Behavior and Social Issues, 11, 108-197 (2002). © Cambridge Center for Behavioral Studies

CLASSIC ARTICLE

TOWARD A CONSTRUCTIONAL APPROACH TO SOCIAL PROBLEMS: ETHICAL AND CONSTITUTIONAL ISSUES RAISED BY APPLIED BEHAVIOR ANALYSIS

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Concepts of social power and its allocation are currently being applied to many social issues. In a related manner, questions are being increasingly raised with regard to the constitutional and human rights of prisoners, menta1 patients, and other subjects of institutional control.[3] It is only to be expected, given this intellectual and social climate, that behavior modification procedures used in institutions (and elsewhere) should come under scrutiny. These procedures, needless to say, have not been singled out for such examination, since their examination is part of a larger inspection. Nevertheless, the use of terms such as "control," "social control," "conditioning" and the explicit relation of the procedures to a conceptual system derived from the animal laboratory seem to

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[NOTE: This classic paper was originally published in 1974 in *Behaviorism, 2,* 1-84, by the Cambridge Center for Behavioral Studies. It is reprinted here with permission from the Cambridge Center, to make it more widely available to the contemporary scientific and practice community. Obvious typographical errors have been corrected, and the references reformatted for reasonable consistency with current APA style. Goldiamond clearly intended to use *programed* rather than *programmed*, and other similar variations, although the latter is now almost universal. Such usage has not been changed. Ed.]

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[2] This article was written with support from a grant from the State of Illinois, Department of Mental Health, entitled: "Self-control procedures: Variables in recording and intervention," which provided funds for the constructional research program discussed. The views expressed are those of the author.

[3] For example, the *New York Times* reports the formation of an American Bar Association Commission on the Mentally Disabled, whose chairman states that "We find a vast desert in which the rights and very lives of the mentally disturbed are affected without legal counsel." The same article (December 9, 1973) reports the ruling by a federal court that a patient cannot be committed "unless he is informed that conversations with a state psychiatrist could be used against himself." And an attorney for the New York Civil Liberties union states that "the mentally ill are entitled to the same constitutional rights and protections as criminals and other citizens."

And in case there are any questions about the procedures which criminals (and patients by analogy) are to be protected from, and about the effectiveness of the protests discussed, on February 14, 1974, the government banned the use of federal anticrime money for behavior modification projects for prison inmates, juvenile offenders, and alcoholics. Such projects funded by the Law Enforcement Assistance Administration, which were immediately terminated thereby included programs "based on Dr. B.F. Skinner's reinforcement principles." Not affected (as yet) by the L.E.A.A. ban are Bureau of Prisons projects which involve "principles of behavior modification," and NIMH grants funding programs for juveniles (*The New York Times*, February 15, 1974), and, of course, behavior modification programs with other populations.

make them targets of choice, as well as of opportunity. Any reader is aware of the heat which these terms have generated when used simply as part of a conceptual system and applied in the abstract to human behavior. There is nothing new about it. What is new is the joining of the old philosophical arguments to the current *use* of applied behavior analysis. This confluence is compounded by the application of the term "behavior modification" to a variety of questionable institutional practices whose proponents refer to the conceptual system and its application as justification. A renewed challenge to the conceptual system and its applications is now under way. It threatens to affect opportunities for basic research as well as for the development of socially useful approaches and instruments. It is not, accordingly, a trivial matter of concern only to students and practitioners of behavior modification.

An example of the heat generated by abstract application is given by the reviews of Skinner's (1971) book. With few exceptions, these were characterized by misunderstandings and less charitable distortions of human experimentation, behaviorism, and conditioning. No work, of course, is beyond criticism, but the reviews often told more of the postures of their authors than of the book reviewed. On a more practical level, Wexler (1973) has recently reviewed some relations between behavior modification and the law, with special emphasis on patients in mental hospitals. He has reflected some serious questions which have been raised about these procedures. Among these questions is the extent to which token economies, the potency of whose reinforcers may rely upon their deprivation, also deprive patients of their constitutional or human right to them. Wexler is not unmindful of the fact that elimination of such procedures may raise therapeutic problems. These questions and others he has noted have disturbed many members of the community of applied and other behavior analysts. These are genuine issues and Wexler has raised them with skill and understanding. His research has been thorough and his scholarship in both law and behavior analysis impressive. If the article is disturbing, it is nevertheless a relief to find a discussion of this nature free of the distortions, misunderstandings, or cant which have characterized too many other discussions. His review is, accordingly, an impressive and important contribution to the field and should be read for its major points, since only those germane to the present discussion will be considered here. The field of behavior analysis is fortunate to have come under scrutiny by a legal scholar who understands it.

One focus of Wexler's discussion, and the legal concern it reflects, is upon the constitutional issues (cf. Sen. Ervin, 1973) raised by agents of institutions who intentionally apply explicit behavior control techniques to what is, in essence, a captive population. This population, subject as it is to total institutional control, can be legally seen as under coercion and thereby deprived of constitutional rights to freedom to assent or dissent. The issue becomes critical when the arena for assent or dissent is submission to behavioral control procedures which may shape and control the direction of future assent, dissent and, indeed, choice itself. Philosophical counterarguments that *all* choice is so controlled are beside the point when viewed in terms of the stark constitutional problem involved. In question

form it might be stated: because a person has been classified as a patient, has an institution or its agents been authorized to deprive him of rights to assent or dissent, especially in those areas where the issue is to accept or not accept the implantation of the institutional value system over one's own? Our political system is characterized by a well-justified suspicion of the potential for damage when powers are concentrated and has attempted to separate and diffuse powers, to institute checks and balances, along with other safeguards including due process of law. To what extent are there such checks in an institution, and has due process been extended to specify which behaviors are within the institution's purview and which are reserved to the patient? What institutional safe-guards other than personal integrity and the sloppiness of the system exist against potential abuse? And if behavior modification is providing the powerful means of efficient control some of its adherents (and opponents, as well) claim for it, the mitigating slack is removed.

These questions are not idle ones. In my various trips around the country I have seen and received first-hand reports from various mental institutions. Some reports have been characterized by ingenious solutions which I have found helpful. But in one institution patients were sleeping on a bare floor because they were not participating in the institutionally decreed behaviors and thereby not getting the tokens by which they could purchase bed-space. What are the limits on deployment of consequences? In another, a drug abuser was diagnosed, upon commitment, as an "inadequate personality." It was decided to help her become more adequate by attaching consequences to shape her out of her Southern accent into a more businesslike Midwestern one. What are the limits on behaviors under purview? In yet another, the hospitalization of a patient for depression was related to the disintegration of supports *outside*: his wife had initiated divorce action, his partner had absconded with the assets of the firm, and his friends and adult children had deserted him. It was decided to alleviate his depression by reinforcing with attention activities (such as ping pong) specified on a posted list and to extinguish his legitimate references to impending doom by ignoring them. What are the limits on statement of contingencies? In all three cases the institutional agents were not trained in behavior modification, but the programs were approved as such by the institution.[4] In other cases, better trained people have been involved.

[4] It was a character by Moliére (1670) who had the insight one day that he had been speaking prose practically all his life. Analogously, I suspect that many laymen, reading one of the ever-increasing popularizations of behavior modification, or hearing the pep-talk at conventions or workshops, decide that they have been applying behavior modification all their lives. While some find benefit from such insight, for others the new terminology may simply sanction the application of aversive control which has characterized much of their control repertoire up to now.

The terminology has entered the soap operas. In *Love of Life*, one of the classics, Meg warns her daughter against falling prey to Meg's sister, Vanessa, whom she describes as follows: "She's a compulsive reinforcer, and you're the one she's elected to reinforce." Characteristically, these comments were made in the context of an explicit discussion of *control* and controlling tendencies, and Meg is evidently untrained in the use of the terminology. The typical soap opera contains at least one character whose views are consistently sensible, and the reader may take solace in the fact that Vanessa, the sister characterized as the compulsive reinforcer, is that sensible person. However, Meg,

Needless to say, professional inadequacy is not limited to any particular psychological orientation, but the issue is an important one in any discussion of ethics, legality, or human relations.

These three examples are attributable to inadequate training. The incompetence demonstrated parallels the cocktail party interpretation of dreams by someone who has read a psychoanalytic book on dream interpretation. It appears to be inevitable that abuses will have occurred, given the avidity with which behavior modification has been sought after and given the rapidity with which some of its procedures have spread. Given the existence of such a market, books and manuals for varying audiences have proliferated, and many of these make claims not supported by the present evidence or are less than adequate in other ways.[5] The public's lack of sophistication in this area also extends to identification of the field itself, so that brain surgery in order to change behavior is identified as a behavior modification procedure. The neurosurgeons, of course, might not so identify their own procedures, but practitioners of punitive and other controls often so identify their procedures. Experimental and applied analysts of behavior have reason to be concerned, as people, regarding the possibilities for individual damage or ineffectiveness which may ensue; as citizens, regarding the constitutional issues involved; and as professionals whose discipline and opportunities may be affected.[6]

Since constitutionality has been raised as an issue, we shall open our discussion with an examination of the constitution as a guide for a discussion of ethical and legal issues raised by applied behavior analysis. The arguments that will be developed are that its safeguards provide an excellent guide for program development of an effective application of behavior analysis to problems of social concern and that the violation of these rights can be counterproductive to the patient, to the aims of institutional agents whose incentives are therapeutic, and to the therapeutic aims of the society which sponsors the patient-therapist (programmer, teacher, etc.) relation. Such violation may, however, serve other

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who is somewhat of a transparent schemer, is the one using the operant jargon (C.B.S. Television Network, January 21, 1974, 11:30-11:55 a.m. EDT).

[5] There are many uncomfortable parallels between the social use of psychoanalysis and what seems to be occurring in behavior analysis. One of the problems faced by professionally trained psychoanalysts has been the attribution to psychoanalytic practice and theory of quotations from self-proclaimed psychoanalysts. On the Chicago scene, one agency advertises itself as offering "a proven, scientifically researched program for couples and individuals," as well as training "professionals in behavior modification, Gestalt and transactional analysis, primal scream, group psychotherapy."

[6] To exemplify what is popularly called behavior modification, the following listing of "behavior modification, or control" techniques is offered: "The techniques vary widely and include isolated confinement, the application of heavy stress or repeated pain (aversion therapy) and the use of drugs, electrodes, and even psychosurgery. . .the punishment-reward technique." The source is the Week in Review section of the *New York Times* (February 10, 1974). To this list the Illinois Division, American Civil Liberties Union, adds "sensory deprivation" (*The Brief*, December, 1973). And to quote from a feature in the *Chicago Daily News*, staff members at a state mental hospital, when asked what treatment a patient is getting: "The answer usually is 'behavior modification,' which means getting a cup of coffee for doing some job around the hospital." (In *Insight*, March 25, 1974)

ends which, in our society at least, are not considered consonant with the social contract assumed to underlie its polity.

THE CONSTITUTION AS CONTRACT

Behavioral contracting is a proclaimed feature of many programs in behavior modification. The contracting may be *explicit*, as when a professional and patient agree, in writing, on outcomes. The explicit agreement may be verbal. When the negotiations are between two consenting adults, the rationale is familiar to practitioners of the better-established psychotherapies. The contributions of applied behavior analysis do not simply lie in the explicitness of goals or outcomes (called "targets") and the necessary negotiations, but in the products of the added requirement that the procedures directed toward these also be explicit, in parallel with the procedural requirements of programed instruction. On the other hand, the contracting may be *implicit*, as when someone buys a programed text in calculus in the hope of being able to apply its concepts and procedures to mathematical problems upon completion. Needless to say, there is no record of successful suit for breach of contract against a publisher if the outcome specified in the title is not attained, nor am I familiar with any in psychotherapy. However, the reader is undoubtedly aware of the controversy over accountability in education. The discussions are being extended to psychotherapy, and explicit societal consequences may in the future be applied to this area as well. At present, however, the psychotherapeutic contract, as the term is variously used in these helping professions, is not legally binding (for an opinion on the legal and other implications of the contractual relationship between physician and patient, see Fletcher, 1972).[7] Accordingly, the term "contract," while lacking the full legal sanctions typical of commercial transactions, does share with these a *quid-pro-quo* relationship between consenting adults such that, if one party behaves in one way, the other party will behave in another way. The outcome agreed upon by both *may* thereby be attained—that is, both parties will "work toward" its attainment in recognizable ways.[8]

The Constitution may be viewed as a statement of governmental organization and powers, or as a contract between a federal government on the one hand and its constituent states and people on the other. So considered, all legislators and judicial and executive officers "both of the United States and of the several States" are specifically required to promise to support the terms of this contract (Article VI). Although there are no specific parallel requirements enumerated for another

[7] I am grateful to Russell O. Anderson, legal affairs, University of Chicago Hospitals and Clinics, for bringing this article to my attention.

[8] The practitioner of behavior modification who attacks the "sloppiness" of other therapies and who argues strongly for outcome-accountability might consider the logical legal consequences of his position, their effects upon research opportunities and, accordingly, given the current state of knowledge in the area, their effects on professional ability to explore new ways of providing help. In medicine, the rise of malpractice suits has tended to inhibit the use of untried procedures and to promote such precautionary measures as requiring additional tests and consultations.

party to the contract, namely, the people, the historical context of the Constitution suggests their scope. Rousseau's *The Social Contract* (1762) relates the legitimacy of government to consent of the governed, in contrast to an alternative approach[9] of compliance to rules for obedience decreed unilaterally by a higher source. The Declaration of Independence explicitly states that governments "(derive) their just Powers from the Consent of the Governed." Further, "Governments are instituted among Men" *in order to* "Secure these Rights," namely, "life, liberty, and the pursuit of happiness." Where these are abrogated, it is the people's "Right, it is their Duty, to throw off such Government, and to provide new Guards for their future Security." The converse is that the contractual obligations on the people, when a government is established with their consent, is to support that government in all the ways that are negotiated.

The Constitution may also be considered as a *program* contract, as the term is used in programed instruction. The fulfillment of such contracts requires specification of (1) targets, or explicitly stated outcomes, (2) current repertoire[10] which is relevant to the outcome, (3) the steps which will mediate between current repertoire and target repertoire (which can be developed) and (4) a system of consequences explicitly contingent on advancement through the required progressions, and which maintain such behavior.

The outcome of the Constitutional program is stated, as in all good program-contracts, at the very beginning of the document: "We the People of the United States, in order to" followed by the seven outcomes. All seven are stated positively, e.g., "establish justice," not "eliminate injustice"; "secure the blessings of liberty," not "undo the curse of tyranny." The sense of the outcome is conveyed not only by the wording but by the possible alternatives excluded, for example, "establish the one true Church and thereby propagate the one true Faith." The

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[9] In political analysis, as well as analysis of ongoing behavior, the sense is often conveyed by the alternatives available. Thus, Jefferson's assertion that "all Men are created equal" can be viewed not only in its own right, but also as an alternative to the notion that some men have divine and special rights upon birth, e.g., Kings and nobility. The boldness of Jefferson's statement can be appreciated by considering the prevalence of monarchy in his day. Accordingly, his statement that the assertion is "self-evident" was probably considered as *hutzpah*, (or hubris) by the well-read of his day, for whom the alternative notion was probably a given, which might not even be questioned. John Hancock was not the only signer to make his opposition "loud and clear."

[10] I am using the term "current repertoire" rather than "entering behavior" (Markle, 1969) to describe the starting point, since change in behavior may not be the critical issue. For example, the behaviors changed when a child learns to read, namely, eye-movements and head orientation, are trivial. Vocabulary is unchanged. What is changed is the *stimulus control* the environment exerts over behavior, so that *textual stimuli* now control verbal behavior. Thereby, material recorded in the past, and elsewhere, can begin affecting present and future behavior; it may open new sources of reinforcement (including what is designated as "reading for the pleasure of it"). Other nonbehavioral elements of combinations may also be changed, including the control exerted by *past* experiences, hence *repertoire*, as in the repertory of a stage company, which includes many plays other than the one being acted. In this sense, *behavior modification* and *behaviorism*, itself, are poorly chosen terms, but I suppose we are stuck with them. The term *behavior analysis* is a better one since, in order to analyze the behavior of reading, we must also consider the contingencies of which it is a component. Thus, the two "operant" journals, namely, *Journal of the experimental analysis of behavior*, and *Journal of applied behavior analysis* are well-named.

Preamble is not stated as explicitly as a therapeutic contractor might desire, but its goals are considerably broader and more ambitious. They are also intended for "our posterity"; therefore, the time limitations which typically govern other contractual statements of objectives do not hold. The current repertoires relevant to these ends are partly available in the social context of the time (which includes English history and common law and religious and Biblical traditions[11]) and are also specified in the starting structure and powers *enumerated* in the Constitution (e.g., Article I, Section 8, for Congressional Powers), with a significant provision to be noted shortly. The procedures for program change are included in the foregoing, as well as contract renegotiation and amendment in Article V. The Supreme Court and usage, of course, have provided additional procedures. Consequences to maintain adherence to the contract are also articulated. Some involve aversive control, but the majority of maintaining consequences are relatable to reinforcers, e.g., procedures for growth through adding new states.

A property of the contract which is critical to our argument is that the powers assigned to one of the contracting parties, namely, the federal government, are limited to those explicitly stated in the contract, as proposed for amendment two years after signing and as amended (1791): "The powers not delegated to the United States by the Constitution ... are reserved to the States respectively, or to the people." With regard to one of the other contracting parties, the powers not explicitly "prohibited by it [the contract] to the States" are similarly reserved to the States and the people. Stated otherwise, one contracting party has only the powers explicitly specified by the contract. The other party has all other powers except those explicitly withdrawn. This, of course, is the exact opposite of a central authority in which all powers reside, *except* those delegated or granted to other authorities. The Constitution, accordingly, provides for a limited system—limited, in essence, only to those procedures specified. This allocation of powers is designed to produce and maintain only those positive outcomes which are similarly specified. It does not provide for a total system. In political terms, it is not the blueprint for a totalitarian state. It stands thereby in sharp contrast to the total systems developed in mental hospitals and other institutions. While it has been the violation of specific constitutional rights by therapeutic (or related research) agents that is the current concern, it should be noted that such violation is occurring in the institutional or social context of systems whose political assumptions are diametrically opposed to those underlying the Constitution. These total institutions are characterized not only, as noted, by sharp deviation from certain assumptions basic to the society which sponsors them, but also by their assumption, under social sponsorship, of corrective or *therapeutic goals.* Possibly, the political antinomy noted of constitutional and institutional procedures resides in the assumptions underlying these goals. Accordingly, we shall explore the relationship of the antinomy to therapeutic goals, as currently defined.

[11] The inscription on the Liberty Bell, rung July 8, 1776, is from Leviticus: "Proclaim Liberty throughout all the land unto all the inhabitants thereof" (25:10).

TOTAL INSTITUTIONS AND THERAPEUTIC GOALS

Goffman (1961) notes in his discussion of "total institutions": "A basic social arrangement in modern society is that the individual tends to sleep, play, and work in different places, with different co-participants, under different authorities, and without an over-all rational plan. The central feature of total institutions can be described as a breakdown of the barriers ordinarily separating these three spheres of life" (1962, pp. 5-6). The major characteristics Goffman notes are that all aspects are conducted in the same place and under a single authority. They are tightly scheduled under an explicit system of rules and controls and are under a single rational plan which derives from institutional aims; in some institutions, members are usually "required to do the same thing together."

Nontotal institutions, such as factories, may also have lunchrooms and recreational facilities, and scheduled lunch and recreation periods, but Goffman notes that "the ordinary line of authority does not extend to them."

The term "total" is self-assigned by some institutions. For example, the Patuxent Institution, set up as a therapeutic prison, describes itself as a "total-treatment facility" (Goldfarb, 1974).

Stanton and Schwartz (1954) consider the mental hospital as a "total social institution" and as "a place where ordinary civil liberties are called 'privileges'" (p. 244). Further, in the mental hospital they investigated, "seriously disturbing conflicts about delegation of authority, about 'authoritarianism,' about freedom . . . were not only frequent at the hospital among both patients and staff—they were almost the rule" (p. 244).

It would appear that some of the legal questions which Wexler raises with regard to token economies derive, to a considerable extent, from their existence within total institutions. The token economist operating as their agent need not consider himself singled out for persecution. However, with reference to Goffman's three spheres, namely, sleep, play, and work, the token economist may deliberately make their availability or method of delivery contingent upon behavior in accord with institutional aims, that is, withhold or present them as reinforcers. This makes him conspicuous and vulnerable to legal scrutiny.

The Constitution, as was noted earlier, sets up a limited government rather than a totalitarian one, and civil rights are to be considered in this context. Whence the total power wielded by total institutions?

A person may "be deprived of life, liberty, or property" with due process of law and may not without it; this limitation is imposed on the federal government (Fifth Amendment) and upon the States (Fourteenth). Sentences and fines which attach liberty or property typically specify, within limits, duration of attachment of liberty, and type and amount of property (usually financial) which is forfeit. Whence the lack of specificity, the unpredictability and pervasiveness of

deprivations by total institutions, which are often governmental agents and which seem to be exceptions from the Constitutional concept of limited government?[12]

A part of the answer, in my opinion, lies in the frequent vagueness of definitions of mental illness, in the frequent unpredictability of the exact topography of the disturbing behaviors or in the time and place of their occurrence and therefore, in the consequent ascription of those behaviors to an underlying and pervasive pathological state, of which they are considered manifestations or symptoms. These formulations affect the therapeutic practice for which the institution is set up. Where the disturbance is episodic, since its exact timing and location can not be predicted, surveillance is required whenever and wherever the disturbance can occur. Since the exact topography of the disturbance and the degree to which it will disturb others can also not be specified, isolation from others seems prescribed. Whether the disturbance is episodic or continuous, the behaver is considered as a patient who must be treated, and his pathology must be eliminated or brought under control so that we can predict that future disturbance will not recur. It would seem that a heavy burden of striving toward omnipotence and omniscience (including clairvoyance) is laid upon the institution. Temptations to dictate to the patient, to attempt unilaterally to substitute one's own aims for the patient's or otherwise to assume parental roles (punitive or indulgent or farsighted) are dangled before the institutional agent.[13]

The total and long-term responsibility described, the roles assumed in accord, and the ideology of pervasive illness which rationalizes them may be related, in part at least, to requirements imposed by the larger social system. Some of these are evident in the immediate attacks upon an institution and the mental health system, followed by outcries for a "thorough" investigation, when it is discovered that the perpetrator of a series of crimes was once a mental patient. The system is then under fire for not having foreseen the future, that is, for having released the patient before the illness was totally extirpated. The system may then be threatened

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[12] It has been argued that due process is applied in mental institutions through procedures which include medical diagnosis; that the constitutionally required limitation and explicitness of governmental action are limited to punitive rather than therapeutic action; and that therefore the total properties of total therapeutic institutions are not unconstitutional. Further, the deprivations are an outcome of civil rather than criminal action. However, the police power of the state is used to enforce compliance.

[13] The assumption of parental roles, and therefore the assignment of child roles to patients, is not restricted to mental institutions. I recall an incident during my stay in a rehabilitation center following spinal injury. I was lying on a mobile cot waiting for an elevator, and was reading (it so happened) the *Journal of applied behavior analysis*, which had just arrived. A friendly student nurse came by and pulled the journal out of my hand, commenting cheerfully: "Oh! What are you reading?" (Goldiamond, in press). The student nurse (who was 20; I was then 50), it should be stressed, regarded her behavior as friendly. I have, unfortunately, also seen less friendly treatments when the roles described were assumed. The temptation to assume them is especially strong in chronic care institutions, which tend toward total properties.

The justification often given for this role is of protection from damage to others or self. While it is true that some people are liable to damage others, and some are liable to be thankful later that they were restrained from self-harm, the extent to which this liability extends to all patients is questionable, as is the practice of projecting the corollary treatment rationale to all patients.

with enforced personnel changes and with a diminution in funding. It is the already low state of funding, the system argues in defense, that has made it custodial rather than curative; this renders it powerless.

To this social attack is added the current attack by proponents of civil liberties that even these powers be diminished. One outcome of total institutional control that has been noted is institutionalization. This describes the acquisition of new patterns of behavior which accord with institutional requirements. These patterns are then cited by the custodial system as evidence of the very mental illness for whose treatment the patients were committed. These patterns are considered antitherapeutic and as discontinuous with those required outside. Patients have been regarded as generally powerless against their total controllers. Indeed Kesey's (1962) stirring novel, and its adaptation as a play, depicts patients who attempt to maintain their human dignity against the total power of institutional agents. The ascription of such powerlessness has been part of an assault on institutions by social scientists, among others.

Although they agree that the current approach is degrading, Braginsky, Braginsky, and Ring (1969) present a view diametrically opposed to the notion that institutionalization is a product of patient powerlessness against an all-powerful institution. Rather, they argue that the patients' patterns include "impression management," namely, that patients adroitly manage the impressions of them held by the staff in order to "achieve outcomes congruent with their primary motivations" (p. 46) and that there is considerable "continuity between the patients' life style outside the hospital community and what they develop within the hospital community itself" (p. 46). Stated succinctly, patients utilize the mental illness model to attain their (sensible) ends and are the opposite of powerless. The authors' thesis can be translated into clear operant terms: staying in the hospital is a reinforcer whose requirement for delivery is behavior defined as sick. Patients in one of their studies varied their behaviors in accord with experimentally-instigated changes in definition. Braginsky, Braginsky, and Ring propose institutional solutions considerably different from the present total institutions.

In any case, whether the patient is viewed as being manipulated, or as reacting to manipulation, or as manipulating, the mental institution as a total institution is under unsympathetic scrutiny. When one adds to this the attack on total institutions in general, the dismantling propensities of economy-minded state administrations, the recent legal opinions noted in Wexler's review, and the growing issue of civil liberties, it would seem evident that there is strong pressure to diminish whatever powers such institutions possess. For these days, at least, to paraphrase W. S. Gilbert, "An institution's lot is not an 'appy one." Nor, it would seem, will be the lot of those of its agents who institute programs which capitalize on its total-institutional properties.

Whether or not the newer approaches and ideologies will replace the mental illness ideologies will, of course, be a function of the extent to which the newer social contingencies, which the newer ideologies rationalize, replace the less recent ones rationalized by the present models. Ideologies can exist for a long time without having much social impact and models can exist for a long time without

having much scientific impact, but the "idea whose time has come," that is, which begins to have social or scientific impact and to exert an influence over behavior which has hitherto been lacking, derives its onset of power from changes in social or scientific contingencies. These exert new behavioral requirements, and the ideologies and models which rationalize these behaviors and the contingencies of which they are a part now seem invincible (and even causative).[14]

Mental hospitals have been charged with dehumanization and ineffectiveness for some time, but there is a question as to whether the current eagerness to dismantle them in several states stems simply from the chord of humanitarian concern over these patients and their families which the charges strike, or from the rationalization thereby provided for reallocation of state funds to redress other *human* problems, which impose stronger requirements. The oil crisis has hastened our realization that the availability of unlimited energy, which even underlay design trends in urban architecture, has been an illusion. We shall have to alter our ways to live within energy limits. Similarly, we shall have to learn to live with limits on support for social programs. I shall defer consideration of the precipitating crises to a later discussion of models which are responsive both to the crises and the constitutional and ethical issues of concern.

As part of the effort to assign priorities, attempts are now being made to apply cost-benefit analyses to total systems as compared to other systems. This, of course, requires development of other systems, as well as refinement of measures of outcomes, costs, and benefits. Possibly, we are in for a period of reallocation of resources to set up alternatives which provide an opportunity for comparative shopping. Setting up alternatives implies dissatisfaction with present enterprises, and we should accordingly expect continued scrutiny, much of it unsympathetic, of the present enterprise. On the other hand, comparing the alternatives to the present enterprise implies the existence and support of the present enterprise, and we

[14] Stent (1972) in his provocative discussion of "Prematurity and the uniqueness in scientific discovery," that is, why an idea will not be accepted at one time, but will sweep the field at another, offers a structural explanation, i.e., scientific rejection or acceptance is explained by the structure of the scientist's "mind [for which] reality is a set of structural transforms of primary data taken from the world. This transformation is hierarchical, in that 'stronger' structures are formed from 'weaker' structures through destruction of information" (pp. 92-93). I am suggesting a functional approach, in which acceptance and rejection are relatable to the social contingencies of which they are a part. Needless to say, these can be highly complex and are not simply described by a one-to-one correspondence between changes in social requirements and changes in ideologies and the proportion of adherents. Indeed, clinical and laboratory observation of human behavior, and much earlier (as well as present) animal work support the complexity of the relation between even simple behaviors, their contingencies, and the conditions of the investigation. Nor should it be assumed that models and ideologies do not control behavior, in the same sense that we speak of "stimulus control" when we discuss discriminative stimuli. Like other discriminative stimuli, ideologies will control behavior not by virtue of their presence or repetition, but by the consequences contingent on behaviors in their presence. In this sense, rather than being simple S^Ds, they are closer to that class I have designated elsewhere as providing "abstractional" or "instructional control" (Goldiamond, 1965). The statement, "There is nothing as powerful as an idea whose time has come" translates into the power of an "idea which rationalizes contingencies whose time has come" or increases their probability.

should accordingly expect it and its related rationale to continue for some time, although with diminished support and self-confidence.

Societal pressure for institutional clairvoyance, it was noted, dovetails nicely with that model of mental illness which is centered on a therapeutic mission (*therapeuein*, Greek, *to cure*) in which the therapist is a social agent who (a) is clairvoyant and produces irreversible results, and (b) contracts this outcome with society rather than with the patient. We have noted that the first requirement supplies part of the rationale for the total institution, whose design conflicts with the more limited constitutional system which sanctions it. The second requirement conflicts with the contractual nature of the larger constitutional system, in which the contracted outcome is between the government and the governed rather than being an agreement which imposes an outcome on a third party who has not entered into the negotiations, as in the alleged Mafia usage.

Both requirements have been ascribed to the medical model. With regard to the first requirement, the permanent and ubiquitous cure desired for mental illness parallels the definition of successful cure in other branches of illness. After successful appendectomy, for instance, the surgeon *can* be clairvoyant. Appendicitis will recur *never* and *nowhere.* Similarly, certain types of immunization have long-term effects. However, one can pose a different model of treatment. We would not judge, for instance, the quality of an internist's treatment of pneumonia by the nonrecurrence of pneumonia. As a matter of fact, respiratory ailments may now be more likely. Societal pressure on mental health professionals, for some reason, implies assignment of the appendicitis model of illness rather than the pneumonia model. One of the reasons for this social choice may be the fact that many professionals have accepted it for themselves, if not as describing the present state of their art, then as describing its desired state in the future.[15] An ubiquitous outcome is considered desirable not only by those who derive this illness model from personality models but also by such opponents of both personality and illness models as behaviorists and behavior therapists. Rather than ascribing desired ubiquitousness to relief from illness, they ascribe it to a process of "stimulus generalization." If this eludes the present state of the art, it is a desired goal. For instance, I have a letter on my desk which asks me, regarding one of our programs, for "follow-up data and/or evidence for generalization outside of the

[15] The acceptance of this approach, with its consequent limitation upon the rights of the patient to choose freely, is often forced on the professional, against his will. Under the four-column headline, "Hospital sued for not foiling his leaps," the *Chicago Tribune* reports: "A down-state man who jumped twice from upper floors of the . . . [named] Hospital has filed a suit demanding $500,000 because the hospital and his psychiatrist failed to stop him . . . . [He had] entered the hospital in March, 1972, for psychiatric treatment. On March 28, 1972, the suit said, he leaped from an eighth-floor window. He landed on a roof at a lower level and jumped again to a still lower roof, smashing both his legs . . . . [One] month later while waiting to be X-rayed he hobbled to a third-floor window and jumped out. He suffered a broken pelvis and foot and ankle injuries." To argue that people have a right to suicide (he "had a history of suicide attempts"), ignores the powerful control in the opposite direction exerted by the fact that the hospital and the psychiatrist are each being sued for $250,000—the suit states they "failed to take 'reasonable precautions' to prevent the suicide attempts" (February 3,1974).

treatment setting." (My answer, I hope, will be satisfactorily responsive to the intent of the question rather than to its form.)

The source of that model of illness to which the social demand of professional clairvoyance and its related solution of total institutionalization are ascribed is said to be *the* medical model, for which various alternatives have been proposed. However, I have already noted two caveats. First, the social demand and accompanying solution are not confined to the medical model. Behavioral models can serve, as well as the various approaches which rationalize our present prison system. All of these have in common the definition of successful intervention by nonrecurrence of the presenting problem. Second, this definition also excludes those branches of medicine which deal with practices other than "ectomies" (or immunizations, etc.), namely, the vast field of complaints whose successful treatment and alleviation are not defined by nonrecurrence. Stated otherwise, both by inclusion of other models and by exclusion of much of medical practice, the medical model is not the culprit.

If guaranteed nonrecurrence does not characterize medical practice in general, neither does legally enforced exposure to treatment. For example, written consent is required for surgery.[16] The contract *is* between the two parties involved. In practically every section of the hospital except the psychiatric ward, a patient can decline a given form of treatment, can refuse medication, and can leave the hospital AMA (against medical advice)—even when it is thought that his doing so endangers his life and limb. It is interesting that when departure AMA does constitute a threat to life or limb, a psychiatrist may be sent for and may provide the loophole in the otherwise constitutionally-concordant staff behavior.[17]

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[16] However, a professor of pediatrics notes: "I would like to address myself to the problem of informed consent. I believe, as a physician who has prior contact with the family, that I can persuade 99 percent of patients to my way of thinking if I really work at it, even if I am 100 percent wrong. If I tell them in such a way that I appear concerned and that I am knowledgeable and that I have their interest at heart and the interest of their fetus or their newborn baby, there is no question in my mind but what they will let me 'cut off that infant's head.' I think informed consent is an absolute farce legalistically, morally, ethically—any point of view you want to talk about. The information is what I want it to be." (Stahlman, 1973, p. 66). Nevertheless, the power of the state is used only rarely to enforce compliance, and an adult patient can usually walk out against medical advice.

[17] The threat of lawsuit for negligence against a psychiatrist, already noted, also confronts other physicians in case psychiatric consultation is not sought, and damage does occur. This threat may also explain the observations of the American medical scene made by a British physician, "The organization of the wards is very curious. The house staff take the attitude that every conceivable differential diagnosis has to be excluded, including all the possible tests, before a diagnosis can be reached. . . . It is not hard to see why medical costs are escalating so much" (quoted by Beeson, 1973). I am grateful to Daniel X. Freedman for bringing this article to my attention.

It is also not hard to see why, given this threat, elderly patients in nursing homes are often encouraged to use wheelchairs rather than walking, with resultant irreversible deterioration, increased dependency, and all the adverse effects attributed to acceptance of the aged-sick role. Avoiding the consequence of lawsuit if a patient tries to walk and breaks his hip can strongly maintain the institutional behaviors described, which an aged-sick role rationalizes. That some elderly patients need not be chair-ridden is reported by MacDonald and Butler (1974), who systematically manipulated walking and being chair-ridden by making social interaction contingent on them.

If adherence to a medical model and to a model of mental illness underlies total institutional control and the impositional nature of its treatment, such models are exceptions in the fields of medicine and medical treatment. Mental illness may be a myth, as Szasz (1961) states (more appropriately, it is a term applied to a class of models), but total control and its concomitants, including divorce from personal responsibility, are not logically implied by the *medical* model. Further, they *may* also be derived from other models. These include behavioral, educational, psychological, and social, among other alternatives suggested. Each has been paired with the medical model as the opposite end of a dimension in a juxtaposition suggested by health-disease or their various synonyms, with the implied dichotomy being *innovation-status quo.*

Some of the insistence on this dichotomy, both by proponents and opponents, is undoubtedly related to such political and economic considerations as to who will set policy, be professionally responsible, and collect payments. In this social context, the medical model of mental illness rationalizes control and payment to medical practitioners. Other models of disturbing behavior rationalize control and payment to members of other disciplines. I can not guess at the extent to which this very real professional conflict underlies the conflict in ideologies, but my discussion will not be concerned with this conflict. Rather, it will be limited to the relation between models and the stimulus control they ultimately exert over those behavioral outcomes to which the implicit social contract between society and its helping professions is addressed.

THE CONSTRUCTIONAL AND PATHOLOGICAL ORIENTATIONS

The present section will compare two orientations toward treatment which, I believe, can profitably be applied to present practice and research. I hope thereby to make explicit certain assumptions and procedures whose present implicitness creates problems in comparison and analysis. The term for one of the orientations is a new one. In the section thereafter, I shall present a model which derives from this orientation and is thoroughly consistent with (a) the constitutional requirements of mutual contracting and limitation of power, (b) other ethical obligations which the Constitution exemplifies, (c) the therapeutic needs of the patient (or other consumer), and (d) the investigative and analytic requirements of behavior analysis. As a matter of fact, by using this model the needs of the investigator and client can best be met through meeting constitutional requirements and ethical obligations. The more general orientation, into which the specific model fits, is shared by many other approaches and models and is not exclusive to it. I believe the presentation may make explicit a direction toward which the field has been moving. Hopefully, it will hasten the process.

The *orientation* to be proposed is a *constructional* one. This is defined as an orientation whose solution to problems is the construction of repertoires (or their reinstatement or transfer to new situations) rather than the elimination of repertoires. Help is often sought because of the distress or suffering that certain repertoires, or their absence, entail. The prevalent approach at present focuses on

the alleviation or the *elimination* of the distress through a variety of means which can include chemotherapy, psychotherapy, or behavior therapy. I shall designate these approaches as *pathologically* oriented (*pathos*, Greek, *suffering, feeling*). Such approaches often consider the problem in terms of a pathology which—regardless of how it was established, or developed, or is maintained—is to be eliminated. Presented with the same problem of distress and suffering, one can orient in a different direction. The focus here is on the production of desirables through means which *directly* increase available options or extend social repertoires, rather than *indirectly* doing so as a by-product of an eliminative procedure. Such approaches are constructionally oriented; they build repertoires.

The fact that the outcomes are described differently is not simply a matter of verbal redefinition. The differences that can result become clearest when considered in terms of the four elements of a program, previously noted.

1. *Outcomes* or *targets*: — Although similar outcomes may be produced by the two orientations when *viewed in terms of distress alleviated*, the outcomes of the two approaches are not necessarily similar when viewed in terms of *repertoires established*. For example, in a series of treatment sessions one can progressively *decrease* stuttering and thereby increase the ratio of fluent words to total utterances. One can also progressively *instate* and extend a specific fluency pattern which consists of well-junctured speech and thereby increase the ratio of fluent words to total (and decrease stuttering). Viewed in terms of elimination of stuttering or increase in fluency (the alternate statements can simply be verbal redefinition), the outcomes may be similar. However, viewed in terms of patterns established, the outcomes may be quite different. And the training procedures and other program elements must also differ. This raises questions about outcome comparison.

2. *Current usable (relevant) repertoires*: — Where the outcomes, in terms of repertoires to be established, differ, the search for what is currently relevant must be oriented differently. For example, one can focus on (and try to describe) what is wrong, or is lacking, in order to correct it. In the other case, since one is trying to construct new repertoires, one must focus on what repertoires are available, are present, and are effective. Accordingly, different data bases are required. Where there is overlap in the data bases, they can be interpreted differently. For instance, one can consider the presenting symptoms as among the pathologies to be overcome or eliminated; they can be considered as indicators of a pathology to be specified. On the other hand, the presenting symptoms can be considered as among the entry repertoires available for construction or program guidance; they can be considered as successful instruments which produce reasonable outcomes to be specified and harnessed. For example, a pervasive cockroach phobia can be interpreted as an unreasonable fear which is so crippling to the wife that she cannot move from room to room unaided. On the other hand, it can be interpreted as highly successful instrumental behavior which dramatically forces the husband to provide the legitimate attention which he had hitherto withheld and deprived her

of.[18] The program thereby initiated is to teach him to be responsive to her legitimate needs and to teach her to express these in ways which get across to him more readily.[19]

3. *Sequence of change procedures*: — Given different target outcomes and different starting points selected for their relevance to the outcome, the mediating *procedures* which convert entry repertoire to target repertoire must also differ. The data which are considered as designating progress will differ, as must assessment of therapeutic effectiveness. In the phobia case just cited, although the phobia may progressively diminish, the graphs will be of increasing communication. In the case of a severely regressed schizophrenic woman, the change procedures have involved instatement of a multitude of specific repertoires, some in sequence, and some concurrent.

4. *Maintaining consequences*: — The contingencies of which each of the steps in a program is a component may also differ in pathologically and constructionally oriented programs. The consequences in one case may be progressive relief, diminution of aversive control, or gradual progression to such relief. In the other case, they may be explicit reinforcement of units in a progression, or gradual progression toward the repertoire to be established. In the latter case, assessment concentrates on reinforcers in the natural environment. These reinforcers can be those which have hitherto been disrupting behavior. For example, a mother considers herself at a loss in rearing her son. His obnoxious behavior continually enrages her, and both his misbehavior and her rage are increasing. She reports that she is a complete failure. Our analysis is that she is a complete success. She has successfully shaped escalating misbehavior by ignoring it when it was mildly disturbing and acting only when it had exceeded the previous limit to her tolerance. This suggests that her attentiveness is a powerful reinforcer.

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[18] Because the behavior is operant, or instrumental in obtaining certain reinforcers, does not make the fear any less genuine, or make the behavior deliberate. The operant is not defined by volition, and the conscious-unconscious dimensions so critical to other *models* of behavior is not critical to the definition of an operant. Knowing or not knowing about the contingency need not affect it (cf. Hefferline, Keenan, and Harford, 1959; Goldiamond, 1970). Such knowledge can, however, help one avoid it or set it up. However, once it is there, its control can be inexorable, known or *unbewusst.*

[19] Gentle reader, who may be shocked by my use of a term such as *needs*, despair not for me. I could have written (behold, I do so now) that "we establish discriminative control of the husband's attentive behaviors by those of his wife's behaviors which are the behavioral components in a behavior-attention contingency. These behaviors are highly probable since the contingency has been made potent by deprivation of the consequence. Further, we might fade the control exerted so that progressively fainter wifely behaviors (husband stimuli) exert this control. Since such equally reinforced behaviors have less aversive control attached to them than the dramatic behaviors which are currently part of this contingency, they may replace them." O.K.? (I could also define *attentive* equally rigorously.) In actuality, the statement just made is a fair description of some of our procedures. The purpose of this article is to communicate something else, hence my use of *need*. I hope it makes ready contact with the reader's current repertoire. Communication of our procedures, their rationale, and the evidence for them, awaits completion of a monograph currently in progress.

His main way of getting it now is by infuriating her. She is to use this reinforcer to maintain progression through a different kind of program she will apply.[20]

The symptom whose elimination is the target of a pathological approach may not only be considered as a currently usable repertoire (the cockroach phobia mentioned) but also as an important guide to critical reinforcers. For example, an obsessional patient talked rapidly and almost without stop about emanations attacking her thoughts; her eyes were piercing and she was agitated throughout. She had been an inpatient on and off and an outpatient for 20 years. Her black and purple costume made her immediately recognizable at the emergency room which immediately sent her to Psychiatry. She was supported by a small pension and lived alone and friendless in a small rented room. In the event that she were "cured," what could she find to occupy her all day? At the present, she came to the hospital and met all kinds of different and bright people who cared. She belonged - she had community. If we were crazy enough to think we could "cure" her, she was not crazy enough to be "cured." Such elimination had been the thrust of the various preceding therapeutic efforts, which had made little progress. We told her that regardless of her behavior, she was always welcome: she was a permanent part of hospital records and was provided access to them. Community was a critical reinforcer and the intervention strategy opened with this provision while developing other contingencies.[21]

Before continuing the presentation, I must stress that I am not thereby distinguishing between, say, psychoanalysis and behavior analysis. Psychoanalytic therapy contains constructional procedures, and applied behavior analysis contains eliminative procedures. The distinction I am making is between eliminative procedures deriving from a pathological orientation and constructional procedures deriving from a constructional orientation. These cut across different schools and models. I shall return to this issue shortly.

The issue of sets: — Successful elimination of a pattern related to distress can alleviate that distress and suffice unto itself. Medicine, among other disciplines, supplies abundant examples. Where a transient disturbance makes extant personal repertoires or environmental resources temporarily unavailable, direct elimination or control of that disturbance will also be effective. Where, however, the solution requires *establishment* of repertoires, an eliminative approach presents problems. This relates to the fact that the set of elements which do not bear on a problem is usually more extensive than the set of elements which do.[22] A simple example,

[20] It will be noted that the contract between mother and therapist concerns her behavior, not her son's. He is the reinforcement dispenser for her changing behaviors, and she learns less costly behaviors—which are satisfying to her and to him (see previous footnote on my use of the italicized word) [No word is italicized in original; probably *satisfying* was meant to be—Ed.]. Dr. J.E. Dyrud was my collaborator on this case.

[21] Dr. G. Purchatzke assisted.

[22] In the game of Twenty Questions, an error can provide exactly the same information as a correct response. The only answers permitted to a question are Yes and No (or Right and Wrong to assertions) and either answer to a question posed by an astute player will supply the same information and govern the next question. The conditions of the game constitute a limiting case.

drawn from a discussion with the obsessive patient (who talked incessantly about things going wrong) may illustrate the point. The correct answer, I noted to her, to the calendric question, What is today?, is March 26, 1974. Period. The number of incorrect answers is limitless. It makes possible (as I noted) extended conversation. I can state: It is not March 15, 44 B.C. I thereby display my knowledge of history. Or, I can be highly original and creative: It is not September 57, 2074. Barring such hidden agendas in my answer, I can try continually to *exclude* elements in the hope of isolating the right one or try to develop some logical rule to guide such *eliminations* and save time. Learning *what to do* using this approach can be slow and painful, as can trying to abstract rules which guide appropriate behavior. Costello (1974) reports that when she attaches a time-out consequence to repetitive word stutters this particular pattern is attenuated but she must attach time-out to repetitive syllables, etc. Costello is consistent, but where reinforcement is or was occasional, our knowledge of laboratory contingencies teaches us that both punishment and extinction can produce perseveration of behavior. The ineffective pattern may therefore not be eliminated, and an element from the set of effective responses may not appear.

There are, of course, contingencies other than those given, but one effect of focusing on the larger set of problems to eliminate has been the slowed pace of development of intervention procedures and formulations relevant to obtaining satisfaction. It is impressive to note the contrast found in patient work-ups between the extensive and detailed reporting of present illness and its history and the skimpy and global suggestions for treatment. Indeed, the contrast found in the professional's report often very accurately reflects an identical contrast in the patient's self-report. This will be long on affliction and short and succinct on treatment (You help me). The parallelism in the two reports is not accidental. Nor is it derived solely from mutual manipulation based on the current identification of the helping mental health professions with the elimination of pathology. For the patient, since presentation of pathology is a necessary condition for admission, he will therefore so present himself; for the therapist, since treatment of pathology is his repertoire, he will therefore solicit and shape it. These operants undoubtedly enter on many occasions, but other contingencies may contribute to the continual recurrence of this parallel.

One strength of the parallel derives from the fact that it is found not only between professional's presentation of patient and patient's presentation of self, but also between patient's seeking help from others and patient's seeking help from self. Stated otherwise, the patient does not come for treatment when things are going well not simply because he then lacks the ticket for admission, so to speak, as might be inferred from a simple operant analysis, but for the same reason that he will typically not bother to *analyze* what is going on in his own life when things are going well, either. It may be argued that it is human nature to define problems only when things are going wrong, that is, when the crisis is upon us. This observation can be explained in more mundane contingency terms, namely, that when things are described as going right, certain referent behavior-reinforcement contingencies are in effect. Analysis of these is not only costly on its

own, but by displacing the referent behaviors, it thereby disrupts their contingencies. Accordingly, the doubly costly behavior of analysis is typically assumed only when the referent contingencies change so that the referent behaviors or consequences become excessively costly. Stated in common language, the patient is hurting. He may then take time to analyze and reflect, but characteristically, what he will then reflect on is *what went wrong*, and what and how it should be avoided or eliminated. The likelihood of constructional solution is then remote. In parallel manner, it can be shown that the patient will seek outside help under similar conditions, often after repeated failure of self-analysis of the type reported.

Accordingly, the consumer of the remedial service as well as the delivery agent may both focus on the distress involved and its alleviation. The patient seeks help because things are going wrong and the therapist is a member of a helping profession. More than the mutual shaping described earlier goes on: both are governed by similar ideologies. The personal history of the consumer as well as the professional history of the delivery agent may then become the observation of problems viewed as distressful or cases in distress, of ways in which things have gone wrong, of cries for help which went unheeded, of the often arduous and dubiously successful nature of the remedial undertaking. With Muller (1953) they can conclude that "the tragic sense is the profoundest sense of our common humanity," and that our acceptance of this sense provides the hope that we might thereby "be freed from the vanity of grandiose hopes as of petty concerns. We might learn that 'ripeness is all,' and that is enough" (p. 374).

Parallelism may, however, be developed in another manner. With regard to individual analysis, it is when things are going right that one might try to analyze the relevant contingencies and thereafter attempt to replicate them, and then observe the conditions under which replication is successful, attempt to institute them, and so on. The helping professional might help the patient do so. Of course, people are currently doing this, professionals are currently doing this and often, indeed, ask other professionals for such constructional advice to solve a problem. However, compilations of *do's* do not tend to produce professional acclaim, nor are theories which organize such concepts and which direct data acquisition as prevalent as are those with a pathological orientation (such writings *do* contain constructional elements and syntheses). The constructional approaches tend to be regarded as cook-books, and their authors as technicians or popularizers. Nevertheless, they do strike a tremendously popular chord; witness the success of Dale Carnegie books and programs and other *How to* books. What I am proposing is that academic thinkers orient their presently highly developed analytic and research repertoires to fill this gap. This will require shifts in orientations and expectations on many sides. This was exemplified by the comment of a patient when asked, after listing his grievances and deficiencies, to now devote at least equal time to his strengths and assets: "I didn't know I was coming for a job interview." The comment also illustrates the fact that explicitly in other areas, and implicitly in the area of concern, we are already constructional. I suggest we start to make explicit and systematize what we are already doing. At the present time,

the tremendous gap between academic theory and research, on the one hand, and practice, on the other, is related to the recurrent threat to tear apart at least one professional organization.

The social ambience of the pathological orientation: — A pathological orientation is congruent not only with the pessimistic views noted but is also fed by an optimistic source. The example of medical science has indicated that certain types of distress at least can be alleviated, eliminated, or prevented by alleviation, elimination, or prevention of an underlying pathology. The consequences of ignoring pathology or its early indicators (for example, cancer) are well-known, as are the consequences of deferring treatment until the crisis is upon the patient. The pathological orientation, accordingly, derives strength not only from this optimistic medical tradition, but also from the pessimistic humanist source noted, from ethical imperatives on a professional to provide what a patient seeks for a patient who defines his outcome in terms of distress, and from other human experience as reported first hand and refined by our literary tradition. The pathological orientation has profoundly affected our literate culture.[23] Its widespread acceptance is implied by W.H. Auden's characterization of our period as *The Age of Anxiety*.

The pathological orientation has also profoundly affected our social institutions, the activity and training of relevant professionals, and the related scientific cultures and traditions.

Complex social institutions have developed in response to pressures to alleviate the distress which behavior patterns can produce. The solutions have classically been couched in terms such as alleviation, elimination, or prevention of distress, protection of the individual or social system against the patterns, and so on. More recently, efforts have been made to redefine the patterns as acceptable. The distress is then attributed to the effects of social reactions to the patterns.

Where the distress is individual, it may be conceptualized and defined experientially or in terms more observable by others. Examples are terms such as anxiety and depression.[24] Individual distress may also be conceptualized physiologically and, indeed, the ease with which experiential distress can be altered chemically requires no elaboration. Or distress can be conceptualized as societal and defined through observables which are considered their indicators. Examples are terms such as anomie and alienation.

The various frameworks of distress have influenced each other considerably, but the heavier conceptual traffic has been from the individual approach to the social, in our society at least.[25] We are thereby bequeathed with the concept of

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[23] We recently subscribed to the American Film Theatre Series, in which great plays considered representative of the modern theatre have been faithfully put on film. The series has lived up to its promotion, but play after play has described pathology.

[24] The concept of anxiety is central to psychoanalytic theory, of course. Its alleviation is important to the behavior therapy which involves the desensitization procedures of Wolpe. Although its influence on the behavior modification procedures relatable to operant formulations has been negligible, Skinner has attempted to define the term.

[25] Social systems deriving their ideology from the Marxist schools would tend to reverse this stream of conceptual traffic, e.g., the term, *bourgeois mentality*. My reference to heavier traffic implies, of

social pathology and its accoutrements, e.g., social health, social disease, social cure. These concepts, borrowed from individual pathology, have been used to explain and absolve that pathology, e.g., *it's the society that's sick, not him.* Indeed, those schizophrenics whom one framework would regard as mentally ill and deviating from normal, another would regard as superior in perception and insight to the sick society from which they have wisely withdrawn. There has also been considerable conceptual traffic between physiologically and psychologically defined frameworks of pathology. One direction is exemplified by the effort to find organic and genetic determinants of pathology. The reverse flow is exemplified by psychosomatic medicine. Nor has the controlled animal conditioning laboratory been disregarded. Examples are the production and analysis of animal neurosis, experimental neurosis, and comparative psychopathology.

Each of these approaches, singly or in combination, has generated considerable research and theory. These have been devoted to the conceptual, methodological, and practical problems involved. The approaches and institutions involved are among the major contributors to the prevalent acceptance of the pathological orientation.

The social contingencies which the eliminative approach rationalizes are beyond the scope of this discussion. The relation between academic socialization in the social sciences and the reinforcement given to finding inadequacies in the work of others need not be elaborated: "critical" comment is raised to a high level with regard to academic theory and research as well as the social scene.[26] The existence of more options in the set of solution-irrelevant elements than in the other set facilitates, of course, the finding of inadequacies. *Any* investigation *must* have omitted from consideration more variables than it included. And focus on the larger set also makes possible, as was noted in the example of the obsessive patient, extended discourse, research, and publication.[27] None of the foregoing

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course, that reverse traffic is also found in our ideologies. An outstanding example, of course, is George Herbert Mead. The reductionist view which was strong in his time regarded the individual as ultimately explainable in physiological terms (the descent toward basic being expressed by society-individual-physiology-biochemicals, etc.). Freud, for example, regarded the solution as ultimately hormonal, and note also the neurologizing of Pavlov and Hull. Acceptance of this hierarchy is still strong. Mead reversed the polarity: psychology can be understood only in a social context, e.g., development of a self-concept is contingent upon perception of others, and differentiation from them. Mind is also to be considered in this social context (Mead, 1934, 1956). Interestingly, Mead regarded himself as a social behaviorist, and at one time occupied a chair of comparative psychology.

[26] An analogy can be extended to the ease with which one can point out shortcomings of a social system and the difficulty of constructing social effectiveness in these areas. It is interesting that the Constitutional Convention, which met to set up a system, worked some time on it, and emerged with a document whose preamble is stated entirely in terms of positive outcomes. On the other hand, the Declaration of Independence, which provides the rationale for dissolution of a relation was written rather quickly and (my quick count of column lines in my almanac indicates) is devoted mainly to grievances - 67% of the lines (4% general statement, 54% specific complaints against the Crown, 10% against the British). The remaining 33% is divided between the general introduction (21%) and the conclusion (12%).

[27] And, as Humpty Dumpty noted: "There are three hundred and sixty-four days when you might get unbirthday presents—"

should be interpreted to mean that extended discourse, research, and publication are unnecessary. The need for them is more critical than ever.

In all events, the pathological orientation is by now so prevalent that it is generally considered as self-evident, as though conceptualized among "the laws of the Persians and Medes, never to be revoked" (*Esther*, l:l9). Indeed, some of the patterns involved have at other times not been considered pathological, and may not be so in some other cultures. In our society and our time they are so considered, and the term *mental illness* (*emotionally disturbed*, etc.) can be considered as a metaphor implying treatment by means and agencies used for other illness. Indeed, the *diagnoses*, or classifications, are based mainly on patterns considered undesirable and therefore to be eliminated, controlled or overcome. Thus hallucinations, delusions, and thought disorders enter into the diagnosis of schizophrenia and labeling as a schizophrenic. Crippling fears enter into the phobic *disorders*. And so on. Persons may be viewed as disturbing others by the face they present and what they do—as well as by what they do not do. And, as has been indicated, learning *how* they may present themselves or behave in manners satisfying to themselves and others is not readily come by through focus on what is currently wrong. Given this discrepancy, solution may be elusive, and ascription of the patterns to a pervasive pathology whose outbreaks are unpredictable makes sense. As was noted earlier, vagueness of definition of pathology enters into the rationale for total institutions and the antinomy they pose for the larger constitutional system. A constructional model may deal with *some* of these issues otherwise and arrive at different conclusions, which do not always imply the antinomy, in some cases. This will be considered in greater detail in the next section

The conditions for choice of a constructional approach, a pathological one, or their combination, have not yet been systematically explored. Given the possibility that they may yield different cost benefit ratios, depending on the conditions (in which term I subsume the type of problem), the current preponderance of one approach over the other may have produced unnecessarily high cost-benefit ratios. These may contribute to (or at least provide arguments for) current challenges to the present system. Among these is the assault on the mental health professions being made not only by administrations on federal and state levels, but also by groups to their political left, by those concerned with civil liberties, as well as by such consumer-oriented groups as Nader's. This suggests a third parallel to the eliminative self-evaluations and therapist evaluations noted. This is an eliminative societal evaluation of professional practices. The recurrent emergence of new forms of psychotherapy, the continual reformulations of classic forms and approaches, and the apparent market for simplistic restatements of these and of behavior modification may also derive from dissatisfaction with the cost-benefit ratios presently obtaining. In those cases where the alternatives proposed are

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"Certainly," said Alice.

"And only one for birthday presents, you know. There's glory for you!"

(*Through the Looking Glass*, Chapter VI.)

simplistic, the high cost of the present system may have been attributed, in part, to the complexity of its formulations. And recently being added to these challenges are those posed by the constitutional critics. On the one hand, institutions are being ordered by courts to provide the treatment which is their rationale, and on the other, their funds are cut, as are funds for professional training.

The constructional-pathological pairing: — Although much of what is now going on is new, the general problems have been discussed for some time. Indeed, professionals themselves have been among the sharpest critics of their own systems. In an effort to pin down good guys and bad guys, or otherwise to dichotomize different approaches, various paired terms have been offered. Often, as was noted earlier, these vary in the term which they oppose to *medical*, but they share this common term as the discriminandum.

The pairing I am suggesting is *constructional-pathological.* The terms may be considered to be apposed terms, since similarities can be described (they both relieve distress). However, they call for different data bases, which can be expressed in terms of different outcomes, starting points and diagnostic formulations, and are not comparable. The extent to which they represent antipodes or antinomies, or are orthogonal can not be assessed at present. If they are orthogonal, then the implication is that we must describe problems, their solution, their history, and their understanding in terms of intersecting coordinates, one of which can have a zero value. The assumption of orthogonality seems to present the fewest difficulties at present.

The pairing is not congruent with many others currently proposed. The term that everybody's concept would most like to be paired against, *medical* model, is not congruent with a pathological orientation. Seated as I am in a wheelchair, neither I nor my physicians are interested in eliminating my paraplegia. We would like to program walking. And we wish that neurology would more rapidly learn how to grow nerves. Nor is medical opposed to *environmental.* Much of current cancer research is concerned with environmental variables. These may be viewed as producing pathology. On the other hand, they may maintain organic controls over regulated cell growth. Terms which are frequently paired with medical, such as *preventive, psychological, social, educational, behavioral* (cf. Cowen, 1973) can contain pathological as well as constructional approaches, as in preventing illness or maintaining health, eliminating defensiveness or creating self-esteem, overcoming discrimination or establishing fair employment, stamping out illiteracy or teaching Russian, eliminating homosexuality or establishing cross-sexual relations. Terms such as *diagnosis-treatment* have been proposed. However, assessment can be for constructional purposes and treatment for pathological purposes. Furthermore, one can diagnose a problem in terms of what needs to be done. Within the psychological domain, the *mentalist-behaviorist*, or *psychodynamic-behaviorist* dichotomies are not applicable since each contains both pathological and constructional formulations and procedures. Finally, within the behaviorist domain, the *therapy-modification* or *respondent-operant* dichotomies present the same problem, as does the term *program.* Within his framework, Wolpe has pioneered both desensitization and assertive procedures,

and Lang is computer-programing the former. Consequential control over behavior can be aversive as well as reinforcing.[28] It has been noted that constructional and pathological orientations are comparable when viewed from the outcome requirement of the latter, namely, elimination of a pathology or alleviation of distress. Viewed from the outcome requirement of the former, namely, construction of an outcome, they differ. The data bases of the two differ, as do the procedures utilized. This creates problems in translation of concepts and transfer of procedures across orientations. Accordingly, given two models, each of which combines both constructional and pathological elements, it would seem that communication between the two models is facilitated when comparable elements are related—for instance, the constructional elements of one model and constructional elements of the other. How a practitioner operating in one model constructs a repertoire may be useful in the construction of a similar repertoire by a practitioner operating in another model. However, how one eliminates a pathological element may not be useful in the instatement of a constructional element—within the same model, or across models.

Accordingly, translation and interchange may be facilitated by attention to constructional and pathological elements in models. This would also hold for patterns of a given person or institution. It is fashionable to denounce mental hospitals as producing institutionalization, or the exact opposite of what the implicit social contract calls for, and to decry their incompetence. How do we make them competent? Such analysis seems difficult, and the changeover seems costly: more staff, etc. Furthermore, such attack generates counteraggression by the institution and professional agents involved. The likelihood of change is lessened. If however, the institution is viewed as competently programing the undesirable outcomes observed, different consequences may ensue. Stated in constructional terms, the *procedures* used by the institution are *competently* establishing the *outcomes* identifiable by the patients' repertoires. The program is an implicit one—it would require extreme cynicism to regard it as explicit. The analytic task then becomes one of making the program explicit, and harnessing the competent procedures to produce different outcomes, which are in accord with the social contract, as was noted in the earlier discussion of individual cases. Just as the institution can learn from its own effectiveness—if it is viewed constructionally—so, I believe, can professionals using different models learn from each other if they view professional behavior constructionally.

A specific model for research and intervention will be presented, which is constructionally oriented and falls within the operant-behaviorist tradition. Working details of the model, that is, its specific applications to contingency change, are not presented but are reserved for other publication—our main concern here is conceptual and ethical. Because the model follows the operant tradition, it

[28] The term *constructional* was chosen over *constructive* for two reasons: One is that one may first have to eliminate debris to be constructive. The other is the connotation of *constructive*. It implies that any alternative is destructive, which is presumptuous. The term, *constructionist*, is too closely bound to narrow interpretations (e.g., of the Constitution). *Constructional* lacked these connotations as well as an antonym, leaving open its relation to pathological.

is concerned with the development of validatable procedures with individual patients treated on a long-term basis (or groups so treated). For the same reason, the procedures are not validated only at the end of the program, but as they move along, in terms of fine-grain relations. Operant laboratory research has not only been used to shape and establish patterns, but also to investigate functional relations—that is, lawfulness. Stated otherwise, it can be used to contribute to knowledge. Indeed, this is its major objective—for us. For the patient, it is attainment of personally-desirable goals.

Because the model is constructional, I believe that its procedures can be transferred and used by professionals working within other models, where these procedures are examined for constructional relevance. In developing the model, we have insisted that our aim is not to develop a new therapy which supplants others, but is to make explicit what goes on in psychotherapy or treatment, however named. I believe that for the present, at least, our major contributions lie in this area. We do not intend to supplant other models not out of any great sense of humility but because we choose to view the professional work of others from a constructional orientation. Thus, we can very selfishly learn from their successes.

The model to be proposed has one other important feature. It accords completely with the constitutional requirements met by most of medical practice. These include contracting with the patient on outcomes and procedures we both consider worthwhile, rather than considering the patient as a third party who is to meet ends defined by two other parties, using procedures they set. The contract also requires explicit statement of our areas of concern, and requires our being limited to them. All others are reserved to the patient. The total institution, it will be recalled, differs in these two important respects. Our stance was not taken simply to accord with constitutional requirements. It derives from the analytic and therapeutic necessities imposed by the model.

A CONSTRUCTIONAL MODEL

While the experimental operant laboratory has been cited as the major source for the procedural and conceptual requirements of clinical and other areas of social intervention, it may be more instructive to consider the contributions of programed instruction. Stated in oversimplified terms, we can view the therapist not as a reinforcement machine, but as a program consultant, namely, a teacher or guide who tries to be explicit.

Programed instruction (p.i.) derives, of course, from the experimental operant laboratory. The four basic elements of a good instructional program are found in the behavior-shaping or stimulus-fading procedures of the animal laboratory. Indeed, p.i. has served to articulate procedures used to bring animal behavior to some researchable level. While suggesting new procedures for the laboratory,[29] p.i.

[29] It can be argued that the fading procedure used for animal discrimination research derives from the fading of prompts and other gradual stimulus changes of p.i. This procedure, of course, can be considered as the stimulus control equivalent and derivative of prior animal shaping procedures.

did not get off the ground floor until this laboratory technology was applied to it. Fittingly, the first programed text, the Holland and Skinner (1961) program, expounded the analysis which was derived from such laboratories. We can state, using the same criteria whereby we infer these from human behavior, that we can teach animals to be creative, to abstract, to conceptualize, to think, to develop and apply insight to solve new problems. Indeed, such demonstrations serve to remind us that the human equivalents may also be products of similar programing in the past, and may suggest explicit procedures to remedy deficits. However, *our* repertoires as programers in the laboratory are quite limited when compared to our repertoires as functioning members of social systems. The abstractions we program in the laboratory are far less complex than the abstractions and types of control found outside. These involve the use of language and of other socially-established repertoires which p.i. utilizes and taps. And as I tell my classes in the introductory lecture on experimental analysis, when I discuss applications and cite p.i.: "Yes, Virginia, behaviorists can teach people new concepts and orientations and ways to think, and their basic research includes these areas." Similarly, in programing self-control, we can teach people new insights into the solution of their own problems, can investigate the means whereby the outcomes are produced, and can make reasonably shrewd inferences about the development of their initial presenting problems. The insight-therapy behavior-therapy dichotomy is a false one, and the treatment-understanding dichotomy can also be a false one.

Although the p.i. model can be closer in some areas to the social programs discussed than the laboratory model, it is not congruent with them. Whether this is because the social areas will require models of their own, or because they are not as explicitly developed, can not be answered at present. With the exception of a few programs, for example, the Foxx and Azrin (1973) and Azrin and Foxx (1974) programs to establish toileting, and our own fluency program and its related programs,[30] most clinically-oriented programs have not explicitly specified and standardized each of the steps between entry and target repertoires in the manner of p.i. Rather, in this respect, they more closely resemble the hand-shaping procedures of the laboratory. Here, although the target is known and the general sequence can be specified, the procedures are not so explicit that they can be automated, and there is considerable room for variation and invention, depending on a variety of factors, including the outcome desired. Laboratory procedures also

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Viewed in this manner, the basic science provides a technologically-useful procedure which in turn provides a scientific tool and problem.

[30] Our present program was in the process of development from 1963-1967. This program was carefully observed and analyzed by Perkins and Webster *in situ*, who then made original and significant innovations (Perkins, 1973 a, b; Webster, 1970, 1972) in accord with their interests and local requirements, in what may be considered as thriving and different mutations from the same stock (for an explicit program using a token economy, see Ingham and Andrews, 1973). Indeed, our program (in press) has also mutated. This suggests that even when explicit programs are developed for clinical problems, a variety of different programs will do the task, and a consumer living in that period of "behavior control" who wishes to learn new repertoires will be able to choose freely from a variety of alternatives, just as he now can with programed texts.

include those involved in auto-shaping, which is suggestive of clinical self-solution.

Nevertheless, the p.i. model is close enough for my present purposes, which bear upon constitutional issues. Before going into these and other extensions, the main differences will be noted between a model dictated by the requirements of p.i. and the pathological model which presently prevails. I should like to reiterate, for reasons already noted, that the issue is not the superiority of one model over the other, nor of acceptance or rejection of one at the expense of the other. Both models (and others, as well) have been developed by sensible people who are sensitive to *la condition humaine.* The model to be suggested is offered because it is closer to the procedures *common* to p.i. and the associated laboratory-based conceptual system. The introductory sketch will be organized according to the four program elements mentioned. It will extend the specific requirements of this model to the general comments made in the parallel comparison of the con-structional and pathological orientations.

1. *Target or outcome*: — Being explicit about the target or outcome is, of course, the first order of business in p.i. The target is usually suggested by the title of a programed text, for example, *Neuroanatomy* (Sidman and Sidman, 1967), or *Really understanding concepts* (Markle and Tiemann, 1971). Indeed, examination of Hendershot's (1968, 1973) encyclopedic catalogue of programs in print is highly instructive: each title typically refers to that *repertoire which the program is intended to establish*, or construct.

With rare exceptions, the title does not refer to the overcoming of a deficit, nor the elimination of troublesome patterns. Possibly the student is buying *Neuroanatomy* because he wishes to overcome his ignorance in the field, or because he wishes to eliminate the crippling anxiety he currently feels over keeping up with the course. This may keep him from cracking the standard text, or he may be overwhelmed each time he opens it and this puts him further behind, etc. These presenting complaints, either of deficits to be overcome (inadequacy, ignorance) or of disturbances to be eliminated (anxiety, bibliophobia), are usually genuine. They may be profitable ways for the professional (and patient) to conceptualize the problem, but an alternate constructional model is suggested by p.i.

2. *Entry behavior, or current relevant repertoire*: — The constructional property of the outcome in p.i. dictates what the starting point should be, namely, those successful repertoires which the purchaser already brings with him. The program will be built on these. In a programed text, these are stated in an introductory comment which typically follows the title page. This informs the reader (or instructor) that the ensuing program presumes mastery of a specified prerequisite, since it will start out at that point. A set of criteria may then be provided to see if his background meets these requirements, or those of a less advanced or even more advanced text. As we apply this to personal and interpersonal problems, we attempt to ascertain the relatable skills in the client's

repertoire. And this will include a past history—of successful patterns and solutions.[31]

3. *Sequence of change steps*: — This sequence, of course, is the printed text of the programed book. In a linear programed text, each successive step (frame) is a miniature program containing the elements of the larger program in which it is embedded. The attained target of the preceding step is the current repertoire. The step itself consists of a behavioral requirement which either differs somewhat from the requirement at the preceding step (shaping), or is identical to the preceding requirement but under different stimulus control (fading), or both. This linear model, conceptually elegant and useful as it is in a text, is often too simple for the requirements of a social program. Indeed, even in texts, the program may branch, recycle, may provide options, or be open to original contributions or other unexpected developments and capitalize on them. The reader is referred to the p.s.i. movement (personalized systems of instruction, Keller, 1968; Sherman, 1974), for other extensions. Differences between these extensions need not concern us here. What is of concern is that the p.i. (or p.s.i.) program tends throughout to be constructional. When deficits and patterns considered inappropriate occur, the student may be referred, depending on the type of program (linear, branching, etc.), to an earlier point in the program, to another unit, or to another source to *construct the desired repertoire*.

4. *Progression-maintaining consequences*: — The opening words of the Holland and Skinner (1961) program introduce a quotation from Thorndike and Gates, some 30 years earlier: "If, by a miracle of mechanical ingenuity, a book could be so arranged that only to him who had done what was directed on page one would page two become visible, and so on, much that now requires personal instructions could be managed by print" (p. *v*). The teaching machine, of course, so arranges things admirably. Where no consequences other than presentation of the next unit are provided, what maintains progression? Why bother? In a well-defined program, successive delivery of successive steps constitutes progression toward the outcome, and such *delivery* (viewed as a stimulus) or such *progression* (viewed behaviorally) may be considered as a maintaining consequence for advancement—*providing the program outcome itself serves this reinforcing function*.[32]

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[31] This holds, of course, for animal laboratory research. Pigeons whose color discrimination is identical will respond differently to a new color, depending on the *program used* to establish the discrimination (Terrace, 1964). One way to state it is that the program is a variable, and another way is that the pigeons have different histories. One practical implication is that there exists a variety of ways to establish a repertoire (see Footnote 30). Further, how the patient establishes it may be crucial. And statements that we don't care *how* the desirable results were obtained, as long as they are desirable and *were* obtained, not only display ethical obtuseness, but also scientific ignorance. For other laboratory research explicitly dealing with history, see Weiner (1969), and note that Ferster and Skinner (1957) also discuss the effects upon present schedule performance of differences in previous schedules.

[32] The units and requirements of the program may be viewed in laboratory terms as a *chain*. The reinforcing property of each step derives from its linkage to the terminal reinforcer: its delivery of each successive frame in *Neuroanatomy* reinforces progression - if knowledge of neuroanatomy is critical. This consequence, in turn, may be linked to more critical consequences, e.g., getting through

Progressive mastery of a course or of the psychotherapeutic outcomes itself becomes reinforcing, and no tokens, points, M&M's, or other extrinsic reinforcers are then needed. Need I point out that behavior analysis does indeed utilize intrinsic reinforcement?

It is when the program outcome does not (or can not) on its own serve this function that extrinsic consequences find use, either in addition to or instead of the intrinsic consequences. Where additional consequences are employed, they may derive their reinforcing property through linkage to a potent back-up, as when money, tokens, or points can be exchanged for luxuries or necessities; or they may in themselves be potent, as when M&M's, cigarettes, or food are used (subject, of course to the conditions which make other consequences potent, e.g., deprivation). They may also substitute for the intrinsic consequence, as when scientific publication is maintained by promotion or avoidance of dismissal. It is customary in many quarters to lament such contingencies, and they are considered less desirable than the (intrinsic) program-specific consequences noted. However, they are often necessary. For example, the production of steel is vital to the well-being of practically every citizen, including the steel-worker. Yet for how long will steel production be maintained by interest alone? Possibly in besieged Leningrad, or in the battle of Britain, but not otherwise.

In a programed text, the student himself controls delivery of the reinforcer, and a true contingency relation does not hold.[33] This poses conceptual and procedural problems, but these are not critical to the present discussion. The difference between the programed text in the student's hands and the machine (or tutor) program for the same material resides in the *agency* which defines the response required for delivery of reinforcement. In the case of the latter, definition is independent of the subject, whereas in the case of the former, it is not. On the basis of this distinction, it should be noted that constructional clinical practice can be closer to the teaching machine and laboratory contingency than it is to the textbook type of contingency. In a social program where, say, the presenting complaint is the behavior of a problem child and the parents are the clients, the reinforcing events are the child's changed behaviors at home. The child is the defining agent. If he reciprocates their changed behaviors toward him, he may thereby reinforce their changed behaviors and analyses, which are the targets of the sessions. In a self-management program where, say, the presenting complaint is prolonged scratching which produces and aggravates skin lacerations, skin healing

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medical school, and so on. When one classifies some consequences as more critical than others, one is reminded, of course, of the classifications of needs into hierarchies, with some being more basic than others. Within the constraints given, namely, that certain events derive their reinforcing properties from linkage to others, need hierarchies and contingency chains intersect.

[33] This is often called *self-reinforcement*. All reinforcement is self-reinforcement in that it is one's own behavior (pigeon or human) upon which reinforcement is contingent, and the term, as used in this context, is trivial. However, it departs from triviality if it is extended to define those situations in which the agent who evaluates the contingency is the trainee himself, that is, he evaluates whether the response requirement has been met, whether the reinforcer should be delivered, etc. The opportunity for peeking, for cheating, and for other behaviors not related to the target is now set up, and self-reinforcement, when used in this sense, departs from laboratory usage, as does the term, contingency.

is contingent on target behavior, and the skin, so to speak, defines this requirement. Both examples, the social program and the self-management program, define true contingencies.

The more conventional pathological approach may, of course, also produce changes in others which have the effects desired as well as self-management. Indeed, the relation of the changes produced to the patient's behavior, problems, and insights often form a considerable part of the discussion. However, they are not as systematically articulated nor as systematically woven into the program as they are in the p.i.-laboratory model. The locus of maintenance of patient progress may (therefore) be assigned to therapist, patient, or interactional variables, such as transference, rapport, or other "therapeutic relationships."

THE MODEL IN PRACTICE AND IMPLICATIONS

The model which has just been presented rationalizes, I believe, much of what is currently going on in applied behavior analysis (as distinguished from what is being called behavior modification or behavior therapy).

One of the major contributions of the experimental analysis of behavior has been its explicit formulation of procedures for construction of repertoires and their maintenance, along with a functional analysis which has provided means for further development. It was these successes that suggested application to human problems, where the issue might be expressed in terms of construction of repertoires. Such early successes, and the seemingly simple means by which they were attained, undoubtedly led to the mushrooming of the field. Indeed, until very recently, the popular press tended to associate B. F. Skinner with spectacular results in training animals, for example, teaching pigeons to play ping-pong. This involved the *construction* of a hitherto unheard of repertoire, hence it was newsworthy. Also newsworthy was the ability of a psychologist to do so well in training.

The rarity persists. As Hilgard and Bower (1966) noted: "It is not wise to dismiss ['the animal stunts'] as merely signs of cleverness on the part of the trainers. These practical demonstrations serve as important empirical supports for certain aspects of the system - a kind of support very much needed for learning theories, and notably lacking thus far. *No other learning theorist has been able* to train an animal before an audience in a prompt and predictable manner . . . [thereby] epitomizing the principles of his theory . . . . [Other] demonstrations have usually relied upon exhibiting the results of earlier training. By contrast, Skinner's pigeons can be brought before a class and taught various tricks before the eyes of the audience" (p. 144, emphasis mine - I.G.). At that time (1966) they noted that "most striking results" had not only been obtained in "animal training" but also in "programed instruction."[34] Among the commonalities of these fields is the

[34] Unfortunately, Hilgard and Bower perpetuate the over-simplification that "the practical use of the system is based on the complementary principles of control through presenting and withholding reward." Further, "it is not necessary to worry about anything precise in the way either of experimental data or of correlated principles" (p. 144). To any investigator who has spent hours

construction of repertoires, and the deployment of positive reinforcement in this process. Certainly, no text that relied on shock elimination to maintain progression would sell. Since that edition of the book, as the reader is aware, further extensions of Skinner's systematic approach have been made. Examples are behavior modification, behavior pharmacology, biofeedback, and social analysis.

The thrust of the quotation still holds. We are highly skilled in developing new patterns of behavior and teaching new understandings (p.i.). We are skilled in doing so in an explicit and precise way that enables us to learn what was at work. We thereby increase our own constructional repertoires and our understanding. I submit that we might learn from this. Control of behavior by punishment, by threat, by blackmail, or by other coercive means is as old as culture and may add comparatively little to behavior technology. What has been learned is how to deploy advances in physical technology for these age-old practices.

In the present section, I shall indicate how we have applied the constructional model described to one particular setting, namely our own service-research unit and its requirements. These requirements may differ for other units. Accordingly, the particular instruments I shall discuss are not presented for their universal applicability, but rather as illustrations of how one application of the constructional model meets constitutional and ethical requirements. Hopefully, it may spur planning along these lines elsewhere.

The instruments to be described derive from the requirements of a university system of hospitals and clinics[35] with a strong research reputation, both basic and applied. The institution has therefore, in many areas, pioneered new methods of successful intervention for patients and trained other professionals. In the process of providing such services, we have attempted to be continually explicit about the repertoires we were applying, the repertoires the patients were applying, the patients' relation to the resources available to them in their more typical ecology, what changes were required, and the functional relations between these. The research purpose is evident, but I regard these as fulfilling therapeutic requirements as well. If the patient can use a similar research approach, he may better assess the contingencies of his life—and teach us. Our research aim is furthered. We *both* hope to gain insight into the contingencies which govern his repertoires, how to change the contingencies, and how to assess them. Special instruments had to be

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worrying his instruments to obtain precision, this statement appears strange. It must also appear strange to those working in p.i., which discusses curriculum, sequences, stimulus control, fading, prompting, etc. The occurrence of such lapses is especially regrettable and unfortunately influential when it comes from scientists whose reputation for thoroughness is well earned.

[35] These include those administered by the Department of Psychiatry or affiliated with it, which include the Out-Patient Division (of which our service is an integral part), the department's ward, and the Student Mental Health Center. In addition to involvement with patients from these units, we have also supplied consultant services to Medicine and other departments. Dr. J. E. Dyrud is clinical director of the department and associate chairman. I wish to express my profound appreciation to him, and to Dr. D. X. Freedman, chairman, for their continual and unstinting support throughout. I am equally indebted to Dr. E. A. Uhlenhuth, director of OPD, for similar support. Needless to say, they are not responsible for any ideas expressed here, except for the moral rule of any hospital: when one accepts a patient, his interests come first.

developed for these purposes. Their development and assessment were governed by the constructional rationale described in the preceding section.

The Constructional Questionnaire: — The initial interview after acceptance to our services is *guided* by a questionnaire developed to obtain data for each of the four program elements described: targets, current relevant repertoires, change procedures (often strategy at this stage), and available and potential supports or reinforcers for maintenance through the program and thereafter. The questionnaire is presented in the appendix to eliminate the digression necessary to describe it in detail. My focus in using the questionnaire is on ascertaining the critical reinforcer, namely, what the patient is after, which I regard as presently pertinent for three reasons.

First, if we can find out what the patient is after, and if we agree to help get it (we need not agree; this will be elaborated in the discussion of contracts), progression toward this goal will serve as the program reinforcer. Extrinsic reinforcement in the form of tokens, points, etc., is then not necessary, and concentration can be on mutually agreed-upon goals, the means for whose attainment can be as clearly relevant to the social contract as are the ends. The progression requires record-keeping vital to (both) our interests. The patient may then readily assent to other requirements we both agree on. Renegotiation is expected, and coercion is absent.

Second, in my discussions with others, I have been repeatedly asked questions such as: "But how can you *tell* what the patient is really after?" I submit that in most cases this is readily evident—if one asks the right questions or observes appropriately.

Third, if we try to ascertain what he is after constructionally, we can more readily bring to bear those constructional, procedural, and analytic skills which are, at present, our important repertoires. Anyone can eliminate behavior if he sets himself to it. People have stopped stuttering overnight on impelling occasions. Switching to appropriate juncturing is not something anyone can do readily. We teach this very competently. Anyone can go on a diet and lose weight. Developing *satisfying* eating patterns is a different story. A constructional target must harness constructional data. Our graphs will therefore be of acquisition, maintenance, and related conditions. This is something any operant laboratory psychologist should feel at home with.

The first series of questions deals with outcomes. The first question in the series is direct: If we were successful, what would the outcome be for you? Typically, this is answered as relief from described distress, or elimination of a problem, but given the prevailing culture, we regard this as a sign of responsiveness to it. Patients classified as psychotic, inpatient or outpatient, may give answers similarly responsive: "I'd be the Virgin Mary"—a ten-year inmate of a state hospital, classified as paranoid-schizophrenic. My retort (puzzled) : "Gee, I don't presume you'd have been dead these two thousand years. Must be something about the Virgin Mary that sends you?" Answer: "You're darn right. Mother and Child. Mother and Child." The patient had no children and her husband was a pimp who sold her services. She is tied to him for a variety of good reasons, and wants

nothing more than a normal family with a husband as constant as the Father of the infant Jesus. Psychotic wish? (This was an outcome we could not help provide, given the available resources.) This information was readily inferred from the rest of her responses which resembled those of anyone else.[36]

The second question in the series attempts to redefine the outcome (if it has not been so defined) in observable *and* constructional terms. We have found the Martian observer, through whose eyes the outcome is seen, to be highly useful. (Reasonable substitutes can serve.) What does he observe which can be punched on IBM cards and analyzed by the computer? Prompts and corrections are given ("I'd be happier"—"The Martian can't observe comparisons nor read your mind. How does it show?"—"I wouldn't yell at my wife"—"How can he observe what you don't do?").

The second series solicits what is going well or is to be excluded and those changes which can be by-products of the program changes. The first question sets an immediate limit upon the program consultant. One smoker stated that he knew that relations with his wife were critical. He stipulated that this was not to be considered. Most clients report receptiveness to any area deemed relevant. The second question is set up for hidden agendas, among other data. The answer can also indicate potential reinforcers. (An obesity problem: "I'd be playing basketball again.")

The fourth series solicits repertoires presently (or previously) available and possible stimulus control. As one patient, who had entered in a deeply depressed state, commented: "Do all your patients leave feeling this euphoric?"

The fifth series, on consequences, has been useful in fluency and related problems for research purposes. By and large, it has thus far not been needed to ascertain critical consequences.

Administration of the questionnaire may take from one to three hours, and more than one sitting. Only rarely is further information needed for the first stage. Although in most cases, it is remarkably simple to pinpoint the critical reinforcer, being able to help the patient obtain it is an entirely different story.[37]

With both outpatients and hospitalized patients, the symptom can be considered as a neon arrow pointing to the critical consequences—if it is considered a positively reinforced operant (see Goldiamond, 1969 for other suggestions on identifying the critical consequences). By the time the patient applies for relief, or is hospitalized, this operant can have become very costly, albeit still reinforced. If it is eliminated, and if the critical reinforcer thereby also

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[36] The one exception was the response to: "What's your husband like?"—"He's the devil!"—"You mean there's something about him . . ." etc.,—"NO, he *is* the devil."— "You mean he stands for everything the Virgin Mary does not?"—"Darn right!" (I had finally caught on to her system of private metaphors, and thereafter they were more trite.)

[37] It is often assumed that because treatment is extended or difficult, the problem must be a difficult one. The inference may not hold. The time to construct a building may be extended, but analysis of what is to go up and how may be simple. Such an outline is usually called a blueprint. It takes at least four years to get a Ph.D. What is to be done can be mapped out in less than an hour. It is called a course of study.

becomes unobtainable, we may get "spontaneous recovery" of the operant or other operants may become established, some of which may be less desirable.[38] Accordingly, we must specify the operants to be substituted by the program for the symptoms which are currently part of the contingency. Delivery of the critical consequences is thereby assured. The operants substituted are derived by agreement and are operants which, unlike the symptoms, may not be punished by others, but may actually be socially reinforced. For example, a young man with a shoe fetish of long standing also collected the unusable stockings (with runs and holes) as well as brassieres of his fiancee's friends. He had been at the bottom of his class and possessed few job skills. In short, he had no place in the sun. The fetishes gave him a certain *eclat.* The therapy program consisted of the construction of job skills, among others. He was soon promoted and became an employee valued by others. The fetish and its related behaviors (which could jeopardize him legally) disappeared, without programed use of eliminative procedures. Social standing was established.[39]

Program Recommendations and Analysis: — The protocol is analyzed for a patient write-up. This serves the same function as the more conventional pathologically-oriented work-up, but is constructional. For reasons similar to those given earlier, its outline is presented in the appendix. Three comments will be made about the write-up.

First, it reverses the space ratio between pathological and constructional analysis typically obtaining in the patient work-up. It is very long on constructional elements, and short on pathology.

Second, where pathology is presented, it is presented as a strength, that is, a sensible operant. "X is so competent a librarian, that she has been promoted rapidly. She has also been elected as president of her local professional association. Her competence extends as well to . . . . Accordingly, she is so put upon by urgent requests from others that she has had little time to tend to areas of greater interest to her. She takes her work home with her. During the last six months she has begun to develop uncontrollable tremors, which she reports as anxiety attacks. As a consequence, demands on her are being relaxed"—but by means which jeopardize her interests.[40]

Third, history is important, but the history is of operants which have been shaped or otherwise developed. These obtain reinforcing consequences otherwise not available. A stutterer, for example, traced the background of his pattern to the stress he suffered during childhood; his parents were increasingly at each other's throats, and their marriage broke up when he was seven. Specific onset was at five, when there was a dinner guest who stuttered. He recalled intentionally imitating the dinner guest. He discovered one day that the pattern controlled his speech—it

[38] Often the behavior has ceased being functional, that is, is no longer reinforced, or the consequence has ceased being critical. In such cases, a simple eliminative procedure or program which rationalizes change will be quite effective.

[39] C. Dunn was the programer.

[40] R. Parry is the programer.

was now involuntary. "What did your mother do when you started stuttering?"—"She was beside herself with fury." One can argue *tel pére, tel fils*, or, on the other hand, visualize a period when his parents' attention is turned on each other, and withdrawn from him. The dinner guest is obviously listened to by the parents. The child imitates. Initial smiles are replaced, as the pattern progresses, by the full attention accompanying fury. This is not an ideal way to deliver attention, nor an ideal way to obtain it, but given the deprivation and circumstances, they serve. Data supporting interpretation of his pattern as an operant can be obtained from his history, discussed with him, and *used* to analyze and change the current contingencies of which his (expensive) pattern is a part in his speaking ecology (the laboratory program proceeds somewhat differently). Accordingly, the history of the operants is interwoven into the work-up.

Change procedures follow the initial statement. The tentative outcomes, stated explicitly, introduce the possible program. For the librarian, the outcomes might involve an explicit reordering of priorities. Learning how to turn down or defer low-order requests is a way which maintains the good relations she values (teaching her to turn things down in a way less costly than her symptom), as is revising her work arrangements so that she can do her work while on the job.

The remaining sections of the work-up follow the p.i. outline discussed in the model.

In some cases, one can present this work-up to the patient for his approval: Is this what you would like to see entered into your record? Do you have any objections or changes ? In one recent case, the patient had the write-up duplicated and presented it to his friends when they asked why he was seeing a shrink.[41]

Compared to the ease with which we can develop a coherent account using the more conventional pathologically-oriented work-up, we find that this task is often difficult and time-consuming.

The Contract: — The write-up forms the basis for a contract between patient and therapist. It suggests to the therapist what goals he might offer as possibilities. The patient may have other ideas, in which case negotiations may ensue. In all events, eventually a contract will be developed. The contract can be explicit, either written or verbal, or implicit, but the same rationale applies in all cases. Presented in the appendix is a form for a written contract to be *negotiated* between patient and programer. This lists the outcomes toward which the program is directed. Their establishment constitutes satisfactory termination of the sessions. It also lists other requirements. Contracts may be renegotiated upon call. I shall confine my discussion to two issues related to constitutional and ethical issues.

First, the fact that both parties must agree indicates that the therapist must be a consenting party. We have on occasion declined to enter into an agreement. This has occurred when we considered the outcome the patient was after to be illegal, unethical or dubious, nontherapeutic, beyond our capabilities, or something we

[41] Dr. N. Brody is the programer.

could not live with.[42] An example of an outcome desired by a patient, but which we did not consider worthwhile, and the resolution, is given by a college student with a spider phobia. The products of the phobia had been, progressively, weekly meetings for two years with an assistant professor of psychology, who was considered one of the most eligible bachelors on campus (he kept the relation professional), sessions with an associate professor in student health (similar relations), and she now came to me. In classic terms, she would be described as an hysteric, but we considered this as an operant which had been shaped by male attention. It had been so effective as to preclude the shaping of other ways of a maid with a man—her own peers. We felt that in the limited time available, programing should be directed toward attaining the latter end. After discussion, this outcome was agreed upon, and she was assigned a graduate student therapist—female. The resolution exemplified is that involved in other successful negotiation. If the two parties do not agree on outcomes, what outcomes can be found which are mutually agreeable? In a very few cases, negotiation has been protracted.

Second, *with* whom and *about* whom is the contract? The potential for abuse is less, I believe, when the objects of the two prepositions italicized are the same rather than when they differ. The concern of the contracting parties is most properly with each other. When the United States and Mexico changed their boundary so that Comanche lands became American, the Comanches protested that they had not been a party to disposition of their lands, in possible contrast to the tribes with whom William Penn negotiated. I have seen commercially available forms, designated as "behavioral contracts." These allow a mother to list for posting the behavior *she* requires of her child at stipulated times. Possibly, the listing makes a mother's desires explicit to her child, and possibly this facilitates communication. Both of these may be desirable, but this hardly deserves being called a contract. I am not arguing against explicitness or against parental responsibility. My argument is a terminological one, not in order to have tidy semantics, but because words can govern other behaviors.

In our programs, an explicit contract is signed, and *we* are always a signatory. The other signatory is the "party of the second part"—whoever gets the services for which *they* have contracted. Marital contracting was not invented by behavior modification, but when the terms were agreed upon, the assenting partners to this contract were also in a contractual client-professional relation with their lawyers or marriage broker. As was noted earlier, when parents apply for a change of their child's behavior, *we* contract with the *parents* to change the *parents'* behavior. If we are successful, the parents will learn how to obtain increased delivery of

[42] An issue which is constantly raised is illustrated by the question: "If you were a psychoanalyst in Vienna and a Nazi requested treatment for his anxiety," presumably so that he could resume his ill-treatment of Jews, "would you take the case?" It is often resolved by resort to the explanation that you would feel so uncomfortable that you could not be a good therapeutic agent. This is a pseudo-answer to a pseudo-issue, because both ignore the moral issues involved. These are obscured by posing the question in pathological terms, which suggest a conflicting moral obligation to offer relief to a human in distress. The moral issues can be clarified by reference to the outcome to be constructed, namely, return to duties we define as immoral. A Nazi, of course, might think otherwise.

reinforcers from the dispensing agent, their child. There is a practical as well as an ethical purpose to this. It has been argued that the parents are in far greater contact with the child than the (out-patient) therapist can be, that such contact will extend beyond the therapy sessions, and therefore that it is more parsimonious to train *them* to be the change agents for their child. This argument makes some sense, but I believe it should be extended one step. Each parent is in far greater contact with *himself* than anyone else can hope to be. Therefore, each parent should be trained to be the change agent for his *own* behavior. Where the reinforcing agent for such change is another person, say, their child, they must learn to "read" him. They must learn how to increase his dispositions to respond favorably to them, which occurs most readily when he gains thereby, as well. Learning to "read" under one set of conditions can carry over to other "books." Typically, it does.

Of course, you may object, it may be easy for *me* to take this stance. After all, the patients we deal with are (a) more or less rational, are (b) outpatients, and (c) come of their own volition, that is, they are hurting and *want* relief.

The first two objections can be disposed of readily. Some of our patients have been extremely disturbed. One ambulatory schizophrenic had been an outpatient since childhood and an inpatient for one-third of his adult life. A major revision we have had to make for such patients is in the written requirements for contractual relations and for logs. While the system has not yet been fully applied to inpatients, I have interviewed, on a regular basis, patients in a state institution. Their responses are encouraging in that they make the same kind of good sense as do the outpatients with whom we have worked. We shall shortly be starting projects with other populations.

The third objection is a far more serious one. A partial translation is: What if the gains from the disturbing patterns outweigh their costs? A stuttering case exemplifies one outcome. A college student of 19 was so severe a stutterer that his face during speech became grotesquely distorted. Within one month on our program, he was fluent and facial symptoms[43] disappeared. He then flew home, where he was to be part of our self-control program. He now became eligible for the draft, having been exempted because of his severe stuttering. The stuttering was reinstated. Shortly thereafter, another college student entered the program and was informed by an aunt, midway through the program: "Frank, you're going to be eligible for the draft if you keep this up." His comment was: "Auntie, I won't be kept out by this means. I'll take my chances like anyone else."[44] The two students were members of two different youth subcultures. To change the patterns of the former student would have required our changing his cultural affiliations. This was obviously beyond our capabilities and it was also not what he had come for. We

[43] I have been using the word *symptom* as I always have, namely, a pattern which is changed by intervention toward *other* patterns. This is in accord with its legitimate medical usage (Goldiamond, 1964). In the ease cited, facial patterns were changed when he was taught a junctured speech pattern. The former are symptoms of the latter.

[44] Dr. G. Busiel was the programer.

learned from these experiences to ascertain prospective patients' dispositions in this regard before starting.[45]

With outpatients, the answer to the question is straightforward and is given by the nature of a contractual relation between two *consenting* adults. How one deals with institutionalized subjects *about* whom a contract is signed by two other parties (institution and agent) will be deferred to the section explicitly devoted to constitutional issues.

Records and Intervention: — Intervention typically centers around records kept by the client and by us. These records vary with the nature of the outcome, and are prescribed in the patient write-up and contract.

The Weekly Program Worksheet, presented in the appendix, is filled out by the program consultant every week, during the session, and one copy is taken by the client. The subgoal lists each of the targets for the following week, stated constructionally.[46] Each subgoal is numbered, and the same number codes the corresponding current pattern to be used as a base and the corresponding guide for change (program guide)—consequences to be harnessed may be listed here.

If the program is effective, the subgoals listed for next week will appear in the records of that next week. They should be in force. What maintains recording? At least two possibilities are suggested. One is a program-progress payoff. As the entries are discussed, there may be changes in outcome, and record-keeping is reinforced. The other involves maintenance, by the client, of the programer's behavior. In different terminologies, keeping records is a demand characteristic, or part of a transference relation, or an operant which delivers therapist approval, etc. Indeed, we do have evidence bearing directly on this issue showing that the number of entries in one patient's log in each of eight weeks was a direct function of the number of supportive comments the therapist had made the *preceding* week.[47] If the number of entries can be a function of therapist requirements, can not their contents and forms also be so governed? How does this affect the validity or independence of the data?

A simple answer is that the verbal behaviors of a patient or subject do not cease to be operants, governed by all the variables involved in operant behavior, when the person becomes a patient or an experimental subject. When the psychoanalyst says that a patient has gained insight into his own problems, what he is describing is the patient's analysis of his own behaviors and their determinants using analytic concepts (properly) in the process. Many of our patients also gain insight—into the contingencies governing their behavior. Patients under psychoanalysis can change with or without insight, and so can ours. In all cases, we tend to get out what we have put in. It is important that the influence of such

[45] Nor do we *necessarily* take cases under coercive court order, that is, either go into therapy or into jail. With one case, we were unable to progress toward making other consequences more potent, and we terminated after a year. With another, we were able to do so, with full consent of the client.

[46] In an eating program, for example, the patient usually has in his closet clothing of sizes more desirable than those he is currently forced to wear. The number of inches the zipper goes up on the next pair of pants (or dress) can serve as an excellent measure.

[47] Dr. W. Whitehead was the monitor.

variables be considered, and this has been at least one important service provided by the concept of transference. In all events, the pay-off is the cost-benefit ratio of the changes in the referent patterns in their referent ecologies. And a system which provides for continual explicit evaluation can facilitate this.

Presumably, validity of records, that is, their honesty, is also so maintained. However difficult it may be to check on the validity of certain experiences whose report the therapist reinforces, entries describing contingencies can be spot-checked—and we do.

Finally, it should not be assumed that there is no discussion of affect, or emotion. Most logs require such notation under a column headed "*Comments*." We consider emotions neither as caused by behavior, in the James-Lange tradition, or as causing behavior, in the more classic tradition. We consider them as contingency-related. Often they serve to indicate important contingencies which have been omitted. A record which reports a particular pattern and its immediate reinforcement along with the comment "felt miserable" obviously requires closer scrutiny.

Initially, in accord with the pathological demand characteristics of our culture, the entries under *Comments* are of the distressful emotions. The contingencies reported in the adjacent columns are typically in keeping. Extinction, high cost, and punishment contingencies usually accompany reports of anger and fear, in accord with the laboratory literature on the emotional effects of such contingencies. Occasionally, atypical entries appear: a homosexual masturbated and a clinically obese patient stuffed himself after the occurrence of transactions describable as extinction and high cost contingencies. In all cases, affect is related to the contingencies and is used to teach the patient to uncover such contingencies in *their inception* and before they become controlling. Thus, the blushing of a woman increased until her face turned purple, at which point the others noted that their conversation embarrassed her and changed the topic. She was told: Your skin is more sensitive to the embarrassing trend of a conversation than your ears are. Heed it. When you start feeling hot, stop, look, and *listen*, and start changing the direction of the conversation then.[48] A contingency analysis of emotions does not attempt to eliminate those emotions considered undesirable, disruptive, or distressful. It attempts to sensitize people to those emotions so they can be utilized to analyze and control the contingencies relevant to them and thereby to control these emotions.

In this stage, the patient uses the distressful affect to change the relevant contingencies. At another stage, he sets up the conditions so that these contingencies do not occur. He may also work toward setting up the contingencies related to the more desirable emotions—those we call pleasant and "constructive."

The results and procedures deriving from our research and delivery system will be published elsewhere. The application of constructional behavior analysis to the social problems which we have faced has generated surprises for us in terms of the directions which the solutions required us to take. The experimental analysis of

[48] J. Grip was the programer.

behavior is a new field, and its extensions to these complex directions even newer. Where the territory is uncharted, it would be surprising if we were not surprised. Stated in another manner, which is relevant to the next section, future discoveries in such new fields will confirm their old habit of disconfirming the predictions made by those who have not yet explored them. There is one sense in which I have not been surprised. I had always regarded behavior analysis as an orientation which is usable in the analysis of complex problems. With regard to the simpler problems with which it had earlier contact, it was useful only to the extent that it contributed precision and explicitness. And this I find still to be the case.

WHO SPEAKS FOR BEHAVIOR MODIFICATION?

When I was a graduate student, the history of our field was summarized in a poem which may be familiar to most readers:

Alas, poor psychology, sad is her Fate!
First she lost her Soul, and then she lost her Mind,
And then she lost Consciousness.
Now all that's left to her is her Behavior—
And the less said of *that*, the better!

The poem portrays psychology's divorce from certain philosophic concepts (and alliance or *mésalliance* with others). In like manner, the behavioral divorce from certain psychotherapy concepts (and alliance or *mésalliance* with others), has taken various forms. Among the earliest of these was (conditioned) *reflex therapy* (Bekhterev). Dollard and Miller (1950) attempted to consider psychotherapy from the vantage of classical learning theory. The application of its principles to clinical intervention was later designated as *behavior therapy*, with major conceptual strands from Pavlovian approaches, classical learning theory, the experimental analysis of behavior, and social learning theory, among others.[49] The major contributor associated with the first two is, of course, Wolpe. These conceptual systems were extended by others to embrace *aversion therapy* through classical associative linkage of aversive stimuli with imagery or with other representations, although behavior-punishment contingencies might also be used. When procedures and formulations from operant laboratories, associated with Skinner, were extended to nonclinical as well as clinical areas, the question of a distinguishing name arose.[50] This has been generally accepted by adherents as *applied behavior*

[49] For a history of the term, and a more extended discussion, see Krasner (1970), according to whom, *behavior therapy* first appeared "in a 1953 status report by Lindsley, Skinner and Solomon," following a suggestion by Lindsley.

[50] The term *contingency management* was proposed. Fred Keller suggested that the acronym for the practitioners of this unwieldy term might be *con-man*. Subsequently, Malott (1971) created a comic book character on the style of Superman, who called himself "Captain Con Man," and came to the rescue of people in contingency distress.

analysis, for reasons noted earlier.[51] The *social learning* approach is associated with Bandura, and among its conceptual origins is the earlier laboratory research by Tolman (e.g., cognitive maps, vicarious learning). The areas named have been included between the covers of Bandura's scholarly *Principles of Behavior Modification* (1969). Krasner (1970) has proposed extension of this term from procedures relatable to learning and conditioning laboratories to applications from the more general field of experimental psychology. This hasty thumbnail sketch omits and slights many developments, as well as many controversies, both procedural and conceptual, between the families subsumed under the title. However, it serves to indicate the nature of the definitional problem. In contrast to psychology's shrinking definition, behavior modification's has been expanding.

Despite the difficulty of describing its exact shape, one should have no difficulty in describing what behavior modification is *not*. *Psychosurgery*, for example, is not one of the chapter headings in a textbook on experimental psychology, nor are learning psychologists licensed in its use. By the same token, many of the other practices currently ascribed to behavior modification do not fall within its domain.

Popular confusion stems partly from the fact that "behavior can be changed, or modified" by a variety of techniques, including drugs, hypnosis, aversive therapy, rewards and punishments, implanted electrodes, and psychosurgery.[52] Since all of these can modify behavior, the popular press then labels them as behavior modification techniques. However, it should be noted that behavior can be changed or modified by psychoanalysis, Gestalt therapy, primal screams, lectures, books, jobs, religion. By the same logic, these must also be included in the definition of behavior modification techniques. Like the frog in Aesop's fable, the definition has become so inflated, it has burst.

What partially underlies this particular confusion is a failure to distinguish between dependent and independent variables[53] (or effects and causes) on the one hand, and control and analysis, on the other.

A dependent variable may be a function of a variety of different independent variables, and the same effect may be produced by a variety of different causes. The direction of motion by a sphere may be a function of gravitational forces, of remote control by radio, of control by the navigators within, or of other variables or causes. To designate all of these, therefore, as directional techniques, and therefore to assume some similarity between them other than the trivial observation noted is questionable. To designate all of them by the properties of one, e.g., attractional techniques, or of more than one, e.g., guidance techniques, suggests either confusion or sloganeering for ulterior purposes ("Travel with Interplanetary: our navigators are as dependable as gravity.").

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[51] *Applied behavior analysis* derives from the *experimental analysis of behavior*. The latter term is in dissociation from those scientific strategies which might be designated as *statistical analysis of experimental behavior* (cf. Sidman, 1960).

[52] See Footnote 6.

[53] I am grateful to my wife, Betty, for bringing this point to my attention, and for her excellent suggestions throughout.

Because one can analyze the data by the same conceptual system does not mean that the same (conceptually derivative) control system is involved. Because the movements of the sphere and the flying of a kite may both be comprehended by the same scientific discipline, physics, does not make the boy flying the kite an engineer or other kind of applied physicist—although the navigator may well be an engineer. And the boy needs know no physics to fly or construct his kite. Indeed, when he makes a new one, he may strain the predictive and analytic knowledge of his physicist father.[54]

Accordingly, with regard to the first source of confusion, namely, dependent and independent variables, just because some procedure can be used to modify behavior does not make it a behavior modification technique. Psychoanalytic therapy and behavior therapy can both be used to modify behavior, but since they employ different conceptual schemes which harness their independent variables differently, they are not *both* behavior modification techniques. Behavior modification refers only to that body of procedures and conceptual systems derivable from experimental psychology or experimental learning theory. The reader is referred to Bandura (1969) for what these might be and to the sharply divergent approaches presented. Stances taken and procedures deployed by one school may not therefore legitimately be used to designate the stances and procedures of another.[55] To take a more familiar example—because psychoanalytic and nondirective therapies both appear in a book called *Psychotherapy* similarly does not legitimize designating the stances and procedures of one by the other. In this article I am taking a stance for *applied behavior analysis*, which is one particular orientation and approach, and is only one among the range of approaches appearing between Bandura's covers.

With regard to the second source of confusion, namely analysis and control, just because some sets of procedures can be analyzed in operant terms does not make them behavior modification procedures. These refer to the *explicit* and *systematic* application of procedures derived from the conceptual systems noted. Thus, the piano teacher may modify behavior, but, to date, behavior modification is not used for this purpose. Prisons have used isolation and solitary confinement ("the hole") as punishment ("correction"). They have restored privileges (such as exist) contingent on behavior they have considered desirable. The restoration has been progressive, contingent on progressive change in behavior, or total, contingent on reversal of behavior. They have rewarded favored prisoners and made them trusties. All of this before the various behavior theories were heard of. What is often new is the justification of these procedures and the objections to them—in the name of behavior modification. The fact that the procedures can be analyzed in operant terms is irrelevant to the inappropriateness of the designation. Many other kinds of analyses can also be made, including psychoanalytic—indeed, such an interpretation has been given events in a concentration camp. Similarly,

[54] Indeed, toys and other practical inventions have often provided the impetus for scientific involvement. Stated otherwise, they were developed without the benefits of science.

[55] This includes investigators as well as schools.

industry has made extended use of incentive systems. It rewards workers for their efforts with tokens ("money") which are exchangeable for commodities and services. To hold Ayllon and Azrin accountable is ludicrous. Indeed, as Parsons (1974), an industrial consultant, notes in his significant (and long overdue) reassessment of the Hawthorne effect, "behavior modification" techniques "have not included worker performance in industry" (p. 929).

Yet another source of public confusion derives from psychologists themselves. Some have been subject to the confusions noted and have perpetuated them. Others have proceeded in a more original way. We have heard of acid freaks, of Jesus freaks, of Guru freaks. These are people for whom, if the Apocalypse is not imminent, salvation is, and it is immediately attainable by engaging in the practices of the group. We have tended to equate these movements with youth, but such visions have not been confined only to them (the acid movement was led by a psychologist over 30). Nor have the movements been confined to those explicitly concerned with altered states of consciousness. Such movements may also be oriented to the imminent solution of pressing practical problems. We might even consider the possibility of *behavior modification freaks*. Thus (the emphases to be made are mine - I.G.), "I believe that *the day has come* when we can combine sensory deprivation with drugs, hypnosis and astute manipulation of reward and punishment to gain almost absolute control over an individual's behavior," writes McConnell (1970, p. 74). If the public adds a few more terms to the combination, who can blame it? Further: "We should reshape our society so that we all would be trained from birth to want to do what society wants us to do. *We have the techniques now to do it*."

On a less imminent note McConnell continues: "I foresee the day when we could convert the worst criminal into a decent respectable citizen in the matter of a few months—or perhaps even less time than that . . . . For misdemeanors or minor offenses we would administer brief, painless punishment, sufficient to stamp out the antisocial behavior. We'd assume that a felony was clear evidence that the criminal had somehow acquired full-blown social neurosis and needed to be cured, not punished. We'd send him to a rehabilitation center where he'd undergo positive brainwashing until we were quite sure he had become a law-abiding citizen who would not again commit an antisocial act. We'd probably have to restructure his entire personality." McConnell is calling for total institutions—with a vengeance. His statements accord with my earlier analysis; namely, the "complete control over . . . (the) environment" he calls for is relatable (a) to the requirements of clairvoyant prediction of no further disruption after release, (b) which, in turn, is related to a model requiring elimination of an underlying pathology, (c) whose unpredictability, in turn, is related to a vague definition of that pathology in terms such as "neurosis" and the "entire personality."

One need not evaluate the scientific evidence for the assertions made, nor their ethics, to question the tenability of the propositions. McConnell states that "the legal and moral issues raised by such procedures are frighteningly complex, of course." They may be frightening, but it is questionable that they are "frighteningly

complex." They are manifestly simple: the procedures are clearly unconstitutional[56]

Rather than describing such procedures as the shining product of the architects and engineers of the Brave New World that McConnell foresees, one can more simply describe them as an unimaginative extension of the deficiencies of the present system and a regression to an earlier era when "profane tongues were treated . . . by squeezing them in a cleft stick for as long as an hour" (Schwitzgebel, 1972), to mention one of the less drastic means then used. Indeed, society's definition of legally treatable deviance (called "neurosis" by McConnell) has included Quakers: "A statute of 1657 (by Massachusetts) prohibited their entry into the colony, and provided that for the first *offense* a male Quaker could have one ear cut off (p. 268, emphasis mine - I.G.).[57] Entry was criminal behavior to be extirpated; the passage and repeal of the XVIIIth amendment created and eliminated a class of criminals numbering in the millions; behavior which is criminal in South Lake Tahoe ceases to be so simply by moving both feet into Stateline (I am referring to the gambling laws of California and Nevada, of course). The size of the brain-washing caseloads would be matched only by the size of the unbrain-washing caseloads (as people crossed borders or changed the laws) in the system proposed!

I have devoted this much space to McConnell's article not because of the standing of its author in the fields of science fiction (he has published here) or behavior modification, but because of the standing of his article as a target. The inflammatory nature of its title ("Criminals can be brainwashed—now") and the inflammatory content (extensions are made to mental health) have met with equally inflamed responses. Although the article is probably the most widely excerpted article in its field—in the popular press—and although it is cited as a source for defining the procedures, rationale, and goals of behavior modification, or at least of a significant part of its practitioners, it does not speak for the field. Nor, I imagine, does it speak for a significant part of its practitioners. If this were the case, the field would indeed deserve the calumny being dispensed by leafleteers, and the bitter criticism being expressed by reasonable people.[58] The consequences of the tone and message of the article and its reception have not only been its wide attribution, but also a concern translated into public policy. The concern is genuine, and taps into social contingencies which vary with the group involved.

The article refers to the creation of a Brave New World. In an earlier article, I referred to that work: *"Brave New World* depicts a society which is far beyond what we possess today, but not beyond the bounds of reason. A level of technology this advanced will contain stimuli that at present we can not even conceive of. . . .

[56] McConnell does not "believe the Constitution of the United States gives you the *right* to commit a crime if you want to" (emphasis in the original). On the contrary, one *can* break the terms of a contract—and face possible consequences (e.g., civil disobedience).

[57] I am grateful to Professor A. Schwartz for bringing this article to my attention.

[58] Including various Congressional committees, the A.C.L.U., syndicated newspaper columnists (e.g., Tom Wicker), among others.

If our behavior [then] does not conform to the new stimuli but stays the same way it is today, we will become extinct more rapidly than did the dinosaurs . . . Inasmuch as I can not predict what future stimuli will be created, I can not predict what behavioral or societal developments will occur. I would suggest, however, that we keep our eyes open and try to understand what is going on, especially in the scientific community" (Goldiamond, 1965). McConnell is projecting all the defects of the prison system of today upon the events of the future. As I also noted: "The notion that behavioral technology will mean a prison state or manipulation of behavior on a total scale ignores some of the more recent developments in the experimental analysis of behavior and in self-control. When one starts to apply experimental analysis to practical problems, the procedures which develop in practice differ considerably from those which may be projected from a theoretical understanding" (*Ibid*).[59]

Indeed, to cite but three deviations from the expectations of McConnell's article, Cohen and Filipczak (1971) set up a reformatory environment which *increased* the options available to delinquents and set as their targets *limited* and *clearly defined* set of repertoires (academic achievement). And Fairweather *et al.* (1969) set up a contingency system within a mental institution, with *limited* and *clearly defined* targets relatable to the patients' requirements for normal life outside the hospital, and developed mutually supportive groups. And Keehn (Keehn, *et al.)* surmised that the critical consequence for skid-row alcoholism was skid-row community. The requirement for membership was alcoholism. Community was provided on a rented farm, with the members democratically planning goals and programs for each other. Membership was contingent upon meeting such goals and meeting Keehn's contractual responsibilities of detoxification. The community began to develop services for neighbors and was on the way to becoming self-supporting when the project terminated.[60]

A carefully planned long-term project which provides measures enabling continual evaluation is one in which the possibilities for incremental knowledge are optimized—to the extent that one deviates from ages-old coercive procedures (which have little to teach us that we do not already know) and moves in a direction of mutual consent between contracting parties. This is a constitutional direction.

CONSTITUTIONAL AND ETHICAL IMPLICATIONS

In discussing constitutional and ethical issues, I shall be guided by the four programing elements already noted, namely (a) outcome, (b) entry repertoire, (c)

[59] Our experimental analysis of stuttering, to cite one case, turned up surprises completely in conflict with the theoretical expectations which initiated the procedures. And, indeed, it was from these that we learned the most (cf. Skinner, 1956). The present success of our program (25 sessions is our median) exploited these surprises. Completion of a monograph on the program development procedures, and the present program, was interrupted by the social necessity of this article.

[60] An aim was to develop an alternate community to the larger community (which had rejected them, and which they had rejected) other than the Skid Row community.

change procedures and (d) maintenance. However, before discussing these, we must consider who the contracting parties are. Stated otherwise, who is the client of the change agent?

Contracting parties: — Basic to the Constitution, and to most contracts made under its derivative legal system, is the mutual consent of the contracting parties. In political terms, these are the governing agencies and those governed. In commercial terms, these are the vendor and the purchaser.

When the commercial approach is extended to the psychological helping professions, the formulation poses problems when a third party is involved. When an institution purchases the services of a psychologist for purposes of patient treatment, what contractual relations exist between psychologist and patient? Suppose the patient objects to treatment, Can the psychologist consider himself *in loco parentis*, as an agent of an institution fulfilling its social contract, which makes the institution a vendor of healing services for a purchasing state or family? Suppose a convict objects to treatment? Other types of three party arrangements are exemplified by schools (instructional as well as psychological functions) and parent-child-therapist relations. In all institutional cases, explicit and written contracts are required by law and by the professions (or unions) between the vending professional and the purchasing institution. Such contracts are not required nor are often even considered in the relation between the vending professional and the inmate, convict, student, etc.,— the third party whose change is the *object* of the legal contract. The student is not the only one who gets his *assignments.* The convict, patient, etc., may not want to buy the service offered. The moral problem is obvious. To reconcile moral and legal obligations with practice, the third parties are often ruled out from constitutional protection by being classified into some category of less than equal humanity.[61] I am going to suggest that we reconcile moral-legal obligations with practice in a different way: we extend the moral-legal contractual relations holding between institution and professional to relations holding between client (convict, patient, student) and professional. This puts professional Pierre in the middle: he is involved in two types of contracts. So is the institution. Society is on its back.

Medical practice is exemplary in this regard. The physician who joins a hospital staff signs a contract with the hospital. This may concern fees, space, caseload, and so on. What the contract does is to license him to use the hospital for fulfilling (or better fulfilling) contractual obligations with patients. The particular relations with patients have already been discussed. Rather than attacking medical models, we might more profitably examine medical practice for the repertoires we might (and might not) transfer.

It is the essence of good psychotherapy, whatever the school, that the therapeutic contract be between the change agent and the party who is the *subject* of the change. Thus if parents are concerned about their child and come to see me,

[61] The Constitution is so explicit that it even assigned a precise numerical value to the humanity of slaves. For purposes of size of state delegation to the House, a slave had a human value of 0.6.

I contract with *them* to help change *their* repertoires so that they can improve relations with their child. I do not contract with them to change their child's behavior. If we do see the child, we contract with him separately to fulfill those of his goals which we can help with and agree upon, cognizant of our other Pierre requirements.[62] We will not help blow up his parents. On the same basis, if an institution is concerned about its inmates, the contract should concern change in *institutional* behavior. In this case, change in patient (convict) behavior is the consequence which functions to maintain behaviors or select others (Skinner, 1969). The client not only provides this critical consequence, but *defines* the criterion for providing it. Definitionally, a true contingency relation holds. Humanely, he exercises his share of control. He becomes the subject of his behavior, not the object of institutional behavior. If the institution hires the professional for face-to-face treatment of clients, the type of contractual relations suggested by medical practice holds.

Institutions have been derided for their custodial functions. Rather than regarding these as pathological, or as deficits, they might be regarded as constructional operants. They very often fulfill the social contract with the family or the community to get "these people" away from the family and off the streets, so that they will not disrupt functioning of family or others. If, while the institution has the patient or criminal in its custody, it wishes to do something additional with him, it should be *with* him and not to him. Its agents should contract with him for this purpose. If society wishes the institution to fulfill other than custodial functions, it should be willing to *pay for it*. This involves competing social demands. While the patient (convict) is under custody, the custody should be humane and not vindictive: he is there for society's convenience, not his own. He has been assigned there, and this is the extent of his assignment, unless other arrangements, into which he enters as a contracting agent, are made.

Contracts can be explicit, even though unwritten. A considerable amount of time can be spent in negotiations or in finding out what to negotiate or contract about. But such precontract stages and procedures should be distinguished from those following consent to the contract. These involve the program.

The field of behavior modification, as I have noted, is moving toward explicit contracts as part of its scientific rationale. Such contracts are s.o.p. in our clinic, among others. Accordingly, in this area, at least, the movement is toward increasing accord with constitutional requirements by explicit adherence, rather than by redefining the humanity of the client.

1. *Target, or contract outcome*: — As we recommended, if society wants systems which provide more than custodial care for the patient or convict, it should be willing to pay for them as its part of the contract. Since society has other demands upon its resources, institutional agents should state what the bill will be and what it will be for, so that rational decisions can be made. It is therefore the obligation of the institution and, presumably, the helping professions involved to

[62] Cf. Gray (1974), who reports work by Graubard and Rosenberg with problem children assigned to them for treatment. The approach is neatly summarized by the title: "Little brother is changing you."

provide such information as their part of the contract. I submit that the pathological orientations of the helping professions have made it extremely difficult for them to justify such estimates. Since what it is that will define successful elimination of a pathology is difficult to state explicitly, as is the pathology itself, it is difficult to assign costs on such basis. Accordingly, the basis used is some formula which states that for *n* patients, *p, g . . . z* professionals are needed from the categories represented. And the question arises: Why?[63]

A constructional approach enables us to begin answering some of these questions. An analogy is the university which, while it may eliminate ignorance, offers a variety of courses in its catalog. The university-bound student may select a college accordingly, or the choice may be dictated by economic, geographic or other necessities. Once in college, he selects from the courses available. He may simply get away from home, and reside amid a student population (in which case, the particular school he goes to is not that critical). The major points being made by the analogy are that (1) colleges *can* estimate costs and set tuitions, fees, and requests accordingly. As inefficient as we like to consider them to be, can one imagine their state if (2) their goals were elimination of ignorance rather than provision of educational opportunity? They might then search for objective indicators of ignorance, types of ignorance (classified on the basis of common deficits, of common ways of pretending knowledge, of common ways of making out otherwise), and so on.

Since, in a constructional approach, targets vary with the individual, would cost projections be any more determinate than projections from pathologically oriented systems? The college model suggests they would be. Students have different constructional goals. The class offerings (or p.i., or p.s.i. units) represent different modules which can be chosen and then combined in an almost infinite number of ways. Indeed, we have often found ourselves repeating almost identical contingency analyses of emotions to different patients and have wished we could take time to develop p.i. packets, which would be used in different combinations. In theory, the therapist might serve as a program consultant or adviser. In practice, we have developed such packets in our fluency program. We know the average number of sessions required to construct the juncturing pattern and can estimate costs.

Intervention by means of the constructional model discussed in the previous sections is limited to construction of the specific outcomes contracted. All other

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[63] To which the answer is: Because these are the professional standards. *We know.* I am reminded of the final answer to another why? The answer also came "out of the tempest":

> "Who is this whose ignorant words (2)
> Cloud my design in darkness?
> . . . Come, tell me all this, if you know. (18)
> Which is the way to the home of light (19)
> and where does darkness dwell?
> And can you then take each to its appointed bound (20)
> and escort it on its homeward path? (21)
> Doubtless you know all this . . . . "
> (*Job*, xxxviii, *NEB*)

patterns are reserved to the subjects. Schools also tend to view their missions constructionally, and there is an important constitutional message attached. It was noted earlier that the total aspects of total institutions were related to requirements of clairvoyance and surveillance at all times and places. Such requirements were related, in part, to conclusions which could be derived from an orientation of pathology-elimination. This set up a system in which it could be said that the patient had only the powers assigned to him and the institution had all residual powers. In the political system set up by our Constitution the reverse relation holds. The analogy of the college, as well as direct inference from preceding discussion of goals, indicates that in a constructional orientation to mental health the institution would have only the *specific* powers *delegated* to it and the patient would have all residual powers. The instructor has only those powers connected with meeting the stated objectives of his course. In p.s.i. courses an explicit contract is signed between instructor and student, and the conduct of the course follows p.i. principles. These courses cover material dictated by college curricula.[64] Ferster is pushing the rationale even further. In his system, a major task of the system is to provide a structure and procedures within which the student learns to formulate academic goals relatable to his interests and to contract accordingly (Ferster and Culbertson, 1974). The students' options are increased by these procedures, as are their spheres of responsibility. The outcomes and procedures are far removed from popular (and McConnell's) projections of the social arrangements which follow upon advances in applied behavior analysis. The self-control procedures being developed in clinics using the same rationale also effectively increase options and spheres of responsibility of the patient. These outcomes are produced by increasing effort on his part and such production, I suspect, serves to maintain and even escalate the effort. And, I should add, the effort is matched by that of the programing system which must join in continual evaluation of outcomes and their relations to the procedures. The ethical issues are clear.

At present, the social contract is between society and the institution with the patient (prisoner) as its object. When the patient (prisoner) becomes a subject and contracts with the institution, this produces changes in patient-institutional relations. They move toward accord with constitutio nal relations. They must also then affect the social contract between society and the institution to which the patient (prisoner) was assigned by society.

The pathological contracts imposed on the institution are simply phrased: eliminate (cure) the illness (pathology), correct the (moral, character, etc.) disorders, and so on. Evidence attesting attainment of these outcomes has not been

[64] In a regular college course on teaching reading, Gildemeister devoted the opening of the course to a discussion with the students on what they wanted from it and how it should be handled (lecture, discussions, student projects, etc.). She informed the students of her obligations to Richmond College (CUNY), and negotiations resulted in mutua1 agreement. By such consent, the course was broken into four successive units. The end of each unit was devoted to evaluation of the results obtained on both sides, the procedures used, and to setting the directions of the following unit (personal communication).

as simply produced. (The resultant social dissatisfaction has produced considerable questioning, of which the constitutional revaluation is but one example.) On the other hand, constructional contracts between institutions and society are not simply produced, although evidence attesting attainment of the outcome is simply produced, since continual evaluation is among the procedural requirements of the model (we have already noted that the system is constitutional). A course can be regarded as a program which constructs the repertoire specified in its title (p.i. makes the workings explicit). Giving the term *course* a broad meaning which includes clinically-desirable outcomes, what courses will be made available for patients to choose from in mental institutions? Are we willing to expend the funds to develop these? What options shall we make available for prisoners? Are we willing to pay? And what are the costs if we do not?

These, I believe, would be the psychotherapeutic or correctional functions *available* to the patient or prisoner while he is under custody. In the case of the latter, Morris (*Behavior Today*, 1974) has recommended that the duration of the institution's custodial control not be contingent on enrollment or progress in the therapeutic or other educational options the institution makes available—otherwise, they are not options.[65] While he is serving his custodial sentence, if the prisoner considers the programs available a more profitable use of his time, he will enroll. Custodial withdrawal from society is certainly more humane a treatment for a pickpocket than, say, chopping his hands off. As a society, we can probably provide solutions more constructional than the present eliminative approach, but this is a social-legal problem and not a therapeutic one. In a mental hospital duration of stay is more closely related to elimination of pathology than it is in a penal institution—theoretically, that is. To what extent is present practice divorced from theory and discharge from a mental hospital not contingent on therapeutic change? Braginsky, Braginsky, and Ring (1969) suggest that patients are using the hospital for other purposes and that such use suggests the social necessity for establishing institutions which fulfill these important purposes.[66] They would clearly separate custodial from therapeutic functions—into different institutions. How do we construct therapeutic institutions ? At present, therapeutic institutions are generally considered as not fulfilling their social contracts. The diagnosis is institutional failure or social malfunction. On the other hand, we can reexamine the presenting symptoms for clues to successful institutional repertoires which can be harnessed in a constructional approach.

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[65] Cf. Morris, Rubin, Steele, Badger, and Jacobs (in preparation).

[66] Their major points are that patients present themselves as mentally ill in order to get into the hospital, when this serves their purposes, and behave this way to stay in; their institutional behaviors are not discontinuous with their behaviors outside; these represent rationality. A series of experiments is presented which bear on these points. While there can be no question that a significant majority of their patients provided data which support these conclusions, it should be noted that a minority did not. Patients can get lost and lose themselves in state institutions. I am reminded of the fact that after the assassination of Tsar Alexander II, there was a thorough search of his palaces, and it was discovered that a peasant and his cow had been living in one of the rooms.

Consideration of other aspects of the outcome will be found in discussions of other elements of the program, since they bear differently on the outcome.

2. *Current relevant repertoires*: — What is *considered* pathology may also be defined as a competent operant, maintained by the environmental reinforcers it produces, but presently (or foreseeably) producing these at high cost or otherwise placing the person in jeopardy. The use of this analysis in constructional programing has already been considered, and I shall simply confine myself to noting its ethical and legal effects. The person is thereby regarded as a *competent* individual, like thee and me, who *may* have had to resort to unusual tactics to get what thou and I have obtained through conventional means. My career line is obvious and how I got to where I am can be understood by conventional wisdom. For someone else, not as fortunately endowed (by environment or biology, or both), getting to "do his thing" may have required and produced entirely different patterns. Since their instatement does not follow conventional lines, they may be unique (or may statistically represent a small sample). We can learn from an individual's unique solutions something about our own that we have overlooked, or learn new ways to get what we and others are after, or learn about our social system, and so on. Our learning is contingent on one basic orientation: that *we do not regard his repertoires as aberrant* or do not so classify them. These repertoires do *not* make him *non compos mentis* (although the situations the repertoires put him into may prevent him from acting in his best interests, as legally defined). Disturbing to others, yes; disrupting the social fabric, yes; requiring attention and resources which compete with others and diminish our possibilities, yes. This is a justifiable source of our anguish. And the affected social unit may then act to decrease, isolate, or otherwise control the disrupting patterns by eliminative means. These include forced separation of the person from that unit. The person is jeopardized by his exercise of the only repertoires he has which can produce his critical consequences. This is a justifiable source of his anguish. To assume that somehow this makes the person superior, or closer to genius, or more deserving of our respect may be an effective tactic therapeutically, and make therapeutic sense (and perhaps one had better believe it to use it), but I doubt if it makes much other sense. Suffering is painful, and intense suffering is intensely painful, and one need not have experienced it to be sensitive to it and help find a way out (cf., Goldiamond, in press). The person deserves the same respect as we do (not more, not less) and legal treatment might follow such guidelines.[67] I am not suggesting answers to solve the reciprocal anguish noted but am simply noting the current relationships.

Institutions often fail to meet their social contracts. Reciprocal (societal-institutional) anguish is then produced. It has become fashionable to denounce institutions as pathologically inept or governed by hidden agendas. While such may at times be the case, I believe that for the purposes of changing the situation so that institutions move toward fulfillment of their explicit social contracts we

[67] With the same constraints and safeguards governing acceptability of decisions for thee and me in similar straits involving nonaccess to necessary information, coercion, etc.

might treat the suffering institution with the same consideration we treat the suffering individual. The goal is already set for us and is constructionally stated: to help fulfill the social contract. How do we then ascertain the current *relevant* repertoire? To require total changeover may be beyond the means available and assumes knowledge of the solution. To the staff, such a proposal connotes institutional incompetence which is matched only by consultant arrogance. Suppose, instead, that what is *considered* pathology is defined as a competent operant, etc. (see opening sentence of previous paragraph). Suppose one says, in effect, "Look, some of the inmate behaviors which disturb you (and for which you're getting it in the neck) are produced by your procedures. *You are reinforcing certain patterns, and thereby getting them* (the statement and others are italicized only for future reference). Don't be dismayed. This makes the prognosis highly positive. It means that you are *dispensing reinforcers* which are important for inmate behaviors. What you do is meaningful. Let's see if we can figure out how to use what *reinforcers you're already using* to turn things around and thereby get some reinforcers for yourself."

This message has been misunderstood by token economists in some institutions, and the garbled results have appropriately generated moral indignation. The garbled message is that since the patients are presently getting food and beds, for example, these should be withheld and then made contingent on appropriate behavior, as defined. One result has been an outcry by the staff and a special staff may be hired for a special unit. The staff elsewhere is thereby not trained. The connotations of incompetence-arrogance will not make it receptive, especially when the program succeeds in producing behavioral changes not evident elsewhere in the institution. The staff is faced with the moral dilemma of being immoral by withholding necessities or being immoral by withholding effective procedures. Stated otherwise: Do you deprive a person of necessities for (what you think is) his own good? The analytic trouble with such use of tokens is that it violates the principle of the phrases italicized in the quotation. Those statements referred to the staff's *current reinforcing repertoire*, not such other institutional and staff resources (including behaviors) which have been available on a noncontingent basis. It has been the delivery of the reinforcers which helped shape the presently undesirable patterns. And the institution may have a *current deprivational repertoire* which makes certain of its procedures reinforcing. For example, a patient may scream annoyingly on the food line, and efforts are made to quieten him then. Possibly it is this extra attention which has shaped this pattern, rather than excitement over the food. It may be that the staff has isolated him from social contact most of the time, and a food line is defined by the presence of others. Food was *not* contingent on screaming, nor was a bed, nor had he been deprived of sustenance or sleeping. Nor is the delivery of food, or of a bed, or the opportunity to exercise typically the reinforcing event which shapes psychotic or neurotic behavior at home, or inattention or aggressive behavior in a classroom. Indeed, the passage in quotes is a paraphrase of some of the instructions we give parents (and I have given to medical ward personnel). The *analytic task* is to find out what these *reinforcers* being delivered by the staff (parent, child) might be and to *use* them

(*not to withhold them*) in a different way; the analytic task is to find out how the system (family, peer group) makes *reinforcers* out of these events, that is, its deprivational or related patterns. The *procedural* task may be to begin deploying these reinforcers appropriately (or to deploy reinforcers convertible to them) to shape behaviors more in accord with the social contract (of the institution) and the therapist-patient contract (if such exists). The procedural task may be to begin to change the arrangements which deprive the patient of these events, which makes them reinforcing, which make the patient engage in behaviors, which disturb the system, which *until now* (the phrase can be inserted anywhere in the spiral) has accordingly set up arrangements which deprive the patient, which . . . so on in a recycling spiral which may culminate in an explosion or other desperate pattern. The spiral may "top out," that is, not escalate, but become a cycle. The task is *not* to break that spiral (or cycle). It tells us about *significant current repertoires*, events, relations, and workings. The task is to *use* these, wherever possible, as a repertoire which is *relevant* for directional change.

We shall derive a moral implication from certain practices as they relate to change in only one part of the spiral. We start arbitrarily with a patient who is in anguish because he has continually gone through hell to get certain reinforcers (it is not necessary to assume awareness of the causal relations, cf. Holz and Azrin, 1961). If this is the case, the reinforcers must be critical (N.B., the Warden box in experimental psychology). And the reason the patient's requirements for them *seem* insatiable is because he has been deprived of them. He may have been deprived because of the cost of their delivery to the referent system (among other reasons). In this case, he may have coerced the system into delivery (when you don't deliver, see what I do). The system delivers grudgingly and does not deliver next time. The patient ups his coercion (goes beyond what he did before), and the system yields. And so on. The coercive pattern escalates because, in effect, the system is shaping escalation. Indeed, using positive reinforcers, this is how it shapes the increasingly complex behaviors it desires. The costly consequence is not *potent sui generis*—few reinforcers are. Deprivation has made it potent, and satiation will make it impotent. The outlay may be expensive only initially. Procedurally, this means that the referent system need not apply deprivation procedures to *any* other available events to make them consequential. They might best remain inconsequential. To add these additional deprivations is not only procedurally unnecessary but morally outrageous, considering the desperation already imposed on the subject.

The referent behaviors are the object of the social contract with the institution. A constructional consultant may help the institution fulfill it.

3. *Change procedures:* — Since this is not a treatise on the *hows* of intervention, I shall confine my discussion of procedures to their ethical implications.

In a conventional p.i. text, the change procedures involve frames. Typically, each frame is an uncompleted sentence, with the student required to fill in the missing phrase. The progression of frames and behavioral requirements and the bracketing entry and terminal repertoires constitute the program. Each frame is a

mini-program. There is no conflict between means and ends. Both are constructional.

A program may eliminate an option and thereby make available a range of options which were not exercised hitherto because of interference by the option eliminated. This is then described as a "crippling" pattern. When freedom is increased in this manner (liberation is a better term), the procedures, though often effective, do introduce means which are incompatible with the end, as I have analyzed it. This is not necessarily bad, but I would prefer, if possible, to use a constructional programing approach throughout. The issue is more than logical consistency. While eliminative programs often proceed without coercion or punishment (e.g., Wolpe's desensitization procedures, 1958), aversion therapy is defined by use of aversive stimuli which are often intense. Accordingly, the issue is to develop an *effective* approach which can produce the same outcomes, in terms of symptom relief that *any* eliminative procedure produces, through constructional means which *add* to the subject's repertoire. I have some feelings about subjecting someone who is already desperate to the dense aversive delivery often imposed.[68] Accordingly, over the past few years in our own work we have consistently tried to restrict ourselves to constructional analysis of problems now treated as pathologies to be eliminated.

Can one deliver reinforcement to behaviors such as hallucinations which are almost universally regarded as pathological? Indeed, they enter into the diagnosis of schizophrenia. The parents of a woman of 22, so classified, reported that she was hallucinating a husband and children at the dinner table and engaging them in extended conversation. If they ignored her (extinction), they knew she would escalate (e.g., hallucinate pregnancy, etc.) until they were forced to reply. If they were punitive, she might start screaming or might stay away from the table and undo their intense efforts to get her there. If they agreed or inquired after the "family" (reinforcement) this, too, might escalate the pattern. The tactics recommended were based on the following rationale. A child's report card has A's, C's and E's. The parents can complain about the failing grades, cite the A's to indicate she can do better, or simply praise heavily for the A's. The hallucinatory patterns were to be regarded in the same way: what is there about them that can be reinforced? Most 22 year old women *are* married, and neighboring daughters were no exception. Her mother said, next time: "Sally, you don't know how delighted I am to hear you considering marriage just like ____ and ____. Believe me, nothing would make father and me happier than," etc., "and that's why we're doing ____ and ____, to make that day come sooner." The parents had to be as ingenious as

[68] I would agree with Morris when he states: "Such successes as have been achieved in aversive conditioning programs are to be found particularly in situations where the subjects are profoundly anxious to change the patterns of their lives" (*Behavior Today*, 1974). Stated otherwise, the aversive consequences of continuation of the pattern are so intense, that aversive consequences will be accepted to eliminate the pattern. The implication is that effective procedures other than aversive therapy might then also be considered. The overwhelming majority of subjects who consented to a program which eliminated cigarette smoking by delivering shocks contingent on reaching for a cigarette did not activate the apparatus they wore, did not wear it, or dropped out (Azrin and Powell, 1968).

their daughter in changing the words as they retained the theme to keep up with her changing presentations of the same theme (she had had considerably more experience). By the third week, hallucinations were replaced by conversations with the existent family. What the parents said was true, and she was treated with honest responses that respected her dignity and also moved the program along.

Appropriate change procedures are also to be found in the patient's own repertoire and this facilitates their use. The task is to transfer the stimulus control over them. A woman who reported she had no social skills and hence had invited no guests to dinner directed television talk shows. Intervention here consisted of discussions on how she might treat her dining room like a studio. The fact that most patients are treasure houses of usable repertoires figuratively waiting to be transferred simplifies the change process considerably. Patients may model the search procedures the programer uses and apply them as change-procedures of their own.

Yet another source of change procedures is the patient's reports of emotion. Since these often serve to indicate contingencies which might otherwise not have been reported as such, they are explored as such.

A distinguishing feature of the American Constitution was that it commits to writing the basic and change procedures of the social contract involved. The effort to be explicit which this requires also involves considerable prior weighing of alternative acts and probable consequences before commitment to paper.

Both science and law, concerned as they are with evidence and the frailty of recall, have learned the importance of records and explicitness. The behavior modification movement models itself, in this regard, on the scientific laboratory. It stands in sharp contrast to the presently prevailing nonspecificity of procedures and outcomes. Whether its orientation is pathological or constructional, it tends to require the definition of progress by changes in *explicitly specified* data which can be recorded as they occur or according to some sampling rule. They readily lend themselves to analysis for accountability. The records relate procedures of the *agent* and *behaviors* of the client, or patient, student, etc. Both constitutionally and ethically, these latter persons are properly who should approve the change procedures. The records required are specifically "and particularly describing the patterns or conditions to be eliminated" if pathological in orientation. The phrases in quotations are paraphrases of Article IV of the Bill of Rights.

4. *Maintenance procedures*: — The implications are writ large and clear: (a) if we can find out what the patient is after, (b) if attainment of these goals is in accord with ours, (c) if we can become somewhat effective in progressing toward these mutually agreeable goals, then (d) no extrinsic consequences are needed. Nor need we use deprivation, isolation (time-out), negative reinforcement, nor any other form of aversive control, any of which, singly or in combination, have rightly raised public concern.[69] Further, where the patient's goals are not what we consider

[69] For the substitution of such intervention for attempted change in behavior by time-out with an institutionalized child, see my terminal essay in Confrontation (Goldiamond, 1970). If the approach is useful in an institution, it is critical in outpatient treatment.

desirable (or ethical), we can attempt to negotiate other mutually agreeable outcomes. My experience thus far has been that patients are usually after legitimate outcomes which they indicate—if we but bother to observe. Where they do not speak for themselves, the entering symptoms, or those the institution has produced, may speak for them.

A token economy may prove to be very useful in maintaining progression through the program, and in other ways. It requires the staff to look for behaviors they can reinforce. It thus inclines them toward a constructional orientation. As they become increasingly successful in altering response probabilities, their attitudes toward the patient and their relations to them change. Partly this is because they are now fulfilling the social contract and partly because the behaviors which have increased are positive ones. This may similarly affect patient attitudes.

It also requires that explicit attention be directed to classification of the behaviors of the patient and behaviors of the staff. This is useful in keeping records and assessing and teaching functional relations. The patient may also learn thereby. The records may forcibly bring to the attention of the staff and the patient the fact that patient behavior is lawful, and not erratic. This can provide hope for change and motivate the staff—and the patient.

For these reasons, and because they tap current repertoires of rewarding "good" behavior (e.g., gold stars), and because of their apparent simplicity, the use of token economies is on the increase. Unfortunately they can also tap into less desirable repertoires. One example is their use to buy attention in a dull class. Another example I observed recently was the attempt to relieve the depression of a patient by providing tokens for adherence to an activity chart posted on the ward bulletin board. The deprivations which have aroused concern (Wexler, 1973) are yet other examples of abuse.

I believe we should move toward the guidelines suggested in the discussion of institutional repertoires of reinforcement, when the spiral metaphor was employed. First, we should carefully analyze that spiral (or cycle) to ascertain that the intervention point should be the reinforcers already provided by the staff. If this seems recommended, it is these reinforcers which might be exchangeable for tokens, which are delivered contingent on more desirable behavior. The staff has already demonstrated its effectiveness in the use of these reinforcers. Why then bother with tokens? Why not use these reinforcers themselves? An answer may be that it is the timing of delivery which is inconvenient to the staff. Accordingly, a token delivered to a patient at a time he requests it (by the more desirable behavior) may be exchanged for attention by the staff when they have the time available. Another use may be the present existence of complex reinforcers which can not readily be delivered (for example, a job on the grounds at union pay). The tokens might then be used as reinforcers to maintain program progression (a training course, in this case) toward this contracted outcome.

The effective use of tokens in the institutionally defined spiral is not defined as therapeutic, nor is any other training system with such objectives so defined. It does not follow that because an institution is effective in shaping certain institutionalized behaviors, and that because this effectiveness can be used to shape

more desirable behaviors (in accord with outcomes contracted. with the patient), that such outcomes are necessarily congruent with those which might be addressed to contingencies in the world outside. Such programing may require explicit orientation in this direction. Institutional programs which are otherwise directed may be defined as *custodial,* that is, they make possible an amenable existence within the institution while the patient (or prisoner) is in its *custody*. They should also follow the medical edict of not harming the patient or deteriorating him. They fulfill that part of the social contract relevant to treatment of subjects within the institution to which society has assigned their custody. It should be evident that the custodial designation is not intended disparagingly. The smell of incontinent patients, for example, often imposes undue burdens on any staff members who wish to work with them. A program which establishes continence is a necessary custodial program (Foxx and Azrin, 1973).

The referent system in the therapeutic social contract may be the family, or other such unit. Analysis of the spiral for family-patient relations would follow the model already suggested for analysis of the institution-patient spiral. The family would be brought in to consider how the family-patient spiral *effectively* shaped the disrupting patterns at issue. That spiral should be analyzed to ascertain that the intervention point should be the reinforcers already provided by the family, and so on (see institutional paragraph).

Where the relevant social unit is unavailable for such analysis and change, professionals trained in this task (e.g., social workers so trained, cf. Schwartz and Goldiamond) might function to analyze the social-patient spiral and how it *effectively* shaped the disrupting patterns at issue, and so on. The procedural task might be to attempt to ascertain what units in the system might be available or what units might be established.

Finally, the behavior of the patient himself might be analyzed in terms of his effectiveness as an agent of social change, and a program developed which utilizes such effectiveness.

Whatever the program, the institution may serve as a haven in which analysis of the relevant spirals can safely be conducted, without the pressures on patient, family, and other units which normally prevail and preclude such analysis. It may also serve as a haven for initial programing, and for programing at later periods—an advanced and safe college. Tokens can be deployed effectively and ethically to maintain progression through such programs (Ayllon and Azrin, 1968).

CONTINGENCIES OF COERCION

Coercion may be translated into negative reinforcement. This is technically defined as the *maintenance* (hence, reinforcement) of behavior by the *elimination* of an event (hence, negative) contingent on that behavior. For example, behavior turns off a shock for a brief period. The shock may then recur, behavior turns it off, etc., in escape behavior. The behavior pattern involved is maintained. In Sidman (or nondiscriminative) avoidance, of course, an aversive stimulus is delivered for very brief periods at regular intervals, which are governed by a timer. A response

at any time resets that timer, postponing the delivery of shock. A regular pattern of behavior may then ensue, in which the timer is so continually reset that no shocks are delivered. The behavior seems to have no consequences, but is maintained. The situation may also be described in terms of alternatives available. In the paradigms which follow, behaviors of the subject are on the left, and the behaviors of whoever it is who dispenses the consequences are on the right:

[1] 1. Target behaviors occur → No consequences delivered.
2. Target behaviors absent → Aversive consequences.

If inspected only in terms of Line 1, the arrangement seems to be a very economical one, indeed, for the dispensing agency. It gets what it is after (the target behaviors) at no cost: the blackmailer is paid regularly and provides no services in kind. An observer not familiar with Line 2, and who is centered on why the subject behaves as he does, may become puzzled. Maintenance of behavior in the absence of observable consequences may suggest to him that consequences are not necessary to maintain behavior. Or, his faith in consequences unshaken, it suggests that consequences still reign over that particular behavior, but have now become *internalized.* Or, the behavior not being in accustomed relation to the environment, it suggests that the pattern is abnormal—or that the person is abnormal. However, examination of the contingency alternative to the target pattern suggests that the maintenance of that pattern is not at all odd—if the alternatives are considered (cf. Goldiamond, 1968).[70]

It has been argued that since the target behavior is maintained by elimination of the aversive consequence, any other behavior which can produce this eliminative effect can occur, and such behaviors will tend to increase, e.g., destroying the system, attacking its agents. Accordingly, considerable effort must be expended in constant vigilance to rule out such nontarget occurrence (Skinner,

[70] For example, the controversy concerning what maintains behavior in the absence of observable consequences (nondiscriminative or Sidman avoidance) rests upon formulation of the situation in unilinear terms. However, experimental results of Herrnstein and Hineline (1966), which raise serious questions about the adequacy of two-factor theories to explain avoidance, were obtained using procedures which explicitly included alternative lines. The experimental formulation corresponds closely to the descriptive formulation suggested. The explanation to the problem cited is that a behavior is maintained without consequences because the alternative of no such behavior is punished.

The explanatory status of the formulation parallels the status of other explanatory statements in behavior analysis. We state that the reason a pigeon continues to peck almost endlessly during extinction is *because of* (or *because it followed*, in a descriptive formulation) his previous exposure to a variable interval schedule. In many explanations of particular situations, the explanation consists of relating the particular to a more general statement. Examples are: "She lost her temper because she's a red-head," or "The ball fell like that because of gravity." Ascribing persistence of behavior during extinction to a prior V.I. schedule is a very *powerful* explanation, simply because V.I. effects are so *general*: the effects are obtainable across species, across behaviors, and across consequences. An explanation of behavioral persistence in terms of *hope* is superfluous. It presumes a rigid adherence to a unilinear model and rigid assumption of the necessity for reinforcement of *every* behavior (cf. "partial reinforcement"). These are met by internalizing the invisible consequences. Descriptions in terms of sets of alternatives also have considerable generality.

1971). This is undoubtedly true, but the frequently cited corollary does not necessarily follow. The corollary is that a system whose target behavior is maintained by positive reinforcement is necessarily simpler and more economical to institute. Since the behavior produces reward, no particular constraints seem necessary to maintain it. It seems difficult to keep the subject away from the situation. The alternatives seem simple:

[2] 1. Target behaviors occur → Positive consequences delivered.
2. Target behaviors absent → No consequences delivered.

I submit that this, too, requires considerable expenditure of effort by the dispensing system, above and beyond that involved in setting up the standard differential reinforcement procedure described. This becomes most evident when we inspect another set of alternatives. The good laboratory scientist always considers this set, and worries about it, but the set is often overlooked in formulations outside the laboratory:

[3] 1. Target behaviors occur → Positive consequences.
2. Less costly behaviors occur → Same positive consequences.

The *system* will then not get the target behaviors it is paying for (which presumably are important to the system). Examples of such behaviors are not difficult to come by in the laboratory—for example, animals discriminating the sounds of the different relays which control their schedules. Nor are they difficult to come by outside the laboratory. Examples of such behaviors, which may represent less response cost to the subject, are cheating, or stealing, or lying. Or Clever Hans, the mathematical horse-wizard, who stamped his hooves (and thereby gave the correct answers) to problems given him, in accord with his very careful reading of slight changes in his trainer's face and demeanor. The second alternative is involved in many neurotic or other undesirable symptoms (e.g., developing stuttering rather than professional skills to get recognition,[71] the spider phobia which produced attention because other behaviors more on the target were ineffective), as well as many psychotic patterns. Indeed, Braginsky, Braginsky, and Ring report that a mental hospital can serve as a shelter, or resort, for many people, and since the requirement for admission is deviant behavior, it is submitted for admittance.

Accordingly, since the situation described in Set 3 can readily occur, the system must expend considerable effort to so arrange Set 2 that it does not deteriorate into Set 3. Such arrangements can become so expensive that the constraints for Set 1 are less costly. Whether we reinforce positively or negatively, vigilance (or engineering) is necessary.

This introduces another set of alternatives:

[71] Past experience has taught me, regrettably, that I must make it explicit that I do not imply that all stuttering, or a good proportion, is so maintained.

[4] 1. Deviant behaviors occur → Hospitalization delivered.
2. Available nondeviants → Aversive consequences.

This defines the hospital as providing asylum, in the true sense of the term, Institutionalization is (possibly comparatively) noncoercive. Another set of alternatives is possible:

[5] 1. Deviant behaviors occur → Hospitalization delivered.
2. Available nondeviants → No consequences delivered.

Line 2 represents a situation in which the person has no resources going for him on the outside.[72]

In case of Sets 4 and 5, simply eliminating institutions, or denying institutionalization, is no solution. The solution, instead, may be found in attending to the second elements in the two sets presented.

Such analysis of available alternatives suggests that many behavior patterns society finds disruptive and labels pathological are not maladjusted or maladaptive, but are highly successful operants. The analysis is, of course, useful to a constructional orientation.

If it is questionable to consider patients of mental hospitals as generally incapable of acting in their own best interests, it is doubly gratuitous to define criminals in this manner.

The possible and relevant sets are not exhausted by the examples presented. The family and patient may be considered as a system. In the following set, the family is the subject (left) and the patient the consequence dispenser (right):

[6] 1. Patient kept home → Aversive consequences delivered.
2. Patient institutionalized → No consequences delivered.

The family is coerced (by the patient) into institutionalizing him, that is, is negatively reinforced for doing so.

I believe that many of the problems encountered in examining behavior may be related to our attempts to fit alternative procedures into unilinear statements.

[72] One of the patients I interviewed upon his tenth admission to a state hospital was diagnosed as a "paranoid schizophrenic with such a seething hostility against society that he acted out the figurative statement 'to have a kick against' by kicking over a garbage can in the presence of two Chicago policemen." I asked him how he got in. He told me. "Why did you do that?" "To get into State Hospital." "Couldn't you figure out a better way?" "Hell, I tried. I applied for a voluntary, but they wouldn't let me in. You gotta give me credit, though. I held out for a whole month." He had no resources, was unemployable, lived at his parents' for a while, then lived off some friends. What next? "I could hold up somebody, but they's as poor as I." So he kicked over a garbage can in the presence, etc. Many of the patients are people poor in financial resources and possibilities for solution who retain their dignity and help others do so however they can. Simply to abolish the hospitals does not develop such resources for them, and they are merely transferred from one care system to another.

Routine description of an experimental or applied situation in terms of sets of the alternatives which hold may clarify some theoretical and procedural issues and separate the extent to which some of our problems are results of the unilinear descriptive system currently prevailing, or result from the requirements of the situations themselves.[73]

Discussion of institutions inevitably raises the same issue of coercion and consent. I believe that the same rules which apply outside institutions also apply within their walls: consent obtained under duress, or in absence of relevant information, is not consent.[74] The reasoning underlies Morris' (*Behavior Today*, 1974) statement on penal institutions: "Release and voluntary treatment cannot be linked." Defining what is voluntary or coerced can be a difficult practical and philosophical problem, cf. the extended discussions on determinism and free will. Morris suggests that the issue is avoided if we define the terms by what amounts to contingencies, and I shall relate these to the alternative lines described earlier. It is difficult to visualize Morris' point when we phrase it in such linear terms as "early release from prison is contingent upon participation in the educational (therapeutic, etc.) program, therefore we do not define the program as voluntary." The statement describes a situation in which, at some point, the convict who participated in the program is free, while a convict, matched for sentence, who did not, is still imprisoned. This redefinition is ideal for description in terms of a set of alternatives, and the issue of coercion then emerges in stark nakedness. The behavior of the prisoner is on the left, and the consequences delivered by the system are on the right. The convict in line 1 has been discharged: and the convict in line 2 has not.

[7] 1. Past participation in the program → No prison consequences delivered.
2. Past absence of target (program) behavior → Aversive prison consequences.

Set 7 is identical to Set 1, which described blackmail.

It will be observed that coercion is defined purely by the observable set of alternatives. It is not defined by absence of written or verbal consent, or by intent

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[73] By extending the principle of classification by sets of alternatives to classically defined contingencies, we get the following four combinations. The column entries refer to consequences of the classes specified:

		a	b	c	d
1.	Target Behavior	Aver	0	Reinf	0
2.	Nontarget Behavior	0	Aver	0	Reinf

The situations, described unilinearly with reference only to the target behavior, are classically: a. punishment, b. negative reinforcement, c. (positive) reinforcement, d. reinforcement of competing behavior (which, depending on the conditions and contingencies, can be DRO, punishment by reinforcement withdrawal, etc.). The possible entries are not exhausted.

The description given is closer in accord with procedures used than the present unilinear description.

[74] See Footnote 16, the caveat on voluntary consent by a pediatrician.

or affect. Such definition has legal as well as behaviorist precedents. The law defines *motivation* by consequences which might be contingent on the behavior and by opportunity to establish the contingency.

If we refine the situation described in Set 7 in terms of privileges or other goodies delivered during participation in the program, we get the following set:

[8]
1. Ongoing program participation → Reinforcing consequences delivered, plus earlier release from prison.
2. Program participation absent → No consequences delivered, plus aversive prison consequences.

While Set 8 seems to resemble Set 2, the typical differential reinforcement-positive reinforcement contingency, the resemblance is superficial *since an outcome of target behavior is earlier discharge.* This becomes evident if we set the reinforcer at zero value. The following then holds:

[9]
1. Ongoing program participation → No consequences delivered, plus earlier release from prison.
2. Program participation absent → No consequences delivered, aversive prison consequences.

If the target behavior in Line 1 is maintained, then the linkage of Set 9 to Set 7 can be considered as maintaining the behavior, specifically because it is linked to the outcome of early discharge.

Program participation is maintained by coercive means. We can not assume that the differential reinforcers of Set 8 were operative, since the same effects were obtained when they were eliminated. Substituting zero value for a reinforcement procedure is a standard laboratory procedure. Such analysis might be routinely made in evaluating a program before it is set up—it might even be examined experimentally.

If elimination of the early discharge contingencies is critical to removal, what about providing additional privileges? If the privileges involve *decrease of aversive control* otherwise supplied by the agency (more decent treatment rather than discharge), coercive control is still defined. Positively reinforcing consequences have been assigned zero value:

[10]
1. Ongoing program participation → Aversive density decreased.
2. Program participation absent → Aversive density maintained.

It was noted earlier that having a patient sleep on a floor unless he engages in the token economy, in which case he might earn bed privileges, is undesirable on ethical grounds (as well as constitutional grounds). Set 10 also defines it as coercive. And in a penal institution, confining an inmate to a miserable hole, and gradually improving things contingent on target behavior, defines coercion. Whether the target behavior is going through a therapeutic program or meeting

some other requirement is irrelevant. It is also irrelevant whether the improvement is all-or-nothing or is explicitly graded. Such programs may be improvements over throwing away the key and forgetting the inmate.

The alternatives may be so desperate for the agency that it must on occasion resort to them. The following alternatives describe a situation in which the prison (hospital) considers itself as coerced into coercing. The institution is the subject (left) and the inmate is the dispenser of consequences (right):

[11] 1. Agency relaxes confinement (etc.) → Aversive consequences delivered.
2. Agency tightens confinement → No consequences delivered.

If the inmate manages to deliver aversive consequences during Line 2, this will not affect definition of the situation, since it is defined by aversive zero. Indeed, the institution may tighten its screws to produce the zero required.

Before discussing the sets which define voluntary consent, three points should be reiterated regarding coercion. First, it is defined by the alternatives in the sets, which generally can be classified as negative reinforcement. Second, coercion is defined with reference to a method of maintaining the *specific* target behaviors of the *subject* by the *agency* defining the controlling contingencies. Thus, while participation in a *given* program may be under coercive control, other patterns may not be. The controls exerted over the *agent's* controlling behavior *in this situation* can be varied. They can come from inmates, colleagues, superiors, etc., and must be separately examined, with agent as subject in all the sets of alternatives governing his behavior (as must be done for the inmate, as well). Third, institutions, especially prisons, may apply coercive control over many behavior patterns in accord with implicit or societal requirements. Prison systems are handed judgments which include possibility of "time off for good conduct." Their repertoires and the conditions under which they operate may make coercive control necessary. Evaluation of societal requirements, institutional practices, etc., would require an essay which is far beyond the scope of this paper and also my factual and analytic repertoires. I restrict myself to the educational and therapeutic areas in which I have some experience. What is involved is that institutional convenience (which includes social demands, and is not intended pejoratively) not be confused with correctional, educational, or therapeutic programs, and not be rationalized thereby.

CONSENT

The discussion of contingencies of coercion noted that making positive reinforcement contingent on program participation could bear only a superficial resemblance to noncoercive situations. Reinforcement was considered superficial when diminution of institutionally provided aversive control was also attached. Such diminution could be in the form of early release or in the form of allowing the subject to work his way up to standard custodial conditions, after he had been deprived of them.

We may now define contingencies of consent. The behaviors of the subject are on the left and the consequences provided are on the right. Aversive confinement is in parentheses because it may not be involved in nonpenal institutions:

[12]

1. Ongoing program participation → Standard custodial consequences (and standard aversive confinement).
2. Program participation absent → Standard custodial consequences (and standard aversive confinement).
3. Ongoing program participation → Program-specific consequences.
4. Program participation absent → No program-specific consequences.

Stated otherwise, the institution provides or eliminates no custodial (or confinement) consequences contingent on participation or nonparticipation in the program. What maintains participation is the delivery and nondelivery of consequences which derive from the program itself. The presence of this set of options defines a *noncoercive* situation.

The program-specific consequences are not entirely divorced from institutional delivery. It is the institution which sets up the system. It may engage its agents in the constructional spiral-analysis discussed earlier. It will be recalled that this could involve assay of the natural ecology of the inmate outside institutional walls, or an attempt to develop resources there. These would be necessary to maintain outcomes mutually agreed upon by patient and agency and toward whose construction (or reinstatement) the program is directed.

This method not only defines the options as noncoercive, but as involving *full consent*. It is also therapeutic or correctional.

Other options may be made available whose goals fall far short of those described. They may, however, be noncoercive if they meet the requirements of Set 12. Thus, for example, although changes in custodial and confinement conditions in prison or in a mental hospital are not contingent on enrollment in a chess class, the institution provides the necessary facilities, which include instructional resources. These may or may not include p.i., and maintenance of program behavior may or may not be affected. The institution may set up chess tournaments and prizes, or provide intramural work for electricians, and thereby increase the likelihood of learning to play chess or attaining competence as an electrician. Other possibilities also exist, including group therapy sessions and various token economies associated with other courses or programs for acquiring skills or other improvements. To circumvent the possibility that such programs merely relieve a boredom, imposed by the institution, Cohen (personal communication) has suggested that a variety of programs be available so that choice of a particular one can not be considered coercive.

The issue relates to a fundamental one. It was noted that when the institution deprives a person of what is available elsewhere in the institution in order to use it as a reinforcer to produce the behavior it wants, the situation is defined as coercive, since it can be defined by decrease of aversive density contingent on participation.

Accordingly, one solution that has been proposed is the provision of reinforcers not available in the institution, or institutions of the type. These are added privileges in the form of consequences extrinsically related to program target, e.g., tokens which can be exchanged for television, admission to dances, and the like in a program whose target is, say, passing the (high school) Graduate Equivalence Diploma examinations. The room television sets and dances may not have been hitherto available. They are now available for tokens, contingent on (program) work. After all, the argument is made, in the world outside people have to pay for privileges and must work to earn that pay. If the types of economic opportunities available before confinement existed during confinement, and the inmate spent funds so earned for such privileges, the argument of coercion might not be raised (though others probably would be). However, when these privileges are made contingent on institutionally-provided programs, constitutional issues related to coercion do arise, as Wexler (1973) points out.[75] In the world outside, differing economic and social conditions make the necessities of one group the luxuries of another (e.g., a good education). However, in the institution, it is the power of the state which defines (what may be) the necessities of an individual as privileges to be earned. This the institution generally does, in part, by its imposition of uniformity, restrictions, and deprivations. The question raised is: if one program can make such amenities available contingent on program-appropriate behavior, why can they not be made generally available on a noncontingent basis for everyone in the institution? The patient is deprived of amenities which may have been part of his life outside, or were, at least, available. These are then restored, contingent on program-appropriate behavior. The alternatives, it has been argued, represent the coercive situation described in Set 10. Further, the behaviors upon which the privileges are contingent are not continuous with the behaviors required for them outside. I have yet to get into my neighborhood movie by repeating simple phrases after my wife.

The argument is not readily answered or swept aside. If the guidelines suggested earlier are employed, namely, the use of reinforcers delivered by the institution (which maintain the disruptive spiral) as program-related consequences (or token surrogates exchangeable for these), there is no ethical problem. We should work toward meeting these guidelines. As we depart from them, and from the rationale discussed earlier, ethical problems begin to emerge. We begin to enter the arena of conflicting sets of values.

Medical practice provides excellent examples. Certain medications and other treatment procedures raise no ethical problems. However, as we depart from these, ethical problems enter. A certain drug may harm the patient considerably and

[75] Indeed, the attack on behavior modification programs in prisons is often an attack on inhumane custodial procedures involved. That their change is made contingent on program participation confounds the issue. The Set 12 of contingencies presented separates the two issues. If the custodial procedures of an institution are inhumane, humane conditions should be substituted. If they are humane, but drab and offensive to community standards, they should be made to conform. If community standards are low, they should be raised. The program is a separate issue, regardless of the name given to it by prison officials.

violate this cardinal canon of medical ethics. On the other hand, not using the drug may harm the patient even more. This type of conflict constantly exists, along with the more dramatic ones involved in prolonging the life of a deteriorating vegetative organism with a human identity. And medicine has learned to develop procedures which see it through the routine ethical crises. The ethics are related to a staff decision *process* which weighs the various alternative actions possible, which considers the consequences, which examines the data and evidence bearing on the case, and which includes, when possible, the affected parties themselves. The results can be in the form of recommendations to the affected parties, or in the form of available alternatives and likely outcomes.

Political experience also provides examples. Certain policies represent common agreement and little conflict. In other cases, conflicting interests cite ethical principles in their support. In the economic arena, certain groups support decrease in taxes, while others advocate their increase. Ethical principles are cited. In the busing controversy, coercion in the form of requiring parents to send children to schools outside their districts is justified by reference to the unethical consignment of children to inferior education by virtue of residence in neighborhoods whose choice was constrained by exclusion from others. In each of these cases, the ethics are relatable to the processes whereby decisions are made. To the extent that conflicting interests are allowed their due access to these processes, the outcome can be considered ethically arrived at.

An example of the violations of such process will now be presented to bring the issues into bolder relief. Moral indignation was invoked to support the violation.[76]

ETHICS OF ALTERNATIVE SYSTEMS

A colleague at a different university showed us a deeply moving film. The heroine was an institutionalized primary-grade girl. She was a head-banger, so a padded football helmet was put on her head. Because she could take it off, her hands were tied down in her crib. She kept tossing her neck and tore out her hair at every opportunity. She accordingly had a perpetually bruised face on a hairless head, with a neck almost as thick as that of a horse. She was nonverbal.

My colleague and his staff carefully planned a program for her, using all kinds of reinforcers. She was remanded to their program, but persisted in her typical behavior. In desperation, the ultimate weapon was unwrapped. When she tossed her head, my colleague yelled "Don't!", simultaneously delivering a sharp slap to her cheek. She subsided for a brief period, tossed again, and the punishment was delivered. My colleague reports that less than a dozen slaps were ever delivered and that the word "Don't!" yelled even from across the room was effective. Its use was shortly down to once a week and was discontinued in a few

[76] Other cases could be cited from personal experience, or from the literature of the anti-institutional movements. However, as I noted, I disagree with their conclusions. Our major hope lies in regarding the institutions as competent, and in harnessing this competence. It is probably our major ally and the most economically available resource we have to fulfill the social contract we and they support.

weeks. In the meantime, the football helmet was removed and the girl began to eat at the table. She slept in a regular bed. Her hair grew out, and she turned out to he a very pretty little blond girl with delicate features and a delicate neck. In less than a year, she started to move toward joining a group of older girls whose behavior, it was hoped, she would model. She smiled often.

The initial institution and her parents discovered that she had been slapped. They immediately withdrew her from the custody of my colleague's staff. The last part of the film shows her back at the institution. She is strapped down in her crib. Her hands are tied to a side. She is wearing a football helmet. Her hair is torn out, her face is a mass of bruises and her neck is almost as thick as that of a horse.

This ABA experiment does not address itself primarily to the efficacy of my colleague's procedures, since his was the B procedure which tests the A's. It does speak for the efficacy of the standard procedures which are applied in many other institutions.

The film has profoundly disturbed me in a variety of ways, and I shall confine my discussion to a consideration of alternative contingencies. The behavior of the institution is on the left, and the behaviors of the child are on the right. Corresponding numbers are yoked.*

A. Eliminative Pair

1. Occasional punishment	→	No head banging
2. No punishment; physical constraints imposed	→	No head banging

B. Constructional Pair

1. Constructional behavior modification program	→	Progression toward human developmental norms; increased smiling
2. Reflections of human concern to the child, explanations of constraints	→	Human monstrosity; development frozen

The *child* smiles in B1; the *staff* smiles in B2. ("Good morning, dear. How are you today?") The child *looks* human in Bl; the staff *talks* human in B2. "We don't like to tie your hands, dear. It would be nice if you . . .") Not that the staff doesn't smile and talk human in B1, but this is a product of the same kind of interchange which would occur with normal children.

Several things are intellectually puzzling (as well as emotionally disturbing). Why were the alternatives in Pair A, the eliminative pair, the most heavily weighted in the decision? To what extent did the weight given the pathological orientation of our society enter as a factor? Even with this weighting, is physical

* [NOTE: These pairs appear to be what the author meant in discussing "Set 13" in subsequent pages. Ed.]

constraint, which also constrained other child and staff repertoires, preferable to an occasional slap which did not? And how about drugs which attenuate behavior? Is physical constraint any less a human intervention than slaps? Are drugs?

I am all for evaluation and review of behavior modification programs in institutional and other settings. But I also insist that we simultaneously evaluate and review *any other* programs in those same settings. "No particular program" for whatever stated purpose ("We provide a setting in which patients can emerge from their anxieties") is also a program and should also come under simultaneous review. Granted, *post hoc* does not necessarily justify *ergo propter hoc* (causality is identified by other procedures, cf. Ayllon and Azrin, 1965), but we might routinely start setting up corresponding pairs in the manner of Set 13, not only to evaluate procedures, but also as tools in decision processes in suggesting what recommendations might be made. The considerations might be extended beyond those made in Set 13. We might not only ask of a procedure what disturbing (to others) repertoire it eliminates, but also what useful (to *self* and others) repertoire it eliminates. We might also ask what disturbing and useful repertoires it constructs, or in the words of our politicians: "What trees does it plant?" Social consequences weigh heavily in the evaluations: Who are the *others* whom the patterns disturb or please? Such ramifications of the decisions make it important that recommendations not be left solely to the professionals involved or other representatives who might be charged with conflict of interest. Broader representation is required.[77]

In whatever decision processes are set up, data will be needed. And satisfactory data have been difficult to come by in most cases. Applied behavior analysis has developed procedures which specify causal relations and which isolate working variables. It might, accordingly, be able to supply data which are useful in those resolutions of conflicting interests and ethics which characterize other decision processes of our society and which provide recommendations for application.

Development of carefully validated programs which others can apply is, of course, a heritage of this scientific tradition. Its potential in the solution of practical problems, as attested by programs already developed, has contributed to rumors of an approaching behavior technology. The contribution of such programs should be distinguished from studies which demonstrate that a task force of dedicated behavior modifiers produce results superior to those obtained at a mental hospital, school, and so on. The Jack Horner syndrome[78] thereby specified may be personally gratifying but its contributions to research and development of behavior analysis and its extensions are questionable. Yet another contribution is the constructional orientation represented here. This orientation is at least as rooted in human practice and institutions as is the pathological orientation. It simply is not

[77] In one English mental hospital I visited, involuntary commitments had dropped rapidly when they had had to be justified before a board which included tradespeople, trade unionists, clergy, and others in addition to the professional staff.

[78] He put in his thumb and pulled out a plum,
And said: "What a good boy am I."

as well formulated by our present literate culture. Indeed, I have often observed, in various institutional and other settings, differences in attitudes toward patients which I shall polarize as follows. Some staff members seem governed by an orientation which says, in effect, "these people" have to come out of it, and there is little we can do in this process. Other staff members seem governed by an orientation which says, in effect, we can do something to change this, and let's find out what. Whatever behavior modification enclaves exist in these settings usually follow the second orientation, which is by no means restricted to them. And perhaps it is the constructional orientation involved that is critical in many cases. I recall speaking at a symposium on Down's Syndrome and being the only one who was constructional. I was approached by a member of the audience afterwards. "I gather you would say," he said, "that if parents don't give up, but work at it, their kids might be pretty close to normal?" "Well, in more cases than we suspect." He then proudly opened his wallet to a photograph of his 12-year old daughter, who bore all the stigmata, and was progressing in school. "We had been told to forget about her," he said. What could I teach him? Rather, I could learn by observing his interactions with his daughter and might be able to translate much of what was going on into a conceptual system which facilitated research on what was causally and superstitiously effective, with the scientific and practical applications "thereto appertaining."

The constructional implications of a constructional model consonant with behavior analysis have been noted. The major thrust of my argument is that the practical system developed along those lines accords with the constitutional premise of a government limited to those powers explicitly specified (along with those implied as necessary for such purpose), with all other powers residing in the people. The system also accords with the related ethical premises. Ends and means are concordant and, indeed, explicitly so, with every step toward the outcome a faithful miniature of the larger program. The issue is viewed in a social context in which definitions of repertoires are social and have social and individual consequences. Accordingly, decision processes enter not only into definition of problem but also of solution.[79] The procedures described increase the likelihood of obtaining the information necessary for a rational decision process. The solution requires construction of additional options for the individual, thereby increasing his freedom. And he is described in terms which enhance his human dignity. These constitutional and ethical implications derive from the research requirements of the model, which are also critical to its social application.[80]

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[79] H. Karp is doing a doctoral dissertation using decision theory, in the form of Signal Detection Theory, for an experimental analysis of the classification of stuttering.

[80] In contrast, one or more of the following are deducible from some of the eliminative models which currently hold:

Constitutionally, the powers of the individual are limited and residual powers are assigned the institution.

The ends may be expressed as restoration of those options whose exercise is presently constrained. The means involve elimination of the constraining option. Attainment of ends may be by contradictory means.

Accordingly, I shall now consider some research implications of the model.

RESEARCH IMPLICATIONS OF CONSTRUCTIONAL MODELS

The constructional models we have been discussing are based on the commonalities between laboratories of the experimental analysis of behavior and programed instruction, its derivative. These make change procedures and outcomes explicit. By so doing, they make it possible to identify which procedures effectively contribute to contracted progressions. The practices described have led not only to the development and production of successful programs of practical importance, but also to a research methodology on how to program change. Further, the requirement of explicitness makes it possible to communicate readily the research and programing methodology (cf. Skinner, 1968).

It is not generally realized that such practices may *simultaneously* be used for all the ends that govern *basic* research. The notion that development of technology and of technical competence defines the endeavor is far from the truth.

The reasoning is not complex. The program, no matter how successful, is not identical to the variables which produced the outcome, since it also contained elements extraneous to the outcome. These, so to speak, were incorporated in the successful package. Refinement consists of successful substitution of procedures considered more relevant. The practical effect is that the program becomes less costly in time and effort. The scientific effect is that the program approaches identity to the variables of which the outcomes (terminal and way-stations) are functions. Carefully controlled changes within a program for an individual make it possible to describe functional relations between dependent and independent variables, using the classic strategy of single organism research (Sidman, 1960).[81] Other cases may similarly serve as new experiments addressed to replication or extension, or to unresolved questions.[82] Changes made for such investigative

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It has been notoriously difficult to obtain meaningful information about the procedures used and their consequences.

The diagnosis is assumed to be based on biological or psychological properties of the individual.

The individual may be classified as incomplete, immature, or by other pejorative terms which detract from his dignity.

None of these is necessary for a pathological approach, yet they often accompany such orientations. Medical practice is often pathologically-oriented and is not generally characterized by these descriptions. The constructional model proposed *requires* opposing views, straight across the board, as listed in the text.

[81] This strategy is not peculiar to operant conditioning. It was also used in classical psychophysics, and is still followed in research governed by Signal Detection Theory. Classical physiology is another example (cf. Bernard, 1865)

[82] Single organism research is not to be equated with an N=l. Size of *N* is dictated by the numbers of different experimental treatments (control, Variable 1, Variable 2, etc.) and number of measures required (usually people) to get useful estimates of the effects of each treatment. In single organism research, the number of *observations* needed to get useful estimates is dictated by the number of different experimental treatments (Baseline, Variable 1, Variable 2, etc.) and number of responses required to get useful estimates of the effects of each treatment. Accordingly, *N* in statistical analyses

purposes are, of course classic scientific procedures and may contribute to general scientific knowledge.[83]

Such changes may also contribute to the personal knowledge of the client (person or system) about his own (personal or social) contingencies. This holds to the extent that he becomes an *explicit* coinvestigator in this scientific task. In conventional psychotherapy, as most often practiced today, the therapist typically informs the patient that "we *both*" will work toward understanding of what is going on. However, the deduced relations are stated in terms and are produced under conditions which make them difficult to validate. When necessary controls are introduced, the relation of the results to change procedures is usually tenuous.[84] The constructional models suggested utilize a strategy which makes possible the derivation of validated relations functional for knowledge *and* treatment, for the *investigator*. The strategy may serve the same purposes *for the client*. The strategy is in accord with the classic psychotherapeutic aim noted. Such a schema poses no practical difficulties for reconciling practice and research. The schema also poses *no ethical problems* regarding the use of a patient as an experimental subject in a research project. He may be a coinvestigator, not only in the classic psychotherapeutic sense, but also in joint discussions on what should be manipulated to find out what was going on, in the explicit collection of data for this purpose, in the use of categories which make quantification possible (our patients often draw their own graphs), in analysis of functional relations, and in suggestions for future directions.

The parallel outcomes, on the one hand, of scientific and technological advance and, on the other, of patient (social) understanding and patient (social) know-how may be considered in terms of the various contracts implied. With regard to the social contract with the professional, fulfillment of the former outcomes supports him as a member of a scientifically oriented discipline.[85] Fulfillment of the latter outcomes supports him as a member of a helping profession. Fulfillment of the latter also, of course, meets the client's expectations of the professional. The strategy described may help facilitate fulfillment of these contractual obligations—if we set out explicitly to do so.

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is the equivalent of number of *response entries* in experimental analysis. A new experiment may replicate the old, or introduce new variables. So may a new organism in single-organism strategy. Accordingly, the number of experiments in statistical analysis is the equivalent of the number of individuals in experimental analysis.

[83] A distinguished professor congratulated me on the change in the verbal behavior of one of his students. "Your program is amazing," he said, "but does it contribute to knowledge?"

[84] Partly because psychotherapy involves long-term research with the same (single-organism) person, and most clinical research with validated conclusions is group research in which many persons are run for few measures each. Reports of psychoanalytic therapy follow the single-organism more closely, and, interestingly, the conclusions reached and procedures used are closely scrutinized for possible application by other analysts. Unfortunately the non-explicitness of procedures, among other things, makes the data difficult to validate, and they accordingly tend not to be accepted by nonanalysts.

[85] Ultimately the social support of a scientific discipline rests on the extent to which it can be related to technological application.

Accordingly, I believe that an important research implication we might pursue is the constructional analysis and development of such delivery systems.

Rigorous training in research and the related research strategy is, I believe, critical not only to the scientific endeavor involved, but to the technological and therapeutic endeavors as well. Admittedly such training is not sufficient—other training is needed as well. At present, the best source for validated relations is the laboratory. We might devote it more attention rather than less.[86] In all events, I believe we might seriously start considering such training for those who speak in our name. I believe psychoanalysis has very wisely insisted on meeting certain academic and experiential standards before one can speak in its name. Some intuitive and gifted people may develop on their own the technical skills necessary for circumscribed problems in their areas, but such self-trained people are at least as often a source of embarrassment.

Constructional analysis of social change is a research implication whose discussion would lead us too far afield. The parallels between individual and social change noted in the text can be extended. These would include an analysis of the social competences which are around us and their transfer to help program attainment of outcomes, whose high cost of delivery, or whose absence, underlie the related social distress.

The clinic is not irrelevant to the pursuit of such constructional analysis. The patterns for which clinics are set up are not socially trivial. Otherwise social institutions would not be set up for them. The variables which govern these patterns are not precious. Otherwise the patterns would be rare. Similar reasoning can be made for social institutions other than clinics. Accordingly, the development of constructional programs which fulfill the three types of contracts discussed[87] are of more than clinical relevance, although clinical relevance alone is worth pursuing, Such development may also expand our knowledge about significant behavior contingencies. They are significant not because they are social, but because the patterns are not trivial, and the variables are pervasive.

Possibly the significance of these clinically-related contingencies has contributed to the wide-spread acceptance of a pathological orientation in our literate culture. As I noted earlier, I do not presume to know whether the pathological-constructional dichotomy represents polar opposites, orthogonal

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[86] For example, extinction has been recommended as a procedure for eliminating undesirable human operants, on the supposition that reinforcement has established them and extinction will therefore disestablish them. When this has not worked, it has been decried as inapplicable extrapolation from the animal laboratory.

However, if we examine the animal laboratory, although extinction ultimately disestablishes operants established by reinforcement, in practically every major schedule, its immediate effect is to *increase* response rate or *prolong* it. It increases rate in CRF and FI. It prolongs the burst in FR. In FR, its judicious use escalates the ratio requirement. Its emotional accompaniments are well known.

Human interactions typically do not follow the historical patience of the Church. Extinction can result in a sharp increase in rate, or prolongation (if you don't succeed at once), or escalation, which is serious when the behavior escalated is profoundly disturbing. The solution is not to avoid extrapolation from the animal laboratory but, on the contrary, to study it *carefully*.

[87] In this case, patient-professional, professional-institution, institution-social.

dimensions, or simply independent approaches. I do know that in many cases solution to a problem through direct elimination can be simpler, more convenient, and more economical than solution through constructional outcomes which preempt the distress. *The pathological orientation is not being rejected out of hand*. I do suggest that its widespread acceptance, almost as gospel, may be related to many of the social difficulties which the social institutions involved currently face.

One way to approach this is in terms of two simple decision theory matrices. Each is a 2 x 2 table with four cells. The first is given below. The rows represent our behaviors, which classify our diagnostic outcomes. These are: Pathological: Admit (to treatment), and Normal: Reject (do not admit). The columns represent the assumed actual nature of the patient. We can, in Signal Detection terms, label the four cells as follows: Admission applied to Normal, *False Alarm*; Admission applied to Pathological, *Hit*; Rejection applied to Normal, *Correct Rejection* (of pathology); Rejection applied to Pathological, *Miss*.

Nature of Patient

Diagnosis: Outcome	1. Normal	2. Pathological	
A. Pathological: Admit	False Alarm	Hit	
			Criterion A
			Criterion B
B. Normal: Reject	Correct Rejection	Miss	Criterion C

We interpret the Observer's (Diagnostician's) behavior in terms of a decision rule. This is a criterion which separates the diagnoses of Admit from those of Reject. If the criterion is set high (Criterion A), there will be few Pathological diagnoses and hence few False Alarms. Conversely, there will be many Correct Rejections and many Misses. If the criterion is set low (Criterion B), there will be many Pathological diagnoses, with many Hits and many False Alarms. Correspondingly, there will be few Correct Rejections and few Misses.

In Signal Detection research, different consequences and their probabilities are entered for the classificatory behaviors in each of the four cells, producing a pay-off matrix. Observers usually shift criteria as consequences and densities change, in terms of some optimization rule (highest total gain, optimal net, lowest loss, etc.). Sensitivity may be inferred.

Speculatively, I suggest that the disciplines which currently serve as diagnostic Observers have set their criterion at a point so low that very few Normal diagnoses are given, and many Pathological ones (Criterion C). Indeed, Rosenhan's (1973) study, where normal individuals reporting minor symptoms were diagnosed as schizophrenic and were admitted for psychiatric treatment, can so be interpreted. The enraged rebuttals that followed tended to miss the point, which can be simply resolved in terms of the decision matrix given, and the consequences. These are that the penalties for Misses can be so great (in terms of damage to self and others), in comparison to the penalties for False Alarms, that the profession chooses to err on the side of caution. We have noted some of these penalties in the text.

Juxtaposition of Constructional and Pathological approaches gives us a second matrix. This can be presented in parallel manner with the first matrix as Row A, Pathological: use Eliminative program; Row B, Constructional: use Constructional program; Column 1, Constructional outcome required; Column 2, Eliminative outcome required. The entries would follow suit, namely, a Hit would represent a Pathological program applied to a situation where an Eliminative outcome was required, and so on.

However, the orderings of the rows and columns are arbitrary, and I shall suggest a different ordering, given by the matrix below. As can be seen, it is the mirror image and reverse of the first matrix.

Nature of Solution

Program Diagnosis:	1. Eliminative	2. Constructional	
B. Constructional	False Alarm	Hit	—Criterion C
			Criterion B
			Criterion A
A. Pathological	Correct Rejection	Miss	

Here, a Hit is defined as applying a Constructional program to a problem requiring such an outcome. The other entries follow suit: a Pathological diagnosis applied to a problem requiring an Eliminative solution (called a Hit previously) is a Correct Rejection (of Construction). The matrices differ in at least two important respects. The columns substitute characterization of *outcomes* for characterization of *patients.* They substitute the alternatives of Constructional-Pathological for the alternatives of No treatment-Pathological. Under these conditions, setting the criterion at C (as before) will produce very few Hits, that is, very few outcomes

established when such are required, and very many Misses, that is, endless description of Pathology when Construction is required. The overwhelming concentration on Pathology, which may serve to minimize penalties and increase gains for the relevant disciplines in terms of the entries and orderings of the first matrix, may serve to maximize penalties and minimize gains in terms of the entries and orderings of the second matrix. Speculatively, that is, without evidence, I am suggesting that societal requirements are shifting toward stating problems in terms of the second matrix.

In all events, the analysis suggests that the selection criteria for *admission* to treatment (of whatever kind, e.g., inpatient, outpatient) are different from the selection criteria for *type* of treatment. One may set a low criterion for pathology, which is appropriate for admission, but the same criterion may be inappropriate for treatment, since by the first criterion, many False Alarms, who are not that pathological, will have been admitted.

To obtain the data we need in order to remove speculation and, more importantly, rationalize the diagnostic procedures, I suggest we start asking what kind of data classification and observation procedures we need in order to apply a decision model. This, I believe, is one of the research implications of the constructional models. They can help suggest and supply data.

The increasing precision of constructional data and the fact that outcomes are recorded in an on-line manner make possible their use for cost-benefit comparisons.

As has been noted, increasing demands on limited social resources is increasing the demand for explicit data which can be used for rational allocation. These have been singularly hard to come by in mental health.

Our presently-prevalent pathological orientations classify on the basis of commonalities in pathology and diagnose on this basis as well as on assumed underlying common origins. In constructional models, the classification would be on the basis of commonalities in what is to be constructed, just as in a college class students come together to learn Russian and are classified as Russian students. What common programs are appropriate in the social areas of concern to us? The backgrounds of the students vary, and members of a common constructional class may have different etiologies.

What role does a constructional orientation assign etiology? One form of the question is that of choice of symptoms by the individual. Possibly it is the social environment of the child which selects (that is, differentially reinforces, see Skinner, 1969; Day, 1972) and shapes these from those which are available. The symptoms would then be operants similar to others in their effectiveness—but at a cost. The research direction for tracing their development would differ considerably from the present one.

The current classification by pathology puts word salad with word salad, obesity with obesity, and phobia with phobia. Operants are classified by functional (consequential) rather than topographic similarities. Accordingly, word salad, obesity, and phobia maintained by social attention would be in one operant class, and word salad, obesity, and phobia maintained by making time available for other

pursuits ("not being put upon") would be in another. Such classification might suggest what the critical consequences are for the individual, and this would be useful in a program.

If common etiology is not involved in common pathology (the same operant can be shaped at different times and in different ways), common pathology may reflect the effects of common societal reactions to patterns society classifies as members of the same class. Possibly stutterers may be shy or hostile because of developmental origins at an oral dependent-incorporative level. On the other hand, they may be shy or aggressive because adverse social reaction has produced withdrawal or counteraversive control. After all, because many heavy smokers may have emphysema in common does not make respiratory problems a cause of smoking. I am raising such issues to suggest that constructional models may have profound implications for theory, as well as for practice and research.[88] They certainly suggest theories of personality development different from those presently prevailing.

It is interesting to speculate on how one would set up studies in comparative (animal) psychopathology.

I have attempted to confine the discussion of research implications to those which were not evident in the presentation. Among the research issues mentioned there, five should be noted.

One of these relates to our moving toward use as reinforcers of those reinforcers which are already in the *contingency* repertoire of the institution and the contingency repertoire of the referent social system. These are and have been reinforcers because the patient was deprived of them. By providing them we are helping provide what is important to him. By making them contingencies we make no change in the fact that they are already contingencies. By making them contingent on what we or the referent system find congenial, we may thereby satisfy our needs and the patient's needs in an ethical and even contractual manner.

A second issue relates to our use of consequences different from these. They may raise the issue of coercion in its various definitions. In such cases, research is necessary to develop procedures and systems which help make explicit the various alternatives and their consequences, so that these can enter into rational decisions.

A third issue relates to further analysis of contingencies of coercion and contingencies of consent, and to development and assessment of resources which bear on these.

A fourth issue relates to distinctions between custodial and therapeutic (correctional, educational) functions of institutions.

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[88] Sociological labeling and deviance theories advance related explanations for symptoms, distinguishing between primary deviance (dysfluency) and secondary (shyness) resulting from social reaction. However, they tend to consider these as evidence of social pathology and often view the patient as victim, among other things. Further, it is not that the stutterer is labeled a stutterer that produces an adverse social reaction. Rather, it is the fact that the listener must wait inordinately for the same information that he typically gets more quickly that produces impatience. The stutterer may then react with withdrawal (shyness) or counteraversive control (hostility). But these, as noted, are dependent on the social *contingencies* rather than the social *labels*.

Finally, we have to examine the various social systems involved in the various contingency relations whose alternatives supply the matrix for behaviors of social concern. Among these is the referent social system (parent, community) which together with the referent client (child, patient) interact to maintain costly patterns for each. The change agent may work with the system to change its repertoire, or he may work with the client to change his repertoire, or both. The ethics of contracting with one to change the other is questionable. Nevertheless, such change of the other does occur. This is because there is a distinction between changing one's behavior and changing one's repertoire. Working with the client to change his behavior, or his aspirations, has all the dubious properties of asking him to "adapt." Working with the system to change its treatment, or its expectations has all the dubious properties of asking it to "yield." Both client and system will resist, especially if they consider their requirements to be reasonable. However working with the client to change his repertoire (or the system to change its repertoire, etc.) requires a contingency analysis: the client attempts to analyze what the system has or can produce (analyzing his socially produced reinforcers), which it has been withholding. He may analyze what he might do which *would reinforce* the system when it yields these. He may try to set up conditions which increase the likelihood. The analytic and change procedures are intertwined. Stated otherwise, he learns how to change the relations between himself and the referent system. The referent system similarly learns how to change the relations between it and the client. In a successful program, both change, in directions which satisfy both. Research would be directed toward the necessary conditions and programs.

These research implications derive from the research requirements of the constructional models discussed. Their pursuit can not be divorced from ethical practice. Research on behavior which meets high scientific and technological standards also meets high ethical standards. These are all human endeavors.

In the process of seeking to make explicit what has been implicit, of seeking explicitly to develop constructional solutions which alleviate human distress by preempting it, if we open our eyes to the constructional evidence around us, we shall discover the existence of a large number of colleagues working in the same direction, and who have developed solutions we can share. Many may have developed explicit systems which seek to alleviate human distress by eliminative procedures. However, they have often developed constructional solutions of elegance and power, often obscured by the construct requirements of a pathological orientation. We, they, and society can only benefit by making explicit what is implicit in this area. And each of us can best do so, I submit, by contributing those skills with which we are identified. On our part this is a research methodology involving a scientific strategy in which research competence is contingent on competence as a change agent. And indeed, as a first step, the contingencies we might start out with, and the behaviors we might first analyze and change, are our own.

APPENDIX

Some of the major forms in use in our clinic-laboratory are presented in the following pages.

The Constructional Questionnaire (I), Case Presentation Guide (II), and Contract (III) have been discussed in the text in some detail and, accordingly, will not be discussed here.

Each of the remaining forms (IV-A and B, V-A, B, and C) occupies an entire page and is duplicated lengthwise, that is, the height of the page is 8 1/2 inches and its width, 11 inches. My discussion will be restricted to a few issues related to research. As was noted, such analysis is useful not only in providing the investigator with generalizable knowledge and information for program development, but also in providing both program consultant and client information relevant to their understanding the problem and assessing procedures and progress.

With regard to the Weekly Programer Worksheet (IV-A), this is filled out by the program consultant toward the end of each session, during ongoing consultation with the client. As was noted, if the program was effective, the entries under 1. *Subgoals for Week* in one session will be found in the logs made during that week, and may therefore be recorded in 2. *Current Relevant Repertoire* the next session. Such superimpositions provide records for continual outcome evaluation and research in relevant procedures.

The Client Worksheet (IV-B) was not discussed in the text. At some point in the sequence of program sessions, it is introduced. The client completes the form at home at the end of the program week, before coming to the next session. The relationship between Columns 1 and 3 recapitulates the relation between programer's Column 1, week n, and Column 2, week $n + 1$. Entries in Column 4 are gradually shaped to a contingency analysis. The recommendations in Columns 5, 6, and 7 are discussed with the programer, who may agree or suggest alternatives or additions; he may include them in the program worksheet he prepares. They are negotiated. The entries in these columns facilitate continual evaluation of transfer of consultant repertoires to client. The purpose of Column 8 is evident. However, it serves the additional function of change in the agenda, since "future" also includes the forthcoming session. For example, in one series, the client's in-laws visited and preoccupation with them abruptly halted program progression. The client wished to devote the session to handling this emergency. The consultant agreed, but the request had to be put in writing, in Column 8.

Three samples of logs are presented (V). Each log occupies a full sheet (lengthwise), and only the column headings are given. It should be noted that unless all events in a class are recorded, a sampling procedure must be used. The sample may be of all incidents at a given place, with a given person, at a given time, or at specified time slices within certain recurrent periods. In all of these cases, each incident can be described. On the other hand, a wrist counter or other such device can be used and the data presented as totals.

In most of our logs, the effort is to ascertain contingencies. Hence, conditions, antecedent events, behavior, and events following are typically recorded. Where all events of a given type are recorded, the attempt is made to record the contingencies for each. Since feelings are useful guides to contingencies, they are recorded in the last column in every row under *Comments* (the column may include other entries). I wish to stress the fact that we are *not* thereby counting "inners" nor are we evaluating success of outcomes thereby. The entries are useful in the analysis and programed change of observable contingencies, which, in contrast to "inners," can be recorded and validated by others

The Interaction Log (V-A) we have found to be most useful in interpersonal problems. To illustrate one use, an entry will be presented from an actual record of transactions between a mother and her son, age 11.

1. *Number* (of transaction), "8."
2. *Time* (bracketing entry), "4:00-4:50."
3. *Setting*, "Living room, Scott practicing organ."
4. *Initiating event* (what other did, or my intent), "Playing old piece he knows instead of practicing new piece he's supposed to learn."
5. *What I did*, "Screamed from kitchen, 'Why don't you do what you're supposed to?'"
6. *What he did*, "Started practicing new piece."
7. *What I did*, "Screamed, 'Why the hell do I have to keep reminding you?'"
8. *Comments*, "Furious. Why do I have to keep nagging?"

The possibilities for analysis are evident. The answer to her question in Column 8 is given by the effectiveness of her nagging reported in Column 5—he reinforced nagging in Column 6. It was suggested that if she were that interested in his practicing, she might go to the living room when he started practice, inquire about his assignment, listen with interest, etc.[1] Data available for analysis are also evident: nature of last behavioral entries in Column 7—aversive, reinforcing, etc., agreement of intent in Column 4 with what other did in Column 6, etc. Where interactions are extended, Columns 6 and 7 recycle.

The entries are selected by the client. The client samples from the interactions of the day those which he might consider important, which the program consultant had previously reinforced or solicited, etc. While moments of stuttering differ, their differences are usually not so great as to preclude considering all moments equal for research and change purposes. This is what we implicitly do when we summate moments, divide by time for stuttering rate, etc. However, it is dubious that one can so treat paranoid incidents, for example. One full-blown incident can land a person into custody or disrupt a family for a week. A minor one can be tolerated as an annoyance. Space precludes further discussion. However, we should note that with the exception of those in Column 8, the entries can be validated by other observers.

The Daily Events Log (V-B) serially outlines the day's activities and is useful to zero in on problems related to scheduling. These are often not presented as such but are inferred from the Constructional Questionnaire. Examples are a client whose productivity in his home studio had dropped (he supported himself by working elsewhere at regular hours) and a client who brought personal problems to work and work problems home (the presenting complaint of both was depression). This log may be supplanted by other logs or used in conjunction with them. The relationships possible are evident.

The (Specified) Events Log (V-C) is a general form which may be revised for specific repertoires, e.g., smoking, eating, nonfluency. For eating, they attempt to ascertain the stimulus controls involved in the form of concurrent activities or settings, the social audience, and antecedent and consequent events. Interresponse times and events are similarly treated. Other records may record type of food.

Where the events recorded are those typically considered from an eliminative approach (e.g., smoking), they are examined as operants which can indicate relevant contingencies. For example, the record of one advertising executive showed an almost clockwork pattern of smoking during sales pitches and press conferences. This was attributed to being "under great stress," with "tension relieved" by smoking, in Column 6. The inferences made were (a) that consequences then were especially critical and (b) likely to be lost without a cigarette. My assumption that the sales pitch became overly heated

[1] E. Grimaldi and I. Goldiamond, in preparation.

within the time-span indicated, and a cigarette break then served to disrupt it, was assented to by the client. It was suggested that at those times his secretary should come in with refreshments and that relaxation should be made explicit. His smoking during those periods rapidly disappeared. Examination of records suggests why uniform programs for smoking concerned with elimination have not been successful. While smokers have in common their smoking, and are likely to share common ill effects, our records suggest that smoking is not only a different operant for different people ("different people smoke for different reasons"), but for the same person it falls into different classes of operants, usually under different stimulus controls ("the same person smokes for different reasons at different times"). The different classes are differentially amenable to rapid change, and programing priorities, may thereby be established. Similar statements may be made about other problems.

Where the client fails to keep logs, relevant logs may be filled out during program sessions.

Space precludes presentation of other logs or of graphic analysis. The graphs find use, not only for presentation of data to the general community, but also for presentation to the client himself as a change agent.

The University of Chicago
Department of Psychiatry

Rev. Mar. 74
Or. Feb. 70

I. CONSTRUCTIONAL QUESTIONNAIRE

(The purpose of these questions is to obtain information, hence their wording is to be tailored to the occasion.)

INTRODUCTION

I am going to ask some questions to help us both understand what it is that we should work toward.

The questions have three purposes: First, we'll need information to help acquaint us with you.

Second, from the questions people ask, you can learn things about them, so this should help you learn about our approach.

Third, to see how we're progressing, we need records, and befores and afters. This is a kind of before on how you see things now, and what aims you want now, so please speak up.

(QUESTION 1: OUTCOMES)

I am going to ask you a group of questions about our goals. You are here because you want certain changes to occur, or want something else.

(a. Presented outcome) The first of these is: Assuming we were successful, what would the outcome be for you?

(b. Observable outcome) Now, this may sound silly, but suppose one of these flying saucers is for real. It lands and 2,000 little Martians pour out. One of them is assigned to observe you—your name was chosen by their computer on some random basis. He lands some time after L-Day—Liberation Day from your problems—and follows you around invisibly. He records his observations and these are put on IBM (Interplanetary Business of Mars) cards. Their computer will decide on the basis of the sample of 2,000 Earthlings they have what their disposition toward Earth should be. What does he observe?

(b. Alternate or added form: What would others observe when the successful outcome was obtained?)

(c. Present State) How does this differ from the present state of affairs?

(d. Example) Can you give me an example?

(QUESTION 2: AREAS CHANGED, UNCHANGED)

The next group concerns things in your life which are going well, and things which are not.

(a. Areas unchanged) What's going well for you now, and what areas of your life would not be affected by our program?

(b. By-products) What areas other than those we'd directly work on would change?

(QUESTION 3: CHANGE HISTORY)

This next series concerns your efforts to change things.

(a. Present attempt) Why start now? How come?

(b. First attempt) When did it first occur to you to try to change? What was going on? What did you do? How did it come out?

(c. Intervening attempts) What did you do then? What was going on? How did it come out? (Series continues until present.)

(QUESTION 4: ASSETS)

The next series is concerned with the strengths and skills you have that we can build on. No one starts out from scratch.

(a. Related skills) What skills or strengths do you have which are related to what you'd like to program?

(b. Other skills) What others do you have?

(c. Stimulus control) Are there conditions when the present problem is not a problem?

(d. Relevant problem-solving repertoire) In the past, what related problems did you tackle successfully? What related programs did you succeed in? How?

(e. Other problems solved) What other problems did you tackle successfully? How?

(f. Past control) Did you once have mastery of the present problem area? If so, when, and under what circumstances? Any idea of how?

(QUESTION 5: CONSEQUENCES)

I am going to ask some questions about effects produced, and effects you'd like to produce.

(a. Symptom reinforcer: positive) You've heard of the proverb, "It is an ill-wind that blows no good." With regard to some advantages that might have "blown your way," has your problem ever produced any special advantages or considerations for you? (Examples: in school, job, at home) Please give specific examples.

(b. Symptom reinforcer: negative) As a result of your problem, have you been excused for things—or from things—that you might not be otherwise?

(c. Symptom cost) How is your present problem a drag, or how does it jeopardize you? (Note: Omit if answered in 3a. Why start now?)

(d. Possible current reinforcers) What do you really like to do, or would like to do? Is there anything that really sends you?

(e. High probability behaviors) What do you find yourself doing instead? (or getting instead?)

(f. Social reinforcers) Who else is interested in the changes you're after?

(g. Past social reinforcers) What people have been helpful in the past? How did they go about it? How did you obtain this from them?

(QUESTION 6: COMPLETION)

Is there anything we left out or didn't get enough about? Was there something we overlooked—or made too much of? Are there any impressions you'd like to correct?

(QUESTION 7: TURNABOUT)

Turnabout is fair play. We have asked you a lot of questions. Are there any questions you'd like to ask of us? Any comments? Kicks? Anything you'd like to know about our goals, or approach?

The University of Chicago
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II. CASE PRESENTATION GUIDE

A. Introduction
1. Identifying information
   Brief description of patient and a few qualifying statements which are relevant to what follows
2. Background for the program
   Use A3 as the resolution toward which this presentation is directed. Weave in various items from questionnaire and other sources to present a coherent picture of a person functioning highly competently, given his circumstances and implicit or explicit goals. Present the history of the person as an example of such competence, giving evidence wherever available.
3. Symptom as costly operant
   Infer how, as a result of A2, the patterns shaped and reinforced up to now are now too costly or otherwise jeopardizing the patient. Infer what reinforcers are presently maintaining patterns, sources, and type of jeopardy and its source. This should be brief and simply stated as a logical outgrowth of A2, which presented in more detail what led up to this.

B. Tentative program directions
1. Outcomes which seem reasonable as targets
2. Evidence for each of these
   a. Relation to reinforcers maintaining symptom
   b. Likelihood of producing additional reinforcers
   c. Feasibility of substitution for jeopardizing symptom
   d. Relation to present repertoires
      i. Personal
      ii. Environmental and available
3. Feasibility (costs, resources)

C. Current relevant repertoires
1. General, for program-recording requirements:

a. Analytical, types of relations explained
b. Recording repertoires

2. For each of targets recommended:
a. Previous programs
b. Current relevant repertoires: assay of current resources
c. Social repertoires
d. Environmental assets
e. Maintaining and available consequences; accessibility. Symptom as reinforcement indicator

D. Change procedures, programing guides
1. For program-recording and analysis of each target
a. Analytic procedures to be used (texts, manuals, discussions)
b. Types of records to be kept; graphs

2. For target areas:
a. Programs and repertoires in past to be transferred or modeled. How?
b. Shaping, modeling, or transfer procedures for changing present repertoires
c. Getting and shaping program cooperation from others; reinforcing such co-operation
d. Ways current environmental resources might be used. Facilities. Possible social models
e. Social and other possible support. Analysis of symptom as successful operant

E. Maintenance guides
1. Through program
a. Records, graphs, other assignments
b. Other possibilities
c. Reliability checks
d. Extraneous consequences

2. Thereafter

F. Specific programs
1. Available specific programs (here or elsewhere)
2. Staffing
3. Other suggestions

The University of Chicago
Department of Psychiatry

III. CONTRACT (PART ONE)

For the agreed-upon outcomes to be obtained, cooperation is required. The signatures below indicate that:

on your part, you agree	*on our part, we agree*
1. Appointments	
Attend sessions we set up. If you find	Keep appointments we set up. If we

it impossible to attend, please notify us at least 24 hours in advance.	cannot meet them, we shall try to notify you the preceding week, barring emergencies.

2. Records*

You will be assigned a record book in which you will make regular entries.	We shall explain purpose of entries, analyze them regularly, and provide feedback.

3. Program requirements

You will try to fulfill various other specified assignments, as made.	We shall similarly explain purpose of assignments, analyze them, and provide feedback.

4. Research, training, and confidentiality

Data from your records can be useful for consultation with other staff members, training of staff, and research publications which help other professionals and thereby other clients. You consent to the use of such data for these purposes, with restrictions noted in Part Two.	We shall preserve the confidentiality of your records and take every precaution to insure that any data disseminated are not identified with you, in accord with prevailing practices with medical and psychiatric records and research. Any other type of dissemination is specified in Part Two.

5. Carry-over

Attainment of the desired outcome need not end our relation. Your cooperation in follow-up and its analysis is necessary.	We shall explain the type of follow-up required, your role, and provide feedback.

6. Regular Fees

Regular fees are required.	Conditions and personnel for our sessions and their analysis will be provided

7. Additional Charges

Additional charges for supplies, etc. may be made	Supplies and other items will be provided as indicated by additional charges

*Please note: Item 2, Records, is indispensable for attaining our objectives.

Renegotiation Clause: The requirements and goals are open for renegotiation at any time upon the request of either party, at which time any changes which are agreed upon will be entered into a new written contract, or written amendment.

Signed _____ Client Signed _____ Consultant

_____ Consultant

III. CONTRACT (PART TWO)

Current contingency requirements *Goals: Terminal repertoires*

1. Appointments
   Time:
   Place:
   Telephone:

   Consultant:
   Monitor:
   Others:

2. Materials to be brought regularly
   Worksheets:
   Log, up-to-date:
   Graphs, from Log:
   Objective Outcome:
   Summary:

3. Other assignments

4. Types of dissemination agreed upon

5. Type of carry-over procedure

6. Fees

7. Additional charges

8. Other understandings

Agreed on: _____ Date

_____ Client

_____ Consultant

IV. WEEKLY SUMMARIES

A. Programer Worksheet

2. CURRENT relevant repertoire	1. SUBGOALS for week
3. PROGRAMING GUIDES	

B. Client Worksheet

<table>
<tr><td>1. SUBGOALS agreed upon</td><td>2. Relation to TERMINAL GOALS</td><td>3. EXTENT to which subgoal reached, current repertoire</td><td>4. RELATIONS noted, observations, comments</td></tr>
<tr><td colspan="3">Recommendations for next session:</td><td rowspan="2">8. SUGGESTIONS for future agenda. Feedback to be provided.</td></tr>
<tr><td>5. SUBGOALS</td><td>6. PROCEDURES for attainment</td><td>7. RATIONALE</td></tr>
</table>

V. LOG SAMPLES

A. INTERACTION LOG (Headings)

Interaction to be recorded:					Date:		
1. No.	2. Time & Duration	3. Audience, Place, Conditions	4. Antecedent or Intent	5. What I did	6. Other's Behavior	7. My Behavior	8. Comments

B. DAILY EVENTS LOG (Headings)

				Date:	
1. No.	2. Time & Duration	3. Place, Condition, Others Present	4. Activity Intended	5. Activity	6. Comments

C. (SPECIFIED) EVENTS LOG (Headings)

1. No.	2. Time, Duration	3. Place, Audience	4a. Concurrent Activity	4b. Behavioral Description	5. What Followed	6. Comments

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