of identity. What is left is without importance in many of the ways that people are important. At that stage the often slow process of person–death has been occurring for some time, yet the few remaining remnants of the person—a pathetic residue of a once complex repertoire—may continue to be regarded as if it were still intact. But that respect is accruing only to a progressively and irreversibly diminishing remnant of operant behavioral capacity, and what remains of the person may be of little or no practical importance and worth, even though others may have been ill-conditioned to feel otherwise.

In analyzing the behavior of the medical personnel who manage the patient's terminal course, we must carefully distinguish between how they describe their activities and the functional effects of what they are doing. The physicians nourish the patient's body. They frequently maintain at least some of the patient's capacity for public and private verbal behavior (called keeping the patient conscious). They treat the patient's pain, euphemistically calling it palliative care, and virtuously emphasize that the patient is being kept "more comfortable" than would otherwise be the case while "nature takes its course." Sometimes the patient is thereby rendered more capable of appreciating any residual undampened pain plus the inevitable gross discomfort of systemic bodily failures. But physical pain can be of lesser importance than the devastating emotional trauma of witnessing oneself losing the battle to live. As Dr. Ronald Cranford, then president of the American Society of Law and Medicine, once explained to an audience of doctors and medical students, "There's a great deal of suffering. And doctors are doing it. Those doctors will say, 'We're not in the business of

killings.' But we're sure not in the business of prolonging suffering, and that's what we're doing" (Formanek, 1988).

When the major degradation of the body begins to reach critical irreversible stages, aversive stimuli of many kinds may emanate from various loci within the body, often combining into a systemic torment that exceeds in magnitude anything previously experienced. A patient may characteristically exclaim that "I didn't know it was possible to feel this bad."

The physicians could preclude or end this irreversible suffering, perhaps at the patient's request, but in most cases, as long as the patient remains conscious, the doctors let it continue, even when the patient begs to die. While the literature of torture contains accounts of elaborate contrivances to intensify and prolong human agony, the most diabolical schemes seldom approach the prolonged horror of slow "natural" death, for example by cancer wherein severe unabating agony increases at a glacial rate determined by the fission and growth of individual cells within tumors. Such dying, usually over a period of many months, can make the ancient torture of death by ten thousand tiny cuts, which usually kills in a matter of days, seem like mercy killing. The physicians preside over these episodes of slow dying, and typically insist, whether on moral or legal grounds, that they cannot act to produce a quick and painless death, although most physicians, overwhelmed by confrontation with the prevailing strong natural contingencies, will at least drug the patient into a stupor until the patient's body fails for any kind of reason that can be called *natural*.

The doctors can be reduced to pathetic deceptions when they discuss the treatment "options" with a naive and perhaps still hopeful patient whom they know cannot be saved, such as a recently diagnosed lung cancer patient with early but spreading metastasis and for whom the latest ultraexpensive "miracle" drugs are economically inaccessible under a government-endorsed capitalist economic system. The truth, half told, has been called the cruelest lie of all. The doctors may withhold or substantially moderate the dim prognoses attached to suggested treatments. At the same time, when dealing with that patient's friends and relatives, the doctors are aware of ways, within the scope of acceptable medical ethics, in which the patient's course of deterioration can be steered toward the condition definable as "dead." They are not always explicit about that, but if pressed, the doctors may give assurances that a particular contrived pathway toward death is really not so bad (as those things go). By adjusting the palliative care and other treatments, doctors then direct the course of the patient's deterioration toward such a final systemic failure the course of which is contrived to appear at least somewhat natural.

Most of those options are indeed less prolonged and horrible than the alternatives. For example, a favored rec-

ommendation for the death of patients with certain kinds of lung cancer has been to let pneumonia develop (untreated) so that the lungs will gradually fill with fluid, and the person can slowly drown, ...preferable because that approach to death, typically spanning from one to a few days, is relatively rapid compared with the much slower alternatives. Death by untreated pneumonia has also been a favored option for terminal leukemia patients. Dr. Deward Viner, an earlier advocate of patient's rights to reject further treatment, was quoted as saying that "people are starting to believe again that pneumonia is the old man's friend" (Burleigh, 1988). But the slow suffocation, often of a conscious or semi-conscious patient, can take from many hours to days while loved ones hover nearby and watch, and the patient, at least while still able, can watch them watch.

Dramatists who want to suggest a circumstance worse than oneself being put to torture have traditionally resorted to the device of forcing the person to witness the torture of a loved one. It is over just such real-life scenes that doctors now often preside in accordance with contemporary law and medical ethics, both of which have been substantially informed by prevailing cultural superstition, especially religiously endorsed assumptions about the putatively mystical nature of life. Untold numbers of dying patients have gone to their deaths in a state of horrible emotional agony precipitated merely by their being forced to witness the effects of their own slow dying on intimates and loved ones whom they can no longer protect and comfort. When the prolonged suffocation by pneumonia, of an intermittently conscious patient, is touted as a preferable way to die while under medical care, something seems wrong with medical care.

The ironic truth is that many doctors, caught in these situations, have, in fact, injected the drowning persons with semi-lethal doses of morphine depressants. That weakens the capacity of the patients' bodily systems to compensate for oxygen starvation and hastens heart failure. But that step is usually taken only after the patients have slipped into permanent or intermittent unconsciousness *after having endured what is often the full measure of suffering that their fading capacities for awareness would permit*. Euphemistically the action is described as sedating the patient perhaps to render the person "more comfortable." It puts patients to sleep and kills them sooner than their diseases would have killed them, yet everybody can pretend that the patient merely died of pneumonia, an exercise that has the convenient characteristic of superficial truth but also the more important characteristic of being acceptable as a "natural cause" from the unsophisticated common perspective.

Across the previous decades, sympathetic courts have generally tolerated such medical practices by accepting that kind of stretched logic—a judicial course that has been justified on the basis of the compassionate practical-

ity of the outcomes. As Collins (1987) could write nearly twenty years ago, "It is probably rare now that a terminal patient's dying is extended beyond what the patient or the family wishes."

But "terminal" does not apply until the dying individual is already nearly or totally person-dead anyhow. By that time most of the extended horror has already been experienced by all parties—days, weeks, or months of it—even years in rare cases. With each kind of slow but lethal disease lending itself to its own preferred kind of peripherally acceptable accelerated death, physicians will tend to choose one (and in some cases even recommend it), for example, the renal failure that has been touted for patients whose cancer has resulted in urethral obstruction. It is true that if the accumulating urine were diverted so that renal failure did not occur, the ultimate death of the patient due to the further growth of the cancerous tumor would be even slower and more painful. But those who would take relief from that reassurance should go watch some still conscious person die of renal failure. Given a realistic preview of what awaits them along the path of prolonged dying, many people, to the extent that they were unimpeded by mythological theories, would probably opt for an instantaneous end before having to embark on that progressively aversive journey.

A national survey (Payne, Taylor, Stocking, & Sachs, 1996), distributed to 250 physician members of the American Academy of Neurology and to another 250 from the American Medical Directors Association, revealed that 13 percent believed that patients in the persistent vegetative (PVS) state have awareness and experience hunger and thirst, while 30% believed that they experience pain. These conclusions about various behaviors of consciousness such as awareness of pain, hunger, and thirst are typically products of faulty psychological and religious theories about the nature of behavior and how it functions. Some versions feature assumptions of presumably vital self-spirits immured in near dead bodies—ethereal entities that have always been responsible for consciousness and continue with the functions of consciousness even though the body can no longer exhibit any outwardly evident behavioral manifestations of that consciousness activity.

Consciousness, however, is merely a kind of behavior, and, like any kind of behavior, it either happens, or it does not happen. But insofar as its occurrence is consciousness per se, it cannot be happening in the background of consciousness (i.e., if it is an absent event, it cannot also be a presently occurring event). Absent the occurrence of the behavior of knowing, there is no further level of such knowing behavior that can occur "unconsciously" (there is no such thing as unconscious consciousness).

A persistent vegetative state (PVS) is not a mere muscular paralysis that leaves the nervous system unimpaired and able to maintain the functions of consciousness. On

the contrary, a pvs is established by the onset of person-death, which includes the permanent cessation of all forms of conscious behavior—a cessation that results from certain physiological breakdowns that preclude any further establishment of the relevant environment-behavior functions involving the part of the body that behaves consciousness. The onset of a pvs can nevertheless leave intact the capacity for some primitive reflex behaviors, so any occurrences of reflex forms that previously have accompanied the behaviors of now absent awareness and other forms of consciousness, but which can be exhibited without the concomitant occurrence of conscious behavior, may lead to mistaken inferences that the brain is continuing to behave consciously. However, reflexes teased from a person-dead body involve behavioral systems that have nothing directly to do with the behaviors of consciousness and can occur completely independent of them, and in cases of pvs, occur without them.⁸

Forty-nine percent of the approximately 300 respondents agreed that a pvs patient should be considered dead. Fewer than nine percent of the survey respondents believed that respiratory failure, cardiogenic shock, acute renal failure, or cancer should be treated aggressively if they develop in pvs patients. Almost two thirds believe that it would be ethical to use vital organs of patients in pvs for transplantation, and 20% believe that hastening death with lethal injections would be ethical (but only after treatment, food, and water had been stopped and death was inevitable). If we can accept that pvs patients have really lost the capacity to behave in the various ways that we describe as being conscious, then not one of the actions to withhold treatment that these physicians were willing to support could provide any relief whatsoever to a patient, because the suffering of a patient would have run its full course before the patient lapsed into the permanent unconsciousness of the pvs. The whole debate on these potential medical practices does not even pertain until the patient has been compelled to experience the often extended and full measure of pain and anguish that the patient's disease or trauma can afford.

⁸ Such respondent behaviors played a major deceptive role in the recent and highly publicized case of Terri Schiavo, an adult married woman who after an event that left her largely "brain dead" was maintained in a person-dead but bodily-alive state for about 15 more years in the absence of any evident capacity for operant behavior. Under a court order she was eventually starved to death across a 13-day interval as a way of bringing that superstitiously extended episode to a relatively "compassionate" and "natural" end. In 2006 an internet search for "Terri Schiavo" via www.google.com found about 6,000,000 hits, most of which pertain to this especially protracted episode of differential dying.

In the United States of America we have learned to be tolerant of the mythology entertained by our neighbors, generally in proportion to the harmlessness of its implications. But when a mythology becomes popular, its numerous adherents collectively arrange powerful controls, often involving the forces of law and government, to insure the free play of the implications of that mythology, even when those implications affect other people. No matter that, at root, the popular mysticism represents an intellectually puerile simplification, nor that its implications include the enforced prolongation of the terrible agony of individuals whose misfortune is to face slow dying. Conflicts among peoples' beliefs are not amenable to resolution according to their relative strengths. It is only via the analytical treatment afforded by the emergent behaviorological field of qualitative knowing that such resolutions can be realized objectively.

Among people who become involved with death and dying only a small fraction of them typically will have had much relevant experience. Most enter into such episodes with little relevant prior conditioning. Naturally, they tend to defer to the judgment of professionals who deal regularly with such matters. Patients, concerned friends, and relatives tend to accept the wisdom of a doctor, not only on technical matters, but with respect to ethical issues as well. The result can be that intelligent, loving, caring, otherwise rational people find themselves parties to episodes of prolonged, pointless, and unnecessary agony suffered by their loved ones, all carried out under the umbrella of impractical ideologically-based ethics and the laws that enforce them. And if those people subsequently recognize, in that sense, what they have done, they tend strongly to resent having been made a party to inflicting something that awful on a loved one. Belatedly they may realize that their contact with prevailing medical ethics had the effect of significantly dehumanizing them.

Conclusion

Behaviors that respect a person's access to reinforcers are regarded as ethical by the beneficiary of that respect. An individual's repertoire of such conditioned behaviors of respect is said to represent one's ethics. Because an ethical behavior acquires its ethical status from the perspective of its classifier, a response that is regarded as ethical by one person may not be regarded as ethical by another person. As is true of all behavior, the qualitative assessment of a putatively ethical response depends on the implications of its consequences or outcomes.

A stimulus that is destined to become a reinforcer the access to which can then be involved in investing certain related behavior with ethical status can be selected for such a destiny on the basis of a person's philosophical assumptions (as when a person comes to value a particular icon on the assumption that it represents an important

deity with whom that icon has been associated in cultural lore). Assumptions are behaved both by persons who rely on objectivity and by persons who rely on superstition. On the one hand, philosophical assumptions may arise as inductive leaps from specific instances of objectively contacted evidence. However, they may just as readily arise to support speculative accounts in the absence of objective evidence. An example of the former is the assumption that any real current event has a functional history that theoretically can be traced objectively back through diverging chains of functional linkages ad infinitum. In contrast, an example of the latter is the assumption that a current event can be traced back through its functional history only as far as yesterday afternoon at 2:17 P.M., at which time the entire universe, including various kinds of intact records of a much longer history, is assumed to have been created instantaneously by a powerful deity.

The former assumption may inform the actions of political leaders who are allocating substantial government resources to educational programs in history, archaeology, geology, and other objectively grounded fields that probe the mysteries of antiquity. In contrast, the latter assumption may inform the actions of other leaders who regard indulgence in such fields of study as a grand fallacy and would divert those same substantial resources to educational programs of ideological indoctrination that stress fervent efforts to divine the will of that deity and teach how that deity can be appeased via programs of reverential deference. These very different courses of practical action stem from the two divergent assumptive classes, as do their very different implications for the culture and the ultimate well-being of its people.

Among the ethical prescriptions of the former leaders may be the stricture that public resources be allocated only to objectively informed activities, while among the ethical prescriptions of the latter leaders may be the requirement that public resources be allocated only in ways that comport with the divined will of the deity, the revelation of which is seldom evaluated according to objective criteria. Ethics that derive from superstitious foundations may by chance prescribe behavior that is absurd at a practical level of consideration from an objective perspective.

In this essay we have examined the plight of doctors who too often have experienced an ethical indoctrination that is characteristic of the superstitious cultural mainstream. The prevailing superstition-based values and related ethics pertinent to the matters of death and dying with which many doctors must routinely contend can be quite different from the values and ethics that the natural contingencies of medical practice tend to impose upon them or, alternatively, that would follow from an objectively derived ideology. Trained in modern medical science, but not in the natural science of behavior, contemporary doctors must work in a social environment that operates with

ethical prescriptions that are derived largely from traditional superstitious assumptions. To behave rationally at a practical level, doctors with such a personal conflict often engage in elaborate exercises of self-deception. Such activities circumvent the inhibiting effects of the superstition-based conditioning that passes for social and behavioral training in most contemporary medical schools.⁹

However, in many cases that circumvention fails to occur. In such cases, a doctor continues rigidly to pursue, for fundamentally superstitious reasons, a course of treatment the particulars of which comport with the objectively derived principles of physics, chemistry, and biology but which, because of superstitious behavior-related assumptions, may perpetuate the agony of a helpless patient as well as of others who have an emotional investment in the quality of that patient's existence.

Arguably, the circumvention of unsuitable ill-derived ethics via self-deception, as well as the unreliable trend that via liberal court decisions chips away piecemeal at legal requirements for the imposition of such harmful ethics, are both poor substitutes for a complete range of proper medical training and its legal address by an objectively informed government. Currently a medical student is trained, in general, how to perform medical procedures that are informed by the traditional basic natural sciences (i.e., physics, chemistry, and biology). But in dealing with human behavior, which is a substantial aspect of medical practice, doctors are trained in social and behavioral science that is informed largely by superstitious philosophy, both secular and religious. Secular versions are typically based on the fundamental assumption that the behavior of a body is managed and controlled by a responsible self-agent. In religious versions the behavior of a body is typically presumed to be managed and controlled by a similarly agential *soul* that derives its special designation as such from the further assumption that it, in turn, is controlled to some extent by, or is responsible to, a remote deity.

All such body-managing agents are simply conjured as seemingly necessary to complete objectively deficient accounts for behavior. In most cases, those incomplete accounts have rather glaring gaps where environment-behavior functional relations have been omitted in the absence of the particular basic natural science that is nec-

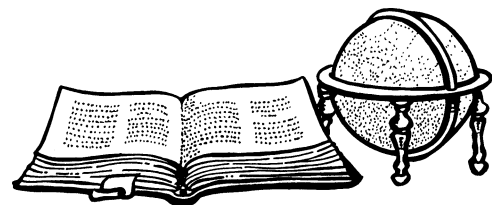
⁹ Some doctors as well as other kinds of practitioners may be prepared to behave objectively with respect to behavior-related matters, but are forced to engage in prevailing superstition-based practices under punitive contingencies of imposed law or policy. As such, those doctors are victimized as are their patients. The current discussion, however, pertains to doctors who are caught in personal intrinsic conflicts that result from their own inconsistent conditioning histories.

essary for their inclusion. The results on medical practice of such explanatory recourse to superstition are predictable, and some of them have been explored in this essay. The natural science of human behavior exists, but until behaviorology is included in medical training curricula in place of the current superstition-based behavior-related program, many doctors whose physics-based, chemistry-based, and biology-based procedures may be helping their patients are likely to continue presiding over the arguably pointless torment of those patients with respect to certain behavior-related matters.✻

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TIBI Online Syllabus for BEHG 365: Advanced Behaviorology I

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[This is another installment in the series of syllabi for TIBI's online courses. Each syllabus appears in *Behaviorology Today* basically in the same form as it appears online. The series continues whenever there are syllabi that have yet to be printed, or that require reprinting due to substantial revisions. Locate additional syllabi through the *Syllabus Directory* at the back of the most recent issue.—Ed.]

Note #1: This syllabus contains some notes that supplement the more traditional syllabus parts. Each note is numbered for convenient reference. Some notes, like this one, have multiple paragraphs.

This syllabus is a long document. It is longer than a syllabus for a face-to-face course as it contains material that the professor would otherwise cover in person. *Hence it was designed to be printed out for reading!* Furthermore, it was designed to be used *as a task check-off list.* Please print it out and use it these ways.

The only activity in this course for which you might need access to a computer is to print this syllabus as a reference for how this course works so you can follow the directions to complete this course. This is a matter of access, student access to education, so that everyone who wants this course can take it regardless of whether they own several computers or only have access to one in their local library or in a friend's home.

Students can, if they wish, study the topics of this course free of charge, perhaps to fulfill their own interests. They would do so simply by completing the activities described in this syllabus.

Students can also study the topics of this course for TIBI (The International Behaviorology Institute) credit, perhaps toward a TIBI certificate. They would do so by paying the necessary fee to be assigned a professor to provide feedback on, and assessment of, their efforts. (This course can be part of several TIBI certificates. Contact TIBI or visit www.behaviorology.org for details.)

Also, students can study the topics of this course for regular academic credit; they would do so by contacting any accredited institution of higher education that offers behaviorology courses accepted by TIBI, such as the State University of New York at Canton (SUNY-Canton) at

www.canton.edu which is SUNY-Canton's web site. TIBI automatically accepts A or B grades from the academic-credit version of this course as equivalent to its own course toward its certificates (and C and D academic-credit grades can be remediated through TIBI for TIBI credit; contact TIBI for details). Alternatively, the work done completing this course, for free or through TIBI, may make taking the course for academic credit easier.

The parts of this syllabus cover many topics. While the headings may be different, these include (a) the course content and objectives, (b) the text, study, and assessment materials, (c) the grading policy, (d) the necessary work-submission methods and professor feedback, and (e) the study-activity sequence and completion timelines.

Note #2: The prerequisites for this course are BEHG 101: Introduction to Behaviorology I, and BEHG 102: Introduction to Behaviorology II. These prerequisites are waived for majors of other natural sciences who hold at least upper-division status. If you are not a major of another natural science holding at least upper-division status, and have not had these prerequisite courses (or their academic-credit equivalents such as SSCI 245: Introduction to the Science and Technology of Behavior, and SSCI 345: Applied Science and Technology of Behavior, from SUNY-Canton), then you need to take them before taking the current course.

Course Description

BEHG 365: Advanced Behaviorology I. "Advanced Behaviorology" is a two-course sequence, for majors in behaviorology or any other natural science, that covers *in detail* most of the major variables of which the behavior of human and other animals is a function, with the emphasis on increasingly complex human behavior. This first course of this sequence covers not only the wide range of pertinent and accessible environment-behavior functional relations, but also the naturalistic philosophical foundations of the discipline as well as the research methodology involved in discovering the independent variables in these relations and engineering them into sophisticated applications and interventions beneficial to humanity. Related course topics include (a) classifying behavior, (b) avoiding explanatory fictions and analytical fallacies, (c) experimentally manipulating independent variables of behavior, (d) measuring, recording, graphing, and interpreting behavior-related data, and (e) turning the prediction and control of behavior into beneficial engineering practices emphasizing postcedent processes. A preview of the contents of the "Advanced Behaviorology II" course is also part of this course.

Note #3: To check out other behaviorology courses offered by TIBI, visit their locations on the TIBI web site

(www.behaviorology.org). To check out other behaviorology courses offered by SUNY-Canton, see the list and descriptions—and in some cases, the syllabi for the asynchronous versions—on the faculty web page of the professor who teaches them (which currently is Dr. Stephen F. Ledoux; click Ledoux in the faculty directory at www.canton.edu).

Course Objectives

The main objective of this course is to *expand the student's behavior repertoire* measurably in relevant areas of behaviorological course content. The student will:

✦ Describe the main characteristics of the naturalistic philosophical foundations of behaviorology, comparing the outcomes these foundations promote with the outcomes promoted by the superstitious alternatives;

✦ Differentiate between (a) valid scientific analyses and (b) explanatory fictions or (c) analytical fallacies, specifying the problems and dangers inherent in explanatory fictions and analytical fallacies;

✦ Account for the origins of explanatory fictions and analytical fallacies, explaining the variables that maintain these problems and designing interventions to curb the effects of the variables originating and maintaining these problems in everyday contexts;

✦ Classify the different types of behavior, enumerating the differences that lead to different classifications;

✦ Delineate the major variables of which behavior is a function, focusing on complex human behavior in the full range of pertinent and accessible environment-behavior functional relations;

✦ Describe the experimental research methodologies involved in discovering the independent variables in environment-behavior functional relations, stressing the variables pertinent to practical interventions;

✦ Enumerate the appropriate methods for measuring behavior, including methods for recording, graphing, and interpreting behavior-related data;

✦ Demonstrate the experimental manipulation of independent variables in processes that alter behavior frequencies, clarifying any differences between variables in basic and applied research settings;

✦ Design engineering applications, beneficial to humanity, of behaviorological principles and practices, emphasizing interventions involving postcedent processes;

✦ Investigate the misuse of science (using science against humanity), elaborating a range of practices and interventions to reduce such misuse.

Additional Objectives

✦ Successful, A earning students will use (at an accuracy level of 90% or better) basic disciplinary terminology both when discussing behaviorological knowledge,

and when applying behaviorological skills, relevant to basic and applied research and interventions.

✦ Such successful students will also ask questions, seek answers, converse about, and act on the uses and benefits of this discipline for humanity.

✦ Such successful students will also behave more effectively in other ways with respect to themselves and others.

Required Materials (in their order of use)

✦ Fraley, L.E. (in press). *General Behaviorology: The Natural Science of Human Behavior*. Canton, NY: ABCs.

✦ Fraley, L.E. (manuscript). *Repertoire Builder for Chapters 1 through 13 of "General Behaviorology: The Natural Science of Human Behavior."*

Recommended Materials

These are references to materials that, while *not* required for the course, may also be of interest to those who wish to go deeper into the course topics and extensions:

✦ Ledoux, S.F. (2002). *Origins and Components of Behaviorology—Second Edition*. Canton, NY: ABCs.

✦ Skinner, B.F. (1953). *Science and Human Behavior*. NY: The Free Press.

✦ Skinner, B.F. (1974). *About Behaviorism*. NY: Alfred A. Knopf.

Note #4: You can order the required *books* through the publisher, ABCs, at 315-386-2684. You may order the recommended materials through the online bookstore at www.behavior.org which is the web site of the Cambridge Center for Behavioral Studies, or at your local bookseller.

Also, this course is grounded in the Shaping Model of Education which is informed by behaviorological science (rather than the Presentation Model of Education which is informed by psychology). In the shaping model, teaching is not seen as mostly talking (nor is learning seen as mostly listening). Instead, teaching is the scientifically grounded design, arrangement, and application of educational materials, methods, and contingencies in ways that generate and maintain small but continuously accumulating behaviors the short and long range consequences of which are successful in producing an ever wider range of effective responding (i.e., learning) on the part of the student.

Grades

Grading policy does not involve curves, for you are not in competition with anyone (except perhaps yourself). That is, all students are expected to produce the academic products demonstrating that they have, individually, achieved at least mastery of the subject matter, if not fluency. Therefore, all students are expected to earn an A or a B (although inadequate products will produce a lower result that requires remediation before it can become a passing grade). Also, all students will receive the

grades they earn. This holds even if the expectation for which the course is designed—that all students earn *As*—is met: If all earn *As*, then all receive *As*.

Passing grades are limited to *A* and *B*, and are earned according to the amount of assigned work that is successfully completed:

✂ Earning an *A* consists mainly of satisfactorily completing 90% or more of the work on all assignments.

✂ Earning a *B* consists mainly of satisfactorily completing more than 80% of the work on all assignments (but not more than 90% on them).

For convenience a point-accumulation system is invoked to keep track of progress through the course. All but one of the 14 assignments (one on each of the chapters numbered 1–13 plus the Introduction Chapter) in the *General Behaviorology* book are worth 15 points each, for a total of 195 points. The assignment on the short Introduction Chapter is worth 5 points. This provides a grand total of 200 possible points. The percentage used to consider what grade you are earning is the percentage of these possible points that you actually earn.

However, point accumulation is not the grade determiner but is merely used as a convenient way to track progress *on the presumption that all course tasks are in progress*. This is because doing work on *all* of the tasks for the course is the more relevant determiner of grades than is the accumulation of points. (For example, a student who tries to accumulate just enough points, on some easier tasks, to get a *B*—while ignoring other course tasks—would not that way actually meet the criteria for a *B* and so would have to continue and complete all the required work satisfactorily to earn one of the passing grades.)

Also, students should expect to be asked occasionally to complete various test-like assessments. The level of success on these assessments helps gauge the extent to which the work on the course assignments is actually producing the learning implied by the completion of that work.

These practices are in place because the scientific research—data based Shaping Model of Education recognizes the student/professor relationship as a professional relationship in which coercive practices (i.e., aversive educational practices) are seen as inappropriate (so long as extreme conditions do not exist making such practices unavoidable). Instead, the more effective, efficient, and productive non-coercive practices of carefully designed and sequenced assignments emphasizing added reinforcement for timely work well done is generally seen as more appropriate. So, your effort and cooperation are expected and presumed; please do not disappoint either your professor or yourself.

About Using the Text & Repertoire Builder Book

Unless specified otherwise, you need to write out your answers in longhand. The reason you are to write

out your answers by hand is that this type of verbal response brings about more learning than merely saying—or even typing—the answer. This is because—as taught in another advanced behaviorology class (i.e., BEHG 355: Verbal Behavior I)—writing the answer in longhand involves both point-to-point correspondence and formal similarity between the stimuli and the response products of the answer.

The General Behaviorology Book

The *General Behaviorology* textbook carefully and comprehensively examines and describes the natural science discipline of behaviorology. Always consistent with the naturalistic philosophical foundations of the discipline, the author not only covers in detail the major variables involved in the wide range of pertinent and accessible environment-behavior functional relations, with the emphasis on increasingly complex human behavior, but also covers the research methodology involved in discovering the independent variables in these relations and engineering them into sophisticated applications and interventions beneficial to humanity.

The Repertoire Builder Book

The *Repertoire Builder* book was prepared to help you master, and even become fluent in, the material from each of the chapters in the *General Behaviorology* text. You are to complete each text chapter's section of the *Repertoire Builder* book in the sequence assigned. Learning occurs when responses are made (like writing question answers) and reinforced, especially responses that automatically provide their own reinforcing consequences (like being right) as does writing out question answers correctly. You complete the assigned sections, *after reading the chapter through*, by *writing out* your responses when you come to the relevant part as you *reread* the chapter. You *write out* the responses right in the *Repertoire Builder* book. Write out your responses in full sentences that incorporate any questions (and preferably in your own words).

The *Repertoire Builder* book starts with a section titled To the Student and Teacher. *Read this section first!* It explains more on how to use the *Repertoire Builder* book successfully. *Repertoire Builder* book assignments are provided in the *Assignment Sequence* section. Submit your work according to the method specified in the *Submitting Your Work* section.

Note #5: Since you are to write out your responses directly in the *Repertoire Builder* book, you need to have your own *Repertoire Builder* book. To assure that this is followed by everyone equally, you need to fill out and send in to your professor (by regular postal mail) the original ownership form in the rear of your *Repertoire Builder* book.

Submitting Your Work

Different assignments have different work submission methods. These only apply if you are taking the course for TIBI credit. (Any addresses and phone/fax numbers that you may need will be clarified upon enrollment.)

To submit your *Repertoire Builder* book responses, which generally must be hand-written, you can scan and fax to your professor the pages that have your responses for each assignment. However, your professor would prefer that you photocopy those pages and send them to your professor by regular postal mail.

For every assignment you are to keep the original of your work. This insures against loss and enables you and your professor to communicate about your work (as you will then both have an identical copy). Note, however, that for the *Repertoire Builder* book responses, email and email attachments are neither reliable enough, nor identical enough, for this purpose, so they are not to be used for this purpose.

Your work will be perused and points will be allocated according to the quality of your work. Should any inadequacies be apparent, you will be informed so that you can make improvements. While sometimes your professor will provide a metaphorical pat on the back for a job well done, if you do not hear of any inadequacies, then pat yourself on the back for a job well done even as you continue on to the next assignment.

Assignment Sequence

Students should work their way through the course by reading and studying the texts and materials, and sending in their work for each assignment. The slowest reasonable self-pacing of the coursework (presuming a typical 15-week semester) is this sequence which can be used as a check-off list:

- Week 1: The *General Behaviorology* book, Preface & Introductory Chapter.
- Week 2: The *General Behaviorology* book, Ch. 1.
- Week 3: The *General Behaviorology* book, Ch. 2.
- Week 4: The *General Behaviorology* book, Ch. 3.
- Week 5: The *General Behaviorology* book, Ch. 4.
- Week 6: The *General Behaviorology* book, Ch. 5.
- Week 7: The *General Behaviorology* book, Ch. 6.
- Week 8: The *General Behaviorology* book, Ch. 7.
- Week 9: The *General Behaviorology* book, Ch. 8.
- Week 10: The *General Behaviorology* book, Ch. 9.
- Week 11: The *General Behaviorology* book, Ch. 10.
- Week 12: The *General Behaviorology* book, Ch. 11.
- Week 13: The *General Behaviorology* book, Ch. 12.
- Week 14: The *General Behaviorology* book, Ch. 13.
- Week 15: (This is a spare week to use to complete any unfinished work.)

Do the assignments in this sequence, even if you do them at a faster pace than the pace presented here. If you go slower than this schedule, assignments could easily back up on you to the point where insufficient time remains to complete them in a satisfactory manner.

Note #6: Be sure that everything you submit is readable and contains your name!

Note #7: The usual higher education workload expectation for a course is about 150 hours. (The typical face-to-face course features about 50 in-class contact hours with the university expecting about 100 more hours of additional study at the average rate of about two hours out of class for each hour in class.) This can be accomplished at rates ranging from about 50 hours per week over three weeks to about ten hours per week over the typical 15 weeks of a semester. Of course, some students may take a little less than 150 hours, while others may take more than 150 hours, to do the work to the same acceptable and expected standard.

You can—and are encouraged to—go through the assignments as rapidly as your schedule allows. This could mean spending a typical 15 weeks on the course. Or it could mean doing the whole course in as little as—but not in less than—three weeks, as one would progress through the *single* allowed course in a three-week summer school term. That is, you could work on the course anywhere from minimum part-time (i.e., at the rate of about ten hours per week, as described in the *Assignment Sequence* section) to maximum full-time (i.e., at the rate of about 50 hours per week).

If you are to be successful, you need to exercise some self-management skills by starting immediately and keeping up a reasonable and steady pace on the course work. You need to do this because your professor will *not* be reminding you that the products of your work are due; all the course work is set forth in this syllabus and so is automatically assigned. You are expected to follow through on your own. You need to set an appropriate pace for yourself (or accept the pace in the *Assignment Sequence* section) and adhere to that pace, and thereby get the sequence of assignments done and submitted to your professor. This will assist your success.

At various points in the course, you will be provided with feedback about your work. Upon completing all the coursework, you will be provided with your earned grade. (The grade is provided solely for the person whose work earned the grade.) We at TIBI are sure that the outcomes of your efforts to study this aspect of behaviorological science will benefit both you and others, and we encourage you to study further aspects. ☺

Personhood & Superstition

Part I

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[Presented here is the first of four related works. These works are (a) "The Nature of Personhood," (b) "More Implications of Misconstrued Personhood," (c) "Cultural Investment in Superstition," and (d) "Behavioral Engineering to Reduce Superstition." These four pieces are all excerpts from parts of "Person, Life, and Culture," a later chapter of the author's book, *General Behaviorology: The Natural Science of Human Behavior* (Fraley, in press). The relevance of these pieces to managing improvements in ongoing cultural concerns increases their interest to readers of this journal. The four pieces are presented, one or two at a time, in consecutive issues beginning with the Spring 2006 issue (Volume 9, Number 1).—Ed.]

The Nature of Personhood

In developing this section, let us cast it conveniently in the familiar language of the inferred environment. To begin, let us note that we distrust reports (even self-reports) of persons who we have reason to believe feel, hear, see, taste, or smell nothing relevant to an event, yet claim to be describing the reality of the event that presumably was not felt, heard, seen, tasted, nor smelled. If a person says credibly that "I sense *nothing*, yet I know what is happening," people tend to assign that report to the realm of intuition, speculation, conjecture, or assumption.¹

The distrust stems from the implicit absence, not only of simple awareness, but of recognition behaviors. That is, we intuitively accept that an experienced person, who *recognizes* an overturning car, may then behave an "un-

derstanding" that an automobile wreck is in progress (which is to comprehend what has been recognized merely as the disorientation of a car in relation to a roadway—a comprehension kind of response that is evoked by the recognition response), but we tend not to treat as equally reliable such "knowledge" on the part of a person whom we suppose could not have experienced any recognition behavior evoked by that car nor by changes in its relation to its environment. Absent such behavior, the reality of the car and its wreck remain unestablished. Thus, a report such as "the car that drove out of sight ten minutes ago is now wrecking," by a person who cannot be in current contact with that car is not regarded as an observation, although others may still treat that report as a credible assumption by the speaker.

Suppose that yesterday our speaker traveled that same road and discovered a dangerous situation that would probably cause an approaching car to wreck. When that speaker reports that "the car that drove out of sight ten minutes ago is now wrecking," let us suppose that the speaker is experiencing a vision of that car wrecking and is describing that imagined scene. In that case, the triggering energy that evokes the recognition and comprehension behavior is not entering the body via the ocular system. Instead the vision is being stimulated by energy from other neural activity in the brain. The person may have been behaving thoughts about that car before behaving a vision of it wrecking in which case we may say that those thoughts *chained* to the vision of the wreck, and we would conclude that the ultimate step in that preliminary thinking functioned evocatively to produce the vision of the wreck. The person, if appropriately minded, would perhaps report something like "I was thinking along other lines about that car when suddenly in my mind's eye I saw it wreck, although I was not actually there," or "as I was thinking about that car, its involvement in a certain kind of wreck came to me as a premonition."

The vision of the car wreck could also be evoked by external stimuli that need not be aspects of the car wreck. For instance, the vision of the car wreck may occur rather directly in response to another person's mand such as "What do you think is the current status of that car?"

¹ A description that is classed as a speculation or assumption may have a valid historical basis and represent a logical if hypothetical extrapolation of a sequence of past events with which the speaker had been in contact. Thus, in the absence of any current contact with a train, one may assert that "the train is approaching" if one is contacting a stimulus that has paired reliably with past contacts with trains (e.g., clock hands in a certain configuration). We distinguish between a *speculation* and a direct *report* on the basis of what currently is evoking it. A direct report of something features a tact of a sensation type of response

to an energy input from the environment. For example, if one behaves a vision of an approaching train in response to light energy impinging from without and then says "the train is approaching," that is classed as a direct report about the train (although it is more accurately a report about some neural behavior of the vision kind). However, if that same statement occurs as the functional culmination of some preceding private and chaining neural behavior, perhaps with its origin unspecified, that statement is deemed to be speculative or conjectural.

When parts of the brain are engaged in awareness, recognition, and comprehension reactions to aspects of what we call a behavior-controlling environment (whether the functional stimuli are external or internal to the body), it is incorrect to assume that *one's knowing that those neural reactions are happening consists of the detection of those kinds of private neural behavior by a somewhat autonomous person*. That sequence of private neural behaviors already *is* the detection per se. The essence of the agent called "the person," who in that incorrect assumption would implicitly have to detect (i.e., respond to) the specified sequence of neural behaviors, has no existence apart from the ongoing awareness, recognition, comprehension, and subsequent classes of neural behavior. That is, a "person" has no essence beyond those classes of private neural behaving. "We" *are* those neural behaviors, and our personhood does not, and cannot, transcend them (although, parts of our bodies may functionally exhibit various kinds of further sequential responding to them).

The great mystery of personal existence posed in the simple question "what am I," which has preoccupied philosophers since antiquity, is resolved as a class of behavior (i.e., the neural kind) that is executed by parts of the nervous system. There is no further level of consideration to which the analysis can be carried logically. One part of the body, consisting of some nerves, behaves in response to other events. The phenomenon to which people refer as *consciousness* or *sentience* consists of functionally determined neural behavior. While that kind of behavior can chain forward in a functional sequence, no further aspect of a *person* lies beyond that general class of neural behavior to engage in its further appreciation from an independent perspective. If the stimulating events happen to be the behavior being exhibited by some other part of the body in relation to environmental controls, the secondary level of neural behaving (behaving in that special neural way in response to the ongoing environment-behavior relations involving other parts of the body), is called *self-awareness*.

Those neural behaviors that collectively are called *consciousness*, *sentience*, or *thinking* (as these terms are most broadly construed) represent the end point in the definition of *person*. That is, those kinds of behavior are not mere *symptoms* of a body-managing self-agent in action. Such neural behavior *is* the most intrinsic level of a person's manifestation. That neural behavior, rather than implying the person, *is* the person.

Because such person-defining neural behavior occurs intermittently with changes in the capacity of the body to exhibit it and in response to the changes in the energy that stimulates it, a "person" manifests intermittently and with variance in magnitude. The *life* of a body is defined biologically, but a *person* is defined behaviorally.

The quality of personhood manifests as behavioral process, and thus waxes and wanes. When that kind of

neural behaving first begins to manifest within a body, that is the *person* coming into existence (i.e., the waxing of a person). A permanent cessation of that kind of private neural behaving marks the final termination of the person (i.e., person death as opposed to body death).

Insofar as a person is merely a class of behavior and all behavior occurs reactively, there can be nothing proactive (in the initiative sense) about a person. That is, the manifestation of a person is purely reactive, as is *all* behavior. This is the nature of a person, and that is why we say that persons do not *do* things, but instead merely *happen* (reactively). [In the author's book, in the chapter titled *Consciousness*, which came just before the chapter from which this piece was excerpted, the author had provided a wealth of detail elaborating this perspective.—Ed.]

The fact that *persons* (as opposed to live bodies) are purely behavioral in nature has certain noteworthy implications that have been addressed earlier and that we now review: First, one's personness manifests as ongoing behavioral processes and not as a body-managing or agential entity, ethereal or corporeal. Second, the person-defining behavioral phenomena manifest only as reactions to environmental stimuli.

A further implication of the purely behavioral nature of a person is that the termination of a person occurs merely as the cessation of certain kinds of behavioral processes. Thus, a body (a) that is maintaining enough physiological function to be regarded as still alive, and (b) that formerly mediated a person, can thus be outlasting in a physiological way the person whom it previously mediated. If such a body eventually regains the physiological capacity to mediate some of the former neural behavior that was the person, aspects of the former person may then manifest.

The previously developed definition of a person has pertained only to neural behavior. By that definition, the swing of an arm that throws a ball would not be a part of the person. Rather, the ongoing neural behaviors of consciousness that are functionally related to that arm swing would represent the person. If a realistic mannequin, which naive observers would mistake for that individual, executed a very similar throw of that same ball, perhaps in response to some internal computer programming, those who know that it is a mannequin would not regard it as the person whose throw it mimics. The previously developed definition of a person, in relying on private neural behavior, has an intrinsic or internalized quality as does the traditional notion of the somewhat autonomous self-agent. It is this internalized definition of *person* that prevails when a dying individual who has stopped exhibiting outwardly evident behavior is surrounded by concerned people one of whom may ask "Is he (or she) still there?" The question alludes to the dying individual's private neural behaviors of consciousness.

Another common definition of person broadens the previous definition to include the publicly evident operant behavior that a given body mediates. For example, a given *person* can be defined as the abstract total of *all* of the operant behavior that a particular body has ever produced (i.e., the total exhibited operant behavioral repertoire). This definition comports with the historical person insofar as it pertains only after the individual is behaviorally dead and alludes to all of the operant behavior that the body exhibited during its entire biological life. Alternatively, a living *person* can be defined as the behavioral repertoire that the host body is currently capable of mediating given the appropriate stimulation. This more narrow definition excludes all past behavior that, for whatever reason, is no longer possible, and any future behavior for which the necessary conditioning has not yet occurred. Still another common definition of a person pertains to the behavior that is presently occurring. Thus, what we could call the *current person* would be the operant behavior that that body is now mediating, a concept that supports remarks such as “stop being a spoiled brat and be a nice person for a change” or “this is more like the gracious person that you can sometimes be.”

Respondent behavior can be included in the previous definitions of a person, but it may be excluded or at least de-emphasized, especially the unconditioned kinds such as knee jerks, eye blinks, and salivation, which play little or no role in our discriminative responding to different persons. We are more likely to take conditioned respondent behaviors into account when defining personhood, for example an individual's conditioned emotional reactions to certain classes of events.

Note that the *person*, which manifests as behavior, is thus a process that is mediated by a live body. Therefore, a person can never be alive in a physiological sense. Instead, the person consists of concerted behavior that *happens* as behavior-capable body parts respond to innervation. To remain behavior-capable those parts must remain biologically alive, a state in which they can remain prepared to exhibit the behavior that defines the person.

Although behavior is process, all process has a physical basis in the sense that process happens to structure. Thus, the capacities to behave in particular ways inhere in conditioned and unconditioned neural microstructures that respectively can be activated only by specific kinds of energy inputs from the entirely natural behavior-controlling environment. Person-defining behavior is a kind of process that specifically reflects the microstructural entities that undergo that kind of neural activation. Those microstructures thus represent a kind of program (in the software sense) for the particular behaviors that, by occurring, cumulatively constitute a particular person.

The self-initiation of behavior, in the sense of a spontaneous moment of creative origination of behavior by some

kind of resident self-agent, remains a grand fallacy. No such proactive self lurks within a body to act as an agent of origination for behavior. Linguistic attributions aside, “I” do not initiatively *do* anything, and neither do “you” or “they,” because person-defining behavior happens automatically given the impingement of the appropriately innervational energy on an appropriate neural microstructure.

If that energy happens to be arriving from a source that consisted of a preceding neural behavioral event, that source event also will have occurred naturally and therefore cannot be characterized accurately in agential terms. Thus, a statement such as *I made myself see a kangaroo in my mind's eye by deliberately thinking over and over to myself the word “kangaroo”* refers both to real and fictitious events. The behavior of repeating the word is evoked by whatever events define the initially inadequate contingency to visualize that animal. When that repetitive subvocal behavior occurs, its evocative capacity supplements that of the stimuli featured in the originally insufficient contingency, and their combined evocative capacity is above the evocative threshold for the occurrence of the image, which is then behaved. On the occasion of a simple functional analysis the “I”-agent always evaporates in a wisp of redundancy.

Our environments often place us under contingencies not only to behave in some relevant way but also to provide a public account for that behaving. However, any explanation that circumvents functional relations represents invalid analytical shortcutting. But as long as accounts for behavior rely almost universally on invalid alternatives to the prevailing functional relations, such invalid explanations by an individual tend to carry no adverse qualitative implications that manifest via the socio-cultural reactions of others.

Progressively, however, that is slowly changing with respect to explanatory reliance on mystical self-agents. Especially with the emergence of behaviorology, the natural science perspective on behavior has produced a valid alternative that manifests in the behavior of the growing number of people whose conditioning insures it. Like other widespread but invalid ideas that had to await an overtake by the leading edge of scientific progress, the notion of the body-managing self-agent is drifting from a safe anchorage in the harbor of social security to a potential implication of intellectual deficiency. The human predilection for that kind of hindrance to intellectuality almost always connotes inadequate or misguided education but arguably may also be a propensity with biological roots. In any case, as the natural science of behavior advances on this front, *de rigueur* implications of personal reliance on spirits in accounting for behavior become less fashionable, especially in contexts that do not impose a contingency to assuage the conservative biases of those who remain invested in such superstitions.

Explanatory recourse to a fictitious body-driving agent can now indicate (a) an educational history that has left one unprepared to exhibit the objective alternative, (b) a deficient intellectual capacity that inhibits the conditioning of the appropriate analytical behavior, or (c) a personal investment in the implications of that fallacy that is too large to jeopardize. Such an investment may include the exploitation of opportunities to profit in some way by continuing to promote such an invalid idea.

The invocation of a behavior-originating agent establishes, albeit fictitiously, a recipient for blame or praise. Thus, the assumptive error of investing the body with a self-agent quickly compounds to the false notion of personal responsibility, which, in turn, justifies recourse both to attempted adulation of the putative self for good management and to attempted punishment of the putative self for what is construed to be errant management. Thus, the invalid concept of an intrinsically good or evil person continues as the perpetuated legacy of an ancient analytical error.²

In reality, the behavior of an individual, including the many kinds that define the person per se, is being controlled (in the functional sense) by the environment. Upon occurring, a behavioral response may prove either to be irrelevant, effective, or ineffective with respect to its consequences. With respect to social control, when we are confronted with irrelevant behavior, we can recondition the body to behave in different and potentially effective ways in the presence of the subject matter. Confronted with what to us seems like effective behavior, we can reinforce it sufficiently to maintain or increase its manifestations on similar occasions. Confronted with relevant but ineffective behavior, we can recondition the body to exhibit more effective forms of the behavior in the presence of the subject matter, typically through a standard shaping procedure.

In cases of irrelevant or ineffective behavior, we also can prevent the unreconditioned body from continuing to behave in those ways through either of two approaches. First, we can arrange a preclusion procedure that separates the body from the subject matter of concern (i.e., from the stimuli that produce such behavior). That prevents the pertinent energy transfer from environment to the behaving body parts, thus precluding the subsequent behavior that would have been controlled in that way. If the separation from the subject matter is maintained across a sufficiently long interval, the re-

sponse-capable body part (a dynamic system) will be undergoing a series of naturally occurring decapacitating structural alterations in what is called the *forgetting process*. Second, without engaging in practices of behavioral reconditioning, we can intervene in other ways that diminish or eliminate the capacity of the body to exhibit that behavior even though the behavior-triggering energy from the environment continues to impinge on the body. Options include the use of drugs, surgery, bondage, or the induction of sleep, coma, fatigue, or satiation.

Thus, the “I,” “me,” or “you” to which we so often refer does not exist as an agential entity. Instead the referent of those pronouns *happens* through a reactive behavioral process. The phrase “*whole person*” is not a reference to the whole body that behaves but rather to the repertoire of behavior that the body has been conditioned to exhibit under various circumstances plus the currently available behavior that for genetic reasons it was innately structured to exhibit on appropriate occasions.

Thus, the essence of a *person* manifests in behavioral *process*, not as an identifiable entity. *One* happens (behaviorally), but *one* does not have ontological status as some kind of entity regardless of the common practice of superstitiously conjuring spirits that are conceptually installed to serve as such entities. When Rene Descartes uttered his famous non sequitur, “*Cogito, ergo sum*” (“I think, therefore, I am”), the “sum” did not connote a body-managing entity, substantive or ethereal. The “cogito” was not evidence of “sum” as Decartes alleged but instead *was* the “sum.” With respect to the ontic status of “person,” to think is to *happen* but not to *be*.

Getting that simple distinction wrong has been an easy mistake down through the history of humankind, and that error has given rise to the many organized efforts to specify the nature of the putative self-entity and to endow it with properties that, not surprisingly, accommodate the predilections of the endowers. Because no such entity can be found through objective methods, whenever its presence would be convenient such an entity must be conjured, and it is usually cast in ethereal form, which discourages objective attempts to detect it.

Sociocultural Implications of a Misconstrued Personhood

Many of the world’s religions are constructed around reliance on such an erroneous construct of personhood, as are other contemporary cultural agencies such as government, law, and education, which tend to be based largely on secular versions of that fundamental fallacy. A scientific basic discipline has arisen to engage in the objective pursuit of the implications of that mystical basic fallacy without challenging the intrinsic mysticism of that foundation. Most followers of that discipline strictly adhere to scientific methods and on that basis lay claim to the kind

² While no self-agent exists to be responsible, we still speak of responsibility in the sense that behavior produces consequences: Praise as a potential reinforcer, and blame as a potential punisher, remain among the consequences which may then make the kinds of behaviors that produce them more or less likely to occur (Editor’s footnote).

of prestige earned by modern natural scientists, but they do so in the absence of a quality-controlling philosophy of naturalism. Thus arises the issue of what merit should accrue to the application of good scientific practice to answer the kinds of questions that tend to arise through an indulgence in superstitiously informed assumptions.

Currently, that kind of scientific foundation underlies many applied curricula in behavior related fields. Consider education, for example. Many people lament the failure of the schools to teach effectively while those same people continue, devotedly, to support an education establishment in which teacher training programs are based almost entirely upon a superstitious view of human beings and their behavior—a view that is widely entertained throughout the general population. A modern educator, so trained, begins the teaching task from a fundamentally mystical perspective on the nature of human beings and their behavior. Given that the evidence of effective teaching is change in the behavior of the student, and that the point of teaching is to produce that kind of outcome, teachers whose training results in their misconstruing the nature of the variables upon which their work must focus approach their job with a training-constructed disadvantage.

Although much is expected of such mistrained teachers, even their limited successes are remarkable. Money that is allocated to solve the problem of poor teaching typically insures that such misguided training occurs on a grander scale, with a broader scope, and with an even more thorough capacity for the indoctrination of new teachers with the popular behavior-related fallacies.

Most of the actual progress posted by contemporary teachers can be attributed to natural contingencies that compel some effective teaching behavior at a practical level in spite of a professional verbal repertoire much of which is divorced from reality. We do not expect our next generation of aircraft to be designed by persons whose training curriculum substituted superstitious nonsense about physical systems for the fundamentals of mechanical and aerospace engineering. Yet people have continued to expect improved teaching from educators whose training curriculum is based on superstitious fundamental notions that are substituted for valid concepts of behavior-controlling functions. Fallacious alternatives to functional analyses, no matter how scientifically they may be pursued, only by accident affect the variables that functionally determine the outcomes that people are under contingencies to produce... ❀

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Up-To-Date Syllabi in Current or Past Issues

- Volume 7, Number 2 (Fall 2004): BEHG 101:
*Introduction to Behaviorology I.**
- Volume 7, Number 2 (Fall 2004): BEHG 102:
*Introduction to Behaviorology II.**
- Volume 7, Number 2 (Fall 2004): BEHG 201:
*Non-Coercive Child Rearing Principles and Practices.**
- Volume 7, Number 2 (Fall 2004): BEHG 355:
*Verbal Behavior I.**
- Volume 8, Number 1 (Spring 2005): BEHG 400:
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- Volume 8, Number 1 (Spring 2005): BEHG 415:
*Basic Autism Intervention Methods.**
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*Performance Management and Preventing Workplace Violence.**
- Volume 8, Number 1 (Spring 2005): BEHG 425:
*Non-Coercive Classroom Management and Preventing School Violence.**
- Volume 8, Number 1 (Spring 2005): BEHG 475:
*Verbal Behavior II.**
- Volume 8, Number 2 (Fall 2005): BEHG 410:
Behaviorological Thanatology and Dignified Dying.
- Volume 9, Number 1 (Spring 2006): BEHG 365:
Advanced Behaviorology I.

Syllabi Planned for Future Issues

- Volume 9, Number 2 (Fall 2006): BEHG 470:
Advanced Behaviorology II.
- Volume 10, Number 1 (Spring 2007): BEHG 120:
Non-Coercive Companion Animal Behavior Training.
- Volume 10, Number 2 (Fall 2007): BEHG 250:
Educational Behaviorology for Education Consumers.
- Volume 11, Number 1 (Spring 2008): BEHG 340:
Educational Behaviorology for Education Providers.
- Volume 11, Number 2 (Fall 2008): BEHG 405:
Introduction to Instructional Practices in Educational Behaviorology.

- Volume 12, Number 1 (Spring 2009): BEHG 455:
Advanced Instructional Practices in Educational Behaviorology.
- Volume 12, Number 2 (Fall 2009): BEHG 445:
Advanced Experimental Behaviorology.

Syllabi Locations Listed by Course Number

- BEHG 101: *Introduction to Behaviorology I:*
Volume 7, Number 2 (Fall 2004).
- BEHG 102: *Introduction to Behaviorology II:*
Volume 7, Number 2 (Fall 2004).
- BEHG 120: *Non-Coercive Companion Animal Behavior Training:*
Volume 10, Number 1 (Spring 2007).
- BEHG 201: *Non-Coercive Child Rearing Principles and Practices:*
Volume 7, Number 2 (Fall 2004).
- BEHG 250: *Educational Behaviorology for Education Consumers:*
Volume 10, Number 2 (Fall 2007).
- BEHG 340: *Educational Behaviorology for Education Providers:*
Volume 11, Number 1 (Spring 2008).
- BEHG 355: *Verbal Behavior I:*
Volume 7, Number 2 (Fall 2004).
- BEHG 365: *Advanced Behaviorology I:*
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TIBIA has four categories of regular membership, of which two are non-voting and two are voting. The two non-voting categories are Student and Affiliate. The two voting categories are Associate and Advocate. All new members are admitted provisionally to TIBIA at the appropriate membership level. Advocate members consider each provisional member and then vote on whether to elect each provisional member to the full status of her or his membership level or to accept the provisional member at a different membership level.

Admission to TIBIA in the Student membership category shall remain open to all persons who are undergraduate or graduate students who have not yet attained a doctoral level degree in behaviorology or in an acceptably appropriate area.

Admission to TIBIA in the Affiliate membership category shall remain open to all persons who wish to maintain contact with the organization, receive its publications, and go to its meetings, but who are not students and who may not have attained any graduate degree in behaviorology or in an acceptably appropriate area. On the basis of having earned TIBI Certificates, Affiliate members may nominate themselves, or may be invited by the TIBI Board of Directors or Faculty, to apply for an Associate membership.

Admission to TIBIA in the Associate membership category shall remain open to all persons who are not students, who document a behaviorological repertoire at or above the masters level or who have attained at least a masters level degree in behaviorology or in an acceptably appropriate area, and who maintain the good record—typical of “early-career” professionals—of professional accomplishments of a behaviorological nature that support the integrity of the organized, independent discipline of behaviorology including its organizational manifestations such as TIBI and TIBIA. On the basis either of documenting a behaviorological repertoire at the doctoral level or of completing a doctoral level degree in behaviorology or in an acceptably appropriate area, an Associate member may apply for membership as an Advocate.

Admission to TIBIA in the Advocate membership category shall remain open to all persons who are not stu-

dents, who document a behaviorological repertoire at the doctoral level or who have attained a doctoral level degree in behaviorology or in an acceptably appropriate area, who maintain a good record of professional accomplishments of a behaviorological nature, and who demonstrate a significant history—typical of experienced professionals—of work supporting the integrity of the organized, independent discipline of behaviorology including its organizational manifestations such as TIBI and TIBIA.

For all regular membership levels, prospective members need to complete the membership application form and pay the appropriate annual dues.

Establishing the annual dues structure for the different membership categories takes partially into account, by means of percentages of annual income, the differences in income levels and currency values among the world's various countries. Thus, the annual dues for each membership (or other) category are:

<u>Category</u>	<u>Dues (in US dollars)*</u>
Board of Directors member	The lesser of 0.6% of annual income, or \$120.00
Faculty member	The lesser of 0.5% of annual income, or \$100.00
Advocate member	The lesser of 0.4% of annual income, or \$80.00
Associate member	The lesser of 0.3% of annual income, or \$60.00
Affiliate member	The lesser of 0.2% of annual income, or \$40.00
Student member	The lesser of 0.1% of annual income, or \$20.00

*Minimums: \$20 director or faculty; \$10 others

TIBIA MEMBERSHIP APPLICATION FORM

(SEE THE NEXT PAGE FOR THE TIBI / TIBIA PURPOSES.)

Copy and complete this form (please type or print)—for membership or contributions or subscriptions or back issues—then send it with your check (made payable to TIBIA) to the TIBIA treasurer at this address:

Dr. Stephen Ledoux
TIBIA Treasurer
SUNY-CTC
34 Cornell Drive
Canton NY 13617 USA

Check if applies:

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*Subscriptions: us\$20/year; back issues: us\$10 each.

**For Student Membership:

I verify that the above person is enrolled as a student at: _____

Name & Signature of Advisor or Dept. Chair: _____

TIBI / TIBIA Purposes*

TIBI, as a non-profit educational corporation, is dedicated to many concerns. TIBI is dedicated to teaching behaviorology, especially to those who do not have university behaviorology departments or programs available to them; TIBI is a professional organization also dedicated to expanding the behaviorological literature at least through the magazine/newsletter *Behaviorology Today* (originally called *TIBI News Time*) and the *Behaviorology and Radical Behaviorism* journal;** TIBI is a professional organization also dedicated to organizing behaviorological scientists and practitioners into an association (The International Behaviorology Institute Association—TIBIA) so they can engage in coordinated activities that carry out their shared purposes. These activities include (a) encouraging and assisting members to host visiting scholars who are studying behaviorology; (b) enabling TIBI faculty to arrange or provide training for behaviorology students; and (c) providing TIBI certificates to students who successfully complete specified behaviorology curriculum requirements. And TIBI is a professional organization dedicated to representing and developing the philosophical, conceptual, analytical, experimental, and technological components of the separate, independent discipline of behaviorology, the comprehensive natural science discipline of the functional relations between behavior and independent variables including determinants from the environment, both socio-cultural and physical, as well as determinants from the biological history of the species. Therefore, recognizing that behaviorology's principles and contributions are generally relevant to all cultures and species, the purposes of TIBI are:

- A. to foster the philosophy of science known as radical behaviorism;
- B. to nurture experimental and applied research analyzing the effects of physical, biological, behavioral, and cultural variables on the behavior of organisms, with selection by consequences being an important causal mode relating these variables at the different levels of organization in the life sciences;
- C. to extend technological application of behaviorological research results to areas of human concern;
- D. to interpret, consistent with scientific foundations, complex behavioral relations;

- E. to support methodologies relevant to the scientific analysis, interpretation, and change of both behavior and its relations with other events;
- F. to sustain scientific study in diverse specialized areas of behaviorological phenomena;
- G. to integrate the concepts, data, and technologies of the discipline's various sub-fields;
- H. to develop a verbal community of behaviorologists;
- I. to assist programs and departments of behaviorology to teach the philosophical foundations, scientific analyses and methodologies, and technological extensions of the discipline;
- J. to promote a scientific "Behavior Literacy" graduation requirement of appropriate content and depth at all levels of educational institutions from kindergarten through university;
- K. to encourage the full use of behaviorology as the essential scientific foundation for behavior related work within all fields of human affairs;
- L. to cooperate on mutually important concerns with other humanistic and scientific disciplines and technological fields where their members pursue interests overlapping those of behaviorologists; and
- M. to communicate to the general public the importance of the behaviorological perspective for the development, well-being, and survival of humankind.☺

Periodical Information

Behaviorology Today [known as *TIBI News Time* for the first 4 volumes / 8 issues], is the magazine of *The International Behaviorology Institute* (a non-profit educational corporation) and is published in the spring and fall each year.

Behaviorology Today and TIBI can be contacted through the Editor at these addresses and web site:

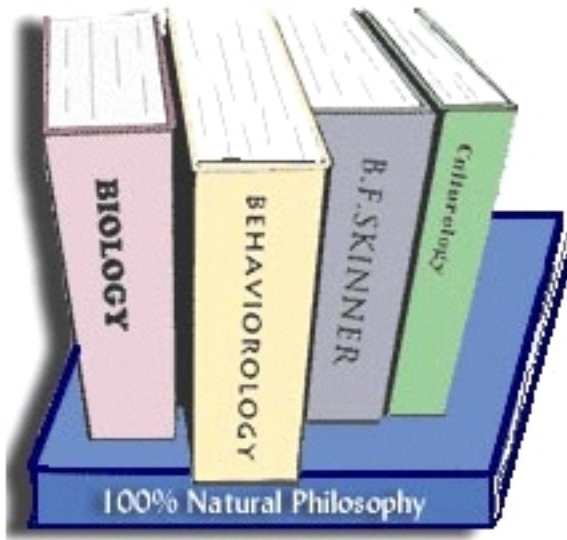
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To submit items for publication, contact the editor. Send items initially to the editor both by email (or disk) and by hard copy.

Authors' views need not coincide with official positions of TIBI. (Authors retain copyrights.)

*This statement of the TIBI / TIBIA purposes has been adapted from the TIBI by-laws.

**This journal (BARB) is under development at this time and will appear only when its implementation can be fully and properly supported.—Ed.



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