BEHAVIOR THEORY AND URBAN PROBLEMS

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All large problems are susceptible to attack by the specialist. Each specialist views these large problems in terms of his area of interest and hopefully in terms of his area of competence. While this kind of approach lies at the basis, no doubt, of meetings such as this and serves a very useful purpose, it does lay itself open to the objection best illustrated by the story of the blind men and the elephant. As you recall, each of the blind men grasps different part of the elephant and each concludes that the object is something else: the blind man who holds the tail shouts that he has a rope; the man who touches the elephant's trunk says he has a snake; the man whose hand happens upon the leg of the elephant claims to have discovered a tree; and the man who found it possible to climb a ladder to touch the body of the elephant points out that obviously they are standing before a wall.

As you might have guessed, it is my contention that only the social scientist sees the elephant and that in urban problems, the elephant is the behavior of the residents of the city. I shall therefore make an attempt here to describe some of the important principles of behavior theory. After explaining some of these principles, I shall try to illustrate their use in the solution of urban problems.

Principles of Behavior Theory

The basic principle is that behavior has consequences and that
The consequences control the behavior. The consequences are called reinforcements and they consist of both positive (sometimes called rewards) and negative (sometimes called punishments) reinforcements. The behavior of all human beings is controlled by its consequences. Thus, we usually emit those behaviors which result in money, or preferred foods, which provide us with friends and prestige, or with praise and high honors; we also make those responses which protect us from the negative reinforcements of the cold or the heat, the pursuing criminal or policeman, the excessively persuasive salesman or the boring speaker, the man who assigns the work or summons us to court. When we behave, and the behavior has no consequences, we typically show emotional behavior: thus the man who receives no candy for the nickel he has just deposited in the machine is likely to bank and even kick a machine which has, after all, done no more than simply malfunctioned. We also show negative emotional behavior when we have not succeeded in avoiding a negative reinforcement as in a punishment situation.

A reinforcement acts directly upon the behavior which it follows. Therefore, if a reinforcement is delayed, it is either weaker in effect or it reinforces an altogether different response. It is because so much behavior is under such delayed reinforcement contingencies that so much urban behavior is not controlled by the reinforcement contingencies which are spelled out in great detail and exquisite complexity, according to the law.

In nature, reinforcement does not follow every response. Reinforcement is given intermittently. According to the principle of intermittent reinforcement, behavior is maintained in strength as long as that behavior was initially reinforced on a continuous or
consistent basis. It is of interest to note that intermittently reinforced behavior, i.e., behavior which is reinforced every once in a while, or for only some responses, is maintained in strength for a longer period of time than behavior continuously reinforced.

The last principle of behavior theory which I should like to mention is the principle of discriminative control. It makes reference to the fact that responses are reinforced in the presence of certain stimuli which, because they are present at the time of reinforcement, themselves become occasions for the emission of certain classes of responses and acquire the property of conditioned reinforcement. A conditioned reinforcement is a stimulus which initially is neutral, but because of its association with reinforcement, becomes effective in controlling behavior. A nice example of the power of a discriminative stimulus is the subway which constitutes a discriminative stimulus for no smoking. Of interest, is the fact that even the avid smokers do not smoke, and what is perhaps even more important, they do not complain of any discomfort. As to conditioned reinforcement, the obvious example of course is money and credit in its many forms.

In sum, I submit that the behavior which is emitted by the residents of the city is susceptible to behavioral analysis, the kind of analysis which makes clear the variables which control behavior and which need to be manipulated, in order to institute a change in the behavior. The basic questions which must be asked according to behavior theory then are: What are the consequences of a given class of behavior? In the presence of what stimuli do these behaviors occur, that is, in the presence of what stimuli are these behaviors reinforced? In accordance with the need to change behavior, we must
know what behaviors can be conditioned to make given responses more or less frequent. Finally, we must know what other events are reinforcing to the people whose behavior we are interested in changing.

Examples of the Application of the Behavior Theory Model to Urban Problems

1. The police and penal institutions

The police and penal institutions are discriminative stimuli for negative reinforcement. What citizen, no matter how law-abiding, does not report a pounding heart, when a policeman drives up next to him in his car? More important, what are the implications of this universal response? The emotional response is of the kind one would expect from a negative reinforcement. That the policeman, in fact, delivers negative reinforcement is well known and even much accepted. But then it is important to keep in mind that the policeman will inevitably, under such conditions, become a discriminative stimulus for negative reinforcement, and, as a consequence, a conditioned negative reinforcement. While it is true that policemen also act to prevent negative reinforcements from occurring to private citizens, this association is definitely less frequent for the typical contact which the citizen has with the policeman. Recent large scale contact between private citizen and policeman, through riots and demonstrations, has again been of the kind where the police were meting out negative reinforcements. A change in attitude toward the police requires a radical addition to the behavioral repertoire of the police. The police will be reacted to as a positive reinforcement only when it becomes a source of positive reinforcement. As pointed out above, stimuli associated with positive reinforcements become powerful
discriminative stimuli, that is, they control behavior, and they become conditioned positive reinforcements evoking positive emotional responses.

Conversion of this theoretical statement into practice has been done already through such institutions as the Police Athletic League and will require the following additional sorts of activities on part of the police: drivers who hold to the speed limit should be given stamps which they can then use to pay for renewal of their license or car registration; a given proportion of house owners and store owners should be given stamps by the police for rapid removal of snow or for keeping garbage off their sidewalk, with the stamps being convertible into tax rebates. Short term emergency baby sitting services could be set up, at first, merely with the help of the police (since people might initially hesitate to leave their children with policemen), then the police might be there but the actual baby sitters would be civilians, and finally, a station house (improved in appearance) might be used for the baby sitting. The station house eventually, but initially the store front, should be used as a vocational guidance center, gym for exercises, auditorium for entertainment, etc. Under these conditions one would expect the policeman to become a source of positive reinforcement and therefore a more likable person to have around. Most important of all, by making the police a source of positive reinforcement, people would respond more positively to them and thus provide discriminative stimuli for the police, in turn, to respond in a more friendly way to the people.

A word needs to be said about penal institutions. They are set up in such a way that the persons in them are being deprived of
positive reinforcement, except that coming from the outside world. More important in terms of the concept of reinforcement contingency, their behavior is not differentially reinforced to make them behave in more socially acceptable ways. Under these conditions one would expect no change except in those behaviors (most of which are not desirable) needed to get along with the sort of people who are present in prisons. The one exception to the rule of no reinforcement contingency is the parole. At best, however, this is given to the prisoner on a much delayed basis (delayed so much that it cannot really have any effect), and then very often the behavior which is most importantly related to his leaving the prison is the behavior of his lawyer, which, in turn, depends on how much money he has to pay such a lawyer, which in turn often depends on how much he successfully stole and kept hidden, before he was sent to prison. Clearly, if parole is to be used as a behavior modification tool, some sort of scoring system must be employed so that behavior in the prison can be immediately and differentially reinforced to get a prisoner to learn, to read, or to work in an occupation which will make it possible for him, once he gets out, to earn a living in an honest way. By using a scoring system, allowing him to collect points which visibly bring him closer to the reinforcement of the parole, many prisoners, who might not otherwise learn, or work, would do so in order to get out of prison. The use of money as a reinforcement for work done in the prison would of course also make a great deal of sense, since it would train the prisoners to work in a steady and honest way for money. Assuming that such behavior must be gradually shaped in a number of prisoners, they should initially be allowed
to leave the prison for a restricted number of hours, and then
days; under these conditions, they would continue to emit the new
behaviors for which they were positively reinforced in the prison;
under these conditions they could continue to be reinforced for
doing the right thing while still under the control of the prison.  
When they are out on parole, telemetering devices might be employed
allowing the parole officers to know at any time where the parolee is,
and in this way being able to reinforce him immediately for doing the
right, or the wrong, thing.

2. Transportation

Technological improvement has made it possible for people to
tavel faster, in greater comfort, and more safely — provided that
one ignore the accidents and the slow traffic, the overcrowded public
transportation conditions, and the air pollution. I submit that
these problems stem from the fact that the people who do the driving
and traveling have not been taken into account. The city of New
York is blessed with large numbers of cars on its streets. The cars
belong to people who come from out of town and to people who cannot
leave their cars parked next to their homes because of the restricted
parking regulations. Everyone says that driving into a downtown area
is not fun, and yet many drivers continue to do just that. Why? Here
as above we must look for the reinforcement contingencies; what re-
inforcements does the driver work for, and what reinforcements (nega-
tive) does he work to avoid? If he lives out of town, then he finds
that with a car he can leave whenever he is ready; because the

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1 I was pleasantly surprised to note that New York City is in the
process of introducing a work release bill according to which the
inmate is to be exposed to the community slowly and while still under
the control of the penal institution. This program is very much like
the proposal made in this paper except that this paper calls explicit
behavior of driving, or even being in the car, eventually gets him home, it becomes a positive reinforcement. In addition, he can turn on the radio and listen undisturbed to the newsbroadcast, something which his children at home may not allow him to do. The alternative of the subway may well constitute a negative reinforcement consisting of being crowded and pushed, hot and uncomfortable. When one asks how could we get more people to take public transportation, one must of course realize that, at least at certain hours of the day, this is hardly desirable even if at all possible under present conditions. The alternative of having people travel on the subways at times other than the rush hours was in fact explored in this city but was finally discarded on the basis that not enough businesses were willing to change their working hours. There are, however, others who determine their own working hours and one should modify their behavior. Thus, the businessman who decides to go at rush hour, even though he could go later, decides not to go later despite the greater comfort in which he could ride because at the later hour, he finds fewer trains, has to wait longer, and gets to work later, not only because he starts later, but because he wastes time waiting for trains. Obviously, the way to have more people ride the subways at times other than the rush hour is to reinforce them positively for riding at those times. In the summer, more of the air conditioned trains could be run then, in the winter, simply more trains, and the wise employer might under these conditions be willing to have his workers come in later and work later as a fringe benefit to them for which he does not have to pay.

3. Discrimination

The recent report by the National Advisory Commission on Civil
Disorders established the fact that a large part of the blame of the riots must be attributed to a continuing discriminatory practice by the dominant white community against the Negro. It is clear from an ethical, as well as from a simple government-efficiency point of view, that we must reduce discrimination to improve relations among different ethnic groups and to prevent segregation into two armed camps. The solution to this very difficult problem, like the solution to the problems already described above, must be sought in terms of behavior theory. We must examine what reinforces discriminatory behavior and what behavior is incompatible with it. There is in fact some social psychological data which clearly show us that simple propinquity serves to induce friendship and to reduce prejudice; it suggests the obvious advantage of integration in housing even with people who initially are opposed to living together.

The discrimination found in jobs should be dealt with by the following procedure: the employer should be positively reinforced for hiring Negroes by some device like a tax rebate or by being able, for a limited time period, to pay only part of the salary of the new employee, the other part being provided by government. There is, of course, a precedent for this from the Veteran's laws and, now on the basis of some limited programs, for people on welfare.

For some time now, we have been guided by the erroneous idea that government cannot change the "heart and minds" of men. In fact, that is exactly what the government does do all of the time. In many areas it tries to influence the people in an obvious way, as by speeches of the president over television at times when a large number of viewers are likely to be watching. In some areas, the
influence is perhaps less direct, though at least as effective, through the injection of money and other help by the government for certain activities in research, in social welfare, in education, in the building of highways, in the support of building industries, etc. In the area of race relations the government has not done enough. The laws which have been passed are of a negative nature, primarily enforced by negative reinforcers. People's responses to negative reinforcement consist of emotional response, of escape, and of avoidance responses. The avoidance responses which are conditioned by the fair housing laws consist of doing things to prevent being caught in the act of discrimination rather than of letting everyone move into houses. This is so because under the conditions of limited housing, the responses of unfair treatment (as opposed to a first come first serve policy) are reinforced outside the anti-Negro situation as well. The way in which many people today get desirable renting space is by bribing the superintendent or the landlord. The Negro is very easily discriminated against under circumstances which already positively reinforce behavior that is unfair. It is clear that the powerful reinforcement which maintains this undesirable behavior consists of money. The implication is quite obvious. Give the landlord, in certain selected areas, a bonus for providing a Negro with an apartment in a house which has no Negroes; furthermore, provide that house in a visible way with certain privileges which benefit all the residents of the house. The entrance of the Negro into the house, under the conditions outlined above, is a discriminative stimulus for positive reinforcement and thus the Negro himself becomes a positive conditioned reinforcement. Finally, the specially
privileged house retains the white residents because they are positively reinforced for staying.

In the schools, it is imperative that the teachers not display prejudicial attitudes, and yet when we examine the teachers (not well trained or substitute teachers) and the conditions under which they are sent to a school situated in a slum (the conditions consist of being in the school system too short a time to have much authority or pull to get sent to a "better" school), it becomes clear that the school most in need of good teachers, serves as a negative reinforcement because it has low prestige, has fewer of the educational tools, is housed in an older building, has more vandalism, more violence, etc. In other words, conditions are such as to foster emotional attitudes, such as prejudice. Since teachers already have a tendency to teach at the "better" schools and since these give the teacher prestige, it seems reasonable to assume that teachers will go to teach there; since the slum schools do not have this attractive potential, it seems obvious that teachers there ought to be recompensed at a higher rate (reinforced more) to increase the attraction potential. This would have the immediate effect of increasing the likelihood of teaching in a slum school being desirable, and because of the association with the positive reinforcement, would make the discriminative stimulus of the school a conditioned positive reinforcement. It would also associate the student with the positive reinforcement and thus should serve to improve the regard the teachers have for the students.

Another way to influence the teachers' attitudes in the slum school would be to make them more effective by training them in the
administration of positive reinforcement in the context of classroom teaching. Behavior theory, through programmed learning and through the delivery of positive reinforcement for behavior which the child is capable of emitting at the stage of learning where he finds himself, would teach the children better, thus adding prestige to the teacher because of her efficiency of functioning.

I have chosen a few illustrations of the application of behavior theory to urban problems; time does not permit more examples, nor does it allow me to cite the psychological literature for evidence of the success of this theory. Behavior theory has already been applied successfully to learning and to therapy, to the training of parents and of juvenile delinquents, to the response of reading (in children and adults) and interpersonal relationships. The time has come to apply it to larger problems.

A point needs to be made about technological improvement and urban problems. Technology, like love, is not enough. A faster police car on the scene of a riot may further incite dissension. A positively reinforcing policeman may come too late to the riot to be helpful. The combination of the technology of the faster police car and the positively reinforcing policeman may be exactly the combination now needed.