Several of the theoretical and experimental assumptions relating to behavior modification are examined and criticized: (1) the human mind can only be understood by observing and measuring the functional behavior it causes, (2) performance can be equated with learning, (3) reward systems and token economies improve intrinsic learning, and (4) all of the variables involved in applying behavior modification techniques in normal classroom can be known and controlled. The philosophy of behavior modification is presented as a direct contradiction to the principles of a free democratic society. Behavior modification and the Watergate affair are described as exhibiting two similar characteristics: a drive for control and power and the practice of secretly manipulating other people toward goals set up by a few individuals. Inquiry and freedom, not conformity, should be encouraged in the classroom. (SET)
BEHAVIOR MODIFICATION : EDUCATION'S WATERGATE

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Behavior Modifications: Education's Watergate

Recent events on the national political scene have provided me an excellent opportunity to demonstrate the reasons for my concern and my position as Devil's Advocate against behavior modification. Consequently, I have changed the title of my paper to "Behavior Modification: Education's Watergate." I believe the morality exhibited by the Watergate participants is, and will be, increasingly engendered by the philosophy of behavior modification.

Let me assure you that I am as convinced as any other educator as to the efficacy of behavior modification in the achievement of its stated short-term goals. It helps — and often dramatically — in
achieving classroom control. It is an effective means of producing
better test scores. It also has been used for many years as an effective
means of training pigeons, porpoises and pigs and there is no reason to
believe it is any less effective with people. My thesis, which I wish to
explore with you, is the question of what are the other effects and
hazards of this happy panacea?

Watergate has been more or less justified by some of the
participants on the following bases:

1. What they were doing was not new nor unique, had long precedent,
and in fact, was common practice in both political campaigns and human
relationships.

2. It works and is often effective, providing you don't get caught.

3. The end justifies the means — by which some of the participants
sincerely believed they were helping to elect the best man to office for
the good of the country.

4. What the people don't know won't hurt them and we know better
what is best for them.

These justifications represent a blind pursuit of short-range goals,
without consideration of what the process does to the participants and
without consideration of what the long-range effects on society will be.
All of this bears much resemblance in my mind to the present spread of
behavior modification.

The startling growth of this technique and the thousand-fold increase
in courses teaching its application (ten years ago, there were virtually no course offerings in behavior modification, today there are thousands), indicates an important shift in educational philosophy which demands substantial critical examination. We as educators, must avoid finding ourselves a few years hence, in the position of honorable men, who, blindly following some unexplored assumptions, suddenly discover that they are criminals.

What do we really know about behavior modification? What are some of its assumptions — both theoretical and experimental — that need deeper examination?

Symptom and Cause

First of all, there are inherent problems in dealing with any theory of interpersonal relationships which proceed from the assumption that we can only understand the human mind by observing and measuring the functional behavior it causes. This assumption — which is not an axiomatic truth, but only an experimental assumption — pursued, concludes that nothing exists if it cannot be objectively observed and measured. This may or may not be true, but certainly there is no reason to believe that all the effects will show up and can be measured immediately. The effects of smoking too many cigarettes sometimes shows up many years later as lung cancer.

In 1509, Copernicus reversed an age-old theory by proving that what we think we observe is not necessarily what actually happens. The sun is not really rotating about the earth. When we try to pursue truth through observed
facts alone, we may be arriving only at fantasy. Furthermore, we shall remain fixated with the minor concerns of measurements of the miniscule instead of bending every effort to understand the more difficult underlying and varying causes.

How do you measure grief? By the length of a tear running down the cheek? Do you tell every patient with 102 degrees fever to take two aspirin? How do you begin to modify the behavior of a child whose work is a mess and who demonstrates "off-task behavior?" Has he understood the task? Is he physically and mentally capable of completing it? Has he slept well the night before? Or is he just plain bored with the innane ditto? Has he eaten breakfast — has he even eaten any dinner the night before? Has his mother brought home another new uncle? Once again, how can we even begin to treat these symptoms if we make no attempt to know their cause?

I suspect that the popularity of drugs and behavior modification is due to their "easy answer" of solving behavior problems quickly without the enormous expenditure of effort required to get at their roots. Is our only purpose in inservice education that of turning the teachers into purveyors of patent medicines and nostrums?

A Soviet psychiatrist, noting our application of Pavlov to the classroom, recently wrote to me, "I.P. Pavlov's theory is a theory about physiological and pathophysiological levels only, and of course, the application of its notions and regularities to sociopsychological and to psychopathological phenomenon is inadequate." One of the functional problems in applying Pavlov to the classroom, is that Pavlov worked only
with animals. And, as Rabbi Heschel has remarked, "...in contrast to animals, man not only behaves but also reflects about how he behaves."² Perhaps, we would do best to remember that man is the only animal that says and thinks one thing and then does another.

Another fallacy of drawing conclusions from the measurements of observed data is the "Uncertainty Principle" of Heisenberg. This principle postulates that the mere act of observing affects what is being observed and the more closely a phenomenon is observed, the more greatly is that phenomenon modified by the observer.

In dealing with measurements, we must also be aware of the traps of relying on statistical averages. Remember, a statistician with his head in a deep freeze and his feet in an oven might be described as feeling normal, on the average.

Learning vs Performance

A second research assumption that I wish to discuss here is the fallacy of equating performance with learning. While we may be able to train animals and children to perform, we may not be able to teach them to learn. Perhaps one can perform without learning and one can learn without performing.

Learning and performance are inherently qualitatively different. While learning is not necessarily observable, performance is. Research evidence would suggest that external reinforcers affect performance but not necessarily learning. While performance seems to be dependent upon external stimuli, learning may occur when there is no obvious intent to learn (incidental learning).
Latent learning shows up when not evoked by deliberate stimuli. Performance seems to be more easily extinguished and of a temporary nature; learning seems to be more resistant to extinction and to have a more permanent effect on the future actions and personality of the individual. Learning seems to become diffuse and generalized and to spread its effects to many situations. The ability to perform correctly does not involve the ability to know why. (Witness the idiot savant.)

Although Blodgett began the learning vs performance controversy in 1929, we still have a semantic confusion in textbooks and professional journals where performance curves are mislabeled as learning curves. And in 1971, Cole and Bruner speculated that the difference in learning (competence) and performance may be accounted for by the situations and social contexts in which the learning or competence is expressed and measured. Liberian rice farmers may be better at measuring rice than Yale physics majors.

The real problem that we educators have is not with learning and its test performance, but with getting the child to retain what he has learned and to transfer the skills he already possesses to situations where it is needed. The brief popularity and quick demise of private performance contracting was probably due to the fact that their goals were that of short-range measurable test performance instead of long-range provisions for learning and its application in a variety of social contexts. Learning, retention and transfer may depend not upon the proper rewards, reinforcers and enticers, but more upon the relevancy of the curriculum to the needs and interests of the learner.
We must decide whether our educational goals will be learning or performance. Does the goal of the one preclude the other? Perhaps, the techniques that train for performance will close the door forever to certain possibilities for learning. Is not this our problem with the gifted child? The total absurdity of operant conditioning approaches becomes obvious if we try to visualize their application to the highly gifted and very creative.

**Reward Systems and Token Economies**

A third premise of behavior modification which appears to need examination, centers about reward systems and token economies.

A system of rewards is in general the creation of a feedback system for amplification of an effect. When we apply this to behavior modification, we assume that the emphasis created by the feedback mechanism improves learning. However, children vary in personality types over a wide range in their internally generated feedback systems. There is evidence that the hyperactive child will suffer seriously from an increase in a problem that he already has in abundance — his own over reacting feedback system. The normal child's performance appears in some research to be either unaffected or decreased by reward systems since his feedback processes are as they should be, and he is providing his own internally generated motivations and controls. On the other hand, successful utilization of the reward enhanced feedback system occurs most often with autistic or withdrawn children, where behavior modification originated and had its prime successes.

Another questionable aspect of the reward system is that the generally stated goal of using external reinforcers and token economies is to transfer control of responding from the token economy to social reinforcers. "The most frequently stated suggestion for achieving transfer from this token system to
the more traditional classroom situation, is to precede the delivery of tokens with praise."7 This arrangement is intended to eventually allow a teacher to maintain student behavior with social reinforcers alone. However, research evidence that this desired transfer actually takes place and can be sustained, is lacking. Research to substantiate or disprove these claims appears to be needed.

Closed and Open Systems

A fourth experimental assumption which needs more review is that of closed and open environments. All of the applications of behavior modification techniques assume that we know the variables with which we are dealing and that we are operating in a closed system. In his article in Beyond The Punitive Society, Joseph Schwab asks, "Can all the factors that operate in human life be included in the normal classroom or even in experimental space?"8 This seems like the old fable of the blind men and the elephant. Each sees only a little piece — only one variable at a time. Another example of the errors of extrapolation from "in vitro to in vivo." Moreover, Skinner states that the best results of behavior modification have been obtained in ".....certain relatively closed systems as in the management of institutionalized psychotics, in the care of retardates and autistic children, and in training schools for juvenile delinquents."9 This degree of control of variables certainly cannot be achieved in the normal classroom, and I submit to you, it is not even desirable.

Furthermore, the application of a technique developed for a closed system requiring elaborate and complete control of the environment, and a one-to-one therapist-client relationship, to a dynamic multi-variable situation
of the normal classroom, becomes an exercise in futility. Practitioners of such procedures will continue to be haunted by the ghosts of unknown variables.

It is doubtful that we could understand at this stage the effects of other variables even if we could enumerate them. In fact, there is considerable doubt in my mind whether we know what we are reinforcing even within the limits of the variables that we think we do understand. Have we asked ourselves, "What other conditionings are taking place besides the simple ones desired?"

Whether a mother tells a child, "If you finish your vegetables, you can eat your dessert," what has she really reinforced? Her objective, of course, should be to enhance her child's desire to eat vegetables. Is it possible that all she has inadvertently accomplished is to reinforce an already existing hierarchy of food likes and dislikes? Is not the child even more convinced now that vegetables are really horrible, as he had already suspected, and dessert is better? If the child did not like vegetables before, this techniques may assure that he never will. One wonders what the long-term effect would be if mother had offered him some delicious vegetables for finishing the horrible dessert first.

Similarly, a child's dislike for reading — whatever its basis — may be further confirmed if the teacher kindly understands his problem and offers him the opportunity to shoot pool after he has completed the disagreeable task of reading a story. The negative effects of this training are incalculable. However, it should be plain that the child has been taught so
value trivial rewards and that there has been no effort made to show a growing mind the intrinsic joy of intellectual achievement.\textsuperscript{10}

I have been discussing what appears to me to be some of the unknown factors associated with behavior modification and some of the areas that would benefit from additional research. I turn now to an area where I feel there is less doubt about the characteristics and effects of behavior modification. Here I propose to point out to you the parallel I spoke of earlier with the philosophical attitudes of the Watergate participants. In particular, two characteristics in which behavior modification and Watergate appear to me to be similar are in the drive for control and power and in the practice of secrecy and hypocrisy.

As Americans, I presume that most of us at least pay lip service to the principles of a free democratic society. I submit to you that the philosophy of behavior modification is in direct contradiction to these principles. Decision-making by a few individuals at the top of a hierarchy as to what the larger group shall desire and what will be provided, is an inherent part of a dictatorial society. Bruno Bettelheim writes that, "The widespread popularity presently enjoyed by theories of behavior modification suggests that today, as in the past, most people are committed to the idea that some know best how others should act. Acceptable behavior is either forced onto individuals or indirectly induced to them through bribes."\textsuperscript{11}

Inherent in the control/power relationship is that the master is the dispenser or withholder of rewards. The dispenser and withholder of rewards is feared. A feared teacher is not a good teacher. A fearful child is not a healthy learner.
The majority of experiments and applications of behavior modification exhibit this control/power relationship and do not include the students in the decision-making processes. The few that claim they do, operate under the euphemisms of "individualized instruction" or "performance contracting." Here, the child has little choice in making the decision of what or how he will learn. The choice is only one of rate of learning. Will he finish the 57 dittoes that the team teachers have prepared for Math Level 39 in one week or in one year?

Some liberal defenders of democracy would rush to say that one has more of a right to control a child's behavior than an adult's. I strongly question this defense. To quote from Alexander Pope, "As the twig is bent, so the tree will grow." Retention curves clearly demonstrate that while cognitive information is rapidly lost, the WAYS in which one is taught are long remembered.

The con-artist mentality of cleverly manipulating someone else is not thought to be an objective of behavior modification. However, one must remember that in a normal classroom, on the average, approximately one-half of the students will be brighter than the teacher. Anyone who has worked much with children is well aware of their early ability to manipulate adults. Are we not, with behavior modification, creating a training ground whereby the principle subject being studied is not reading, writing and arithmetic, but rather, how to psych out the teacher and cleverly manipulate one's peers?

And, is not all of this what the Watergate participants were doing with full confidence that their superior knowledge of what was best for the American public justified their attempts to deviously manipulate people for
their own good? In his *Litany for Dictatorships*, Stephen Vincent Benet wrote, "We thought because we had power, we had wisdom."

The question of secret manipulation is the heart of the difference between honesty and hypocrisy in interpersonal relations. It was the crux of the youth rebellion in the 'ties. It is the essential difference between education and propaganda. Education and propaganda differ in their ultimate goal. The goal of education is to help the child become independent; the goal of propaganda is to keep the child — or adult — dependent. While education basically should be a search for truth, propaganda too often necessitates the suppression of truth.

For optimum success, the manipulation advocated by the proponents of behavior modification necessitates that truth must be suppressed. The child (or pigeon) is only dimly aware, if at all, that he is being manipulated toward an objective or goal of the manipulator.¹³

The total embracing of manipulative interpersonal techniques is indicative of an erosion of respect for the individual child's inherent dignity. "The essential problem posed by Watergate is [THIS] disdain and contempt for the American people....This is symptomatic of cynicism at the highest level about the nature of a free society."¹⁴

Skinner offers us a new salvation through employing the techniques of reinforcement and reward rather than punishment. But, to achieve this, we must abandon our "cultic" notions of "freedom and dignity." In 1948, in a utopian novel called *Walden Two* Skinner wrote, "I deny that freedom exists at all....Perhaps we can never prove that man isn't free....but the increasing success of a science of behavior modification makes it more and more plausible."
I submit to you that the science of behavior modification becomes less and less plausible. It cannot be successful in any long-range plan for the conduct of human affairs. This is because behavior modification is most successful when the subject is unaware of being manipulated. This element of secrecy vs awareness is the major flaw in the plausible success of behavior modification. If we become aware, how can a contingency be successfully programmed into us?

"Freud...has taught us that to understand a process which deterministically controls the human mind and behavior, one must view it from the outside, as a system...Fred showed us that our 'logical mind' was actually heavily controlled by unconscious processes of which we were unaware. But once we become conscious of the mechanisms of the unconscious...we could free ourselves from their determinism...This was a step in the evolution of human consciousness...a step towards increased freedom...and away from evolutionary determinism and towards a higher order of self-consciousness in which the human mind learned to create a feedback of its own unconscious processes...

"Skinner fails to realize that he too — like Freud — has shattered that determinism of the process he was studying by the very act of studying it ...What Skinner has failed to comprehend is that at the very moment that he himself elucidated the process, this whole process ceased to be deterministic. This blind process of determinism and natural selection changed qualitatively when it finally produced a means by which its highest product, MAN, could transcend the process which produced him. This product is the autonomous man that Skinner claims does not exist."

Can a programmer program Skinner if Skinner is aware that he is being programmed? Can a child's behavior be modified if the child is aware that someone is trying to modify his behavior?
I conclude that we educators must resign ourselves to the fact that the prime functions of education are not immediately measurable. "The ultimate business of education is human freedom." And, only through encouraging non-conformity can we find freedom and truth.

We are "storm-weary from the turbulence of violent change" during the last few years. We have lost sight of Rabbi Heschel's heritage of Wonder and Awe. Our country was made by pioneers, visionaries and idealists. These ideals may have been slightly tarnished by Watergate. But, because we are fearful and pressured, and the problems are many, as educators, we must not tarnish our ideals by selling-out for shinier and shinier expedient rewards. Instead of being apprehensive of the unmeasurable and the ambiguous, we must have confidence in ourselves and encourage inquiry and freedom in all our classrooms.