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## CRIMINAL BEHAVIOR AND LEARNING THEORY

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As many of our readers well know, Dr. Jeffery is Editor of the Criminal Law and Criminology Book Review Section of this Journal.—EDITOR

### DIFFERENTIAL ASSOCIATION

One of the most popular theories of criminal behavior, especially among sociologists and social psychologists, is the notion that criminal behavior is learned behavior. The theory of differential association, put forth by Edwin H. Sutherland (1), is a learning theory which formulates the process as one whereby criminal behavior is learned in association with those who have criminal attitudes and values, as compared to associations with those who have noncriminal attitudes and values.

Sutherland's theory is now over thirty years old, and there has been no major theoretical revision nor any empirical verification of the theory during its lifespan (2). The purpose of this paper is to apply modern learning theory to differential association in order to place it in modern dress and to place it in a form which is empirically testable. The theory of differential association is not valid in its present form because, though it is basically sound in asserting that criminal behavior is learned, it does not make use of the learning principles which are now available as a result of experimental laboratory research. The principles were not available when Sutherland wrote, and it is therefore necessary to reappraise and reformulate his theory in terms of laboratory research carried on from 1940 to 1964.

### OPERANT BEHAVIOR

Learning theory has revolved around the concept of conditioning, wherein behavior (responses) is related to the environment in which it occurs (stimuli). The Pavlovian type of classical condi-

tioning is based upon a stimulus eliciting a response, the stimulus occurring before the response. Such conditioning procedures are of minor importance to sociologists since the behaviors involved are usually eye blinks, salivation, and galvanic skin responses. Much more important are operant behaviors, those behaviors emitted in the presence of given stimulus conditions and maintained by their consequences, that is, the changes they produce in the environment (3). The stimulus follows the response. Examples of operant behavior include verbal behavior, sexual behavior, driving a car, writing an article, wearing clothing, or living in a house. The concept of operant behavior is important to sociologists because most social behavior is of an operant nature. Social interaction is maintained by the effect it has on other people. Homans has used the concept of operant behavior to discuss what he calls elementary forms of social behavior (4).

Stimuli, or environmental conditions, can be divided into several categories. Contingent stimuli are the environmental conditions which are produced by and are contingent upon a given response of the actor. Such stimuli can be reinforcing or aversive. A reinforcing stimulus strengthens the response, that is, the response rate increases when a given stimulus is produced by a given response. This process is known as reinforcement. An aversive stimulus weakens a response rate, that is, the response rate decreases when a given stimulus is produced by a given response. This process is known as punishment. Reinforcement can be positive or negative. Positive reinforcement refers

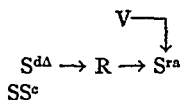
to the process whereby the presentation of a stimulus increases the response rate; negative reinforcement refers to the process whereby the elimination of a stimulus increases the response rate. Likewise, punishment can be positive, wherein the presentation of a stimulus decreases the response rate, or negative, wherein the elimination of a stimulus decreases the response rate. These relationships can be diagrammed as follows:

|                     | response up                               | response down                          |
|---------------------|---|--|
| stimulus presented  | S <sup>r</sup><br>positive reinforcement  | S <sup>a</sup><br>positive punishment  |
| stimulus eliminated | S <sup>r̄</sup><br>negative reinforcement | S <sup>ā</sup><br>negative punishment |

S<sup>r</sup> refers to a reinforcing stimulus, S<sup>a</sup> refers to an aversive stimulus, and a bar over the symbol refers to the elimination of the stimulus.

There are also controlling stimuli. Whereas the contingent stimuli occur after the response, the controlling stimuli are present when the response occurs, and they control the occurrence or non-occurrence of the response. Stimuli in whose presence a response is reinforced or punished are called S<sup>d</sup> (S dee), whereas those stimuli in whose presence a response is not reinforced or punished are called S<sup>Δ</sup> (S delta). These are known as discriminative stimuli. A telephone is answered only when it rings; the ring is an S<sup>d</sup> for answering the telephone. A child is punished only when the mother is present. The mother is an S<sup>d</sup> for punishment.

Those stimuli which are in the environment but which are not differentially related to the consequences are known as constant stimuli (SS<sup>c</sup>). Variables which make a stimulus reinforcing or punishing, such as satiation and deprivation, are labeled V (variables). The diagram thus looks like this (5):



**THEORY OF DIFFERENTIAL REINFORCEMENT**

Criminal behavior is operant behavior; that is, it is maintained by the changes it produces on the environment. A criminal response can produce money, a car, a radio, sex gratification, or the removal of an enemy. Most crimes are property

offenses, and there the reinforcing stimulus is the stolen item. Crimes against the person may involve negative reinforcement, that is the removal of an aversive stimulus. Murder and assault are behaviors of this type. Voyeurism, fetishism, exhibitionism, and homosexuality are behaviors that are maintained by their consequences on the environment, though the nature of the reinforcement and the conditioning which led to this association of sex gratification with such consequences is not well understood at this time. What is involved, however, is the association of sex behavior with a forbidden sex object, such as occurs in the case of fetishism or homosexuality. The homosexual selects a male rather than a female as the sex object because of his past conditioning history in the sexual area. Narcotics and alcohol are reinforcing stimuli because of the biochemical changes they produce in the body. In the case of narcotics addiction negative reinforcement is involved, that is, the removal of an aversive stimulus (withdrawal distress).

Coupled with reinforcement for criminal behavior, however, is punishment. Society through its legal system attaches aversive consequences to criminal behavior. A criminal act may lead to reinforcement, but it also may lead to punishment. The theory of differential reinforcement states that a criminal act occurs in an environment in which in the past the actor has been reinforced for behaving in this manner, and the aversive consequences attached to the behavior have been of such a nature that they do not control or prevent the response. Criminal behavior is under the control of reinforcing stimuli. An act of robbery produces money; it also may produce being shot at by the victim or the police, being arrested, being imprisoned, etc. However, if the aversive consequences of the act control the behavior, then the behavior does not occur, e.g., if a thief regards the consequences of his act as being shot or arrested, he will not steal in that particular situation.

The theory assumes that (1) The reinforcing quality of different stimuli differ for different actors depending on the past conditioning history of each; (2) some individuals have been reinforced for criminal behavior whereas other individuals have not been; (3) some individuals have been punished for criminal behavior whereas other individuals have not been; and (4) an individual will be intermittently reinforced and/or punished for criminal behavior, that is, he will not be reinforced

or punished every time he commits a criminal act. However, intermittent reinforcement will maintain a response pattern, and a large part of our social behavior is maintained on an intermittent schedule of reinforcement. For example, if one man steals and another does not under similar circumstances, at least three variables can be noted immediately: (1) the reinforcing quality of the stolen item; (2) past stealing responses which have been reinforced, and (3) past stealing responses which have been punished. One of the criticisms often leveled at the theory of differential association is that it does not adequately account for the differences in behavior of those living in the same social environment: same family, same slum area, same ethnic group, and so forth. There are people living in high delinquency areas who are not delinquent; there are Negroes who are not delinquent; and there are young adult males who are not delinquent, though from a statistical point of view these social factors are important. This is a very selective process, the reason being that each individual has a different conditioning history even though he is in an environment similar to others.

#### CRIMINAL ASSOCIATIONS

Sutherland's theory states that other human beings act as reinforcers for criminal activities. Human beings often act as social agents for reinforcers such as food, sex gratification, employment, medical aid, housing, trips, entertainment, and the like. We associate with those from whom we receive reinforcement.

In the case of criminal activity, other people can reinforce the behavior in several ways. They can use verbal praise to strengthen criminal behavior, which is what is meant by a reputation in a criminal or delinquent gang. Delinquents talk a great deal about their exploits and conquests in order to be praised. Another person can also act as a confederate in the commission of a criminal act, or can be an accessory after the fact: hiding the criminal, "fencing" stolen goods, and so forth. People also apply aversive consequences to criminal behavior by verbally reprimanding, arresting, or shooting the criminal. These behaviors constitute what Sutherland calls "attitudes" favorable or unfavorable to the commission of a criminal act.

A research problem presented by the theory of differential association is the problem of what environmental consequences maintain criminal behavior. Is it the material gain, or is it the social

approval and group membership? Sutherland's theory assumes that the important variable is social reinforcement, and his theory ignores the obvious fact that money, cars, and sex are in themselves powerful reinforcers in our society. For this reason whenever one attempts to test the theory of differential association one discovers cases of criminals without criminal associations, or noncriminals with criminal associations. Criminal behavior can be maintained by money or cars without social approval. A man without prior association with criminals may murder his wife after a quarrel or when he discovers she has a lover. This act cannot be explained by the theory of differential association; it can be explained by the theory of differential reinforcement, since the removal of an aversive stimulus is negative reinforcement. The husband's interaction with his wife is crucial in this act of murder, but this interaction is not of a criminal nature until after the husband has killed his wife.

Stealing is reinforcing in and by itself whether other people know about it and reinforce it socially or not. Sutherland limited the learning of criminal behavior to situations involving criminal attitudes and associations. A stimulus for a criminal response need not involve a criminal component. A person learns to respond to food in legitimate ways. As a baby he was fed, and gradually he learns a series of behaviors associated with the acquisition of food—buying food, cooking food, verbally requesting food, and so forth. Among the responses which may in time be associated with or conditioned to food might be a response called "stealing food". If a boy asks his mother for a cookie and she refuses his request, he learns he can raid the cookie jar when mother is not looking. Stealing a cookie is reinforced by the cookie, not by the mother or a delinquent gang. This child has had no contact with a delinquent pattern, and yet learning has taken place which later on can generalize to other situations.

A person rides in an automobile as a child. He learns to drive a car as an adolescent. If an automobile is available to him either because he can afford one or because his father owns one, then there is no need to steal automobiles. However, if access to automobiles is only by stealing, then he steals. A girl can get a fur coat by working for it, by having a rich parent, by marrying a rich man, or by exchanging sex favors for a fur coat. Criminal behavior is learned, though this does not imply as

Sutherland did that the learning process itself involves criminal associations.

The theory of differential association limits the learning process to criminal attitudes; the theory discussed in this paper states that criminal behavior can be learned in situations not containing criminals or criminal attitudes. For this reason a person living in a criminal environment will often not be a criminal, while criminals are found in non-criminal environments.

Other individuals are probably as important, if not more important, in the behavioral process as discriminative stimuli rather than reinforcing stimuli; that is, the presence of a given person will signal that a given act will or will not be reinforced. It is a well established sociological fact that individuals behave differently in the presence of certain people than in the absence of these same people. A man behaves differently when his wife is in the room than when she is absent; a worker behaves differently in the presence of the boss, and so forth. The reason is obvious; certain behaviors are reinforced or punished in the presence of a given person, and not in his absence. An obvious example from the area of criminology is the fact that people often behave differently in the presence of a policeman than in his absence. Motorists try to figure out when the patrolman is around and when he is not. A father may send his son out to commit criminal acts, or a delinquent companion may serve as a stimulus for a delinquent act. Certain criminal acts are reinforced or punished in the presence or absence of a given person. Associates therefore help to maintain criminal behavior either as reinforcing stimuli or as discriminative stimuli.

#### SOCIAL VARIABLES AND CONDITIONING

Most official criminal and delinquent acts are committed by young adult males who are members of a minority group and who live in slum areas. One of the characteristics of a slum area is deprivation; the inhabitants are without the important social reinforcers in our economy. They are not reinforced for lawful behavior. A middle class person can secure food, clothing, and automobiles by non-criminal means.

Behavior theory takes into account the level of deprivation and satiation of the actor. A person deprived of food will respond to food in a manner in which a satiated person will not. A sexually deprived person will respond to stimuli which will not arouse a sex response in a sexually satiated

person. In prison camps inmates eat rats and engage in homosexual acts which they do not do when they have access to beefsteak and females.

Young adults are more criminalistic than older adults for the reason that they lack the responses necessary to produce reinforcement. If they develop acceptable responses for the reinforcers they want, the criminal responses are extinguished. Also, if they persist in a pattern of criminal behavior they are likely to come to the attention of the police and a new series of contingencies come to control the behavior, such as imprisonment.

The influence of television and comic books upon behavior is also better understood in terms of conditioning principles. Let us take, for example, one hundred wives watching a television show wherein a wife murders her husband. After viewing the program ninety-nine wives go back to their chores, the hundredth wife kills her husband. Ignoring for a moment the fact that we cannot really relate the behavior to a specific situation such as a television show (she might have killed her husband even if she did not see the show), we must further ask the question: "Why was it reinforcing for this woman to kill her husband, but not for the other ninety-nine?" We can assume that because of the nature of her relationship with her husband she wished to have him out of the way. She was responding as people do respond to aversive situations—she was removing the aversive stimulus.

It is sometimes assumed that if a child watches violence on television he will then behave in a violent manner. This argument assumes that the stimuli controlling the behavior are those presented on a television screen, whereas in fact the controlling stimuli are those in the child's own environment. Generalization of responses from a television program to those who observe the television program depends upon the extent to which the two environments are the same or similar, and upon the past conditioning of the observer. If we watch a television program in which Jewish children are placed in a gas chamber, this does not mean we are going out and place Jewish children in a gas chamber. We might, rather than imitating the Nazi, behave in such a manner as to prevent such acts from taking place in the future. The belief that a television stimulus will produce a given response in a viewer is based on the classical Pavlovian S—R paradigm; however, the behaviors involved are usually

operant rather than classical responses, and as such they depend upon environmental contingencies for their existence, not upon the television set.

#### PUNISHMENT

As was stated earlier, punishment is defined as the withdrawal of a reinforcing stimulus or the presentation of an aversive stimulus. There are several contradictory notions concerning the effect of punishment on behavior.

Punishment will reduce a response rate but, unless it is severe, punishment will not eliminate a response rate. Once the punishment is discontinued, the rate of response will return to its normal pattern. Some authors have stated that punishment is not the opposite of reinforcement, since the withdrawal of punishment results in an increase in the response that was formerly punished. However, it should be remembered that the withdrawal of a positive reinforcer results in a decrease in a response that was formerly reinforced.

The problem lies in the fact that punishment is usually paired with a response that is strongly maintained by other reinforcing stimuli, whereas a reinforced response is not paired with other contingencies. There are two stimuli—not one—controlling a punished response: the reinforcing stimulus (food), and the aversive stimulus (shock). If we punish a food response, we can expect that the response will continue because of the strength of food as a reinforcer. The removal of food as a reinforcer will eliminate the response. Punishment will completely eliminate the response if food is not contingent on the response. Is the elimination of the food response due, however, to the removal of food (extinction), or is it due to punishment? Since we can accomplish the same results without punishment, we must conclude that the effective control is one based on extinction. We must, however, provide an alternative response pattern for obtaining food. Under these conditions punishment is an adequate control of behavior. Given two responses, one of which leads to food, the other to food and punishment, the organism will soon cease responding in the latter and respond only in the former situation (6).

Continuous punishment will not control behavior either, for satiation takes place the same as with a reinforcing stimulus. Food and money are not effective reinforcers except as they are placed on an intermittent schedule. Likewise, to control a delinquent by punishing him 24 hours a day is like

trying to control him by feeding him ice-cream 24 hours a day.

Holz and Azrin have shown that punishment can become a discriminative stimulus if it is followed by reinforcement (7). If a rat is shocked before the food mechanism operates, it will administer a shock to itself in order to get food. This experiment led to the so-called "masochistic rat". The statement is often made in psychiatric circles that masochistic people "like pain" or "must punish themselves" in order to get rid of guilt feelings. The literature is filled with case histories of men who committed crimes so that they would be punished. Such notions must be questioned in the face of experimental evidence. A person will not punish himself unless this punishment is paired with reinforcement. A child who is punished and then comforted or given candy will in future misbehave in order to get attention or sweets. Abrahamsen cites the example of a masochistic delinquent, a boy whose mother would punish him and then reward him with candy or ice-cream (8).

Mild punishment will be followed by a reduction in a response rate *if* it is a discriminative stimulus for non-reinforcement. Heavy punishment will be followed by an increase in a response rate *if* it is a discriminative stimulus for reinforcement.

These observations help to explain many of the contradictory statements about punishment and human behavior. *Under no condition, however, will punishment increase a response rate.* The Holz-Azrin experiment is often cited as evidence of the increase in response rate through punishment. Likewise, experimental work in the area of brain stimulation has led to observations of pleasure centers in the brain. A rat will shock itself at a high rate if an electrode is implanted in the proper area of the brain. This is used as another example of increasing the response rate by administering punishment. The problem here lies in the fact that the experimenter has classified shock as a painful stimulus. Rather the psychologist should talk about electrical stimulation to a given area of the brain as reinforcing, since it increases the rate of response. It is a well established fact that the stimulation of a nerve center can be pleasurable or reinforcing under some conditions but painful under others. A warm bath, for example, is reinforcing; but to be boiled alive is painful.

The Holz-Azrin experiment could be repeated wherein food was an  $S^D$  for shock—food would be presented and followed five seconds later by a

shock. Under such conditions food would become a conditioned aversive stimulus, and the presentation of food would result in anxiety and conditioned suppression. Punishment is defined procedurally as a decrease in the response rate due to the presentation of an aversive stimulus contingent on the response. Yet punishment is followed by an increase in the response when punishment is an  $S^D$  for reinforcement. The increase in the response rate is due to reinforcement (food) and not to punishment; and, since reinforcement is defined in terms of an increase in the response rate, there is no contradiction in such statements.

The experimental evidence supports the classical school (Bentham-Beccaria) of criminology in its statement that it is the certainty of punishment—not the severity—that deters people from criminal acts. One of the basic principles learned by every student of criminology is that “punishment does not deter”. It is pointed out that for hundreds of years criminals have been punished by execution; yet we have an increasing rate of crime. Such statements are in gross error concerning the influence of punishment on behavior.

The statistical evidence on capital punishment reveals the source of one difficulty. About one percent of those eligible to be executed are thus punished. The *uncertainty* of capital punishment is one major factor in the system. Another factor is the *time* element. A consequence must be applied immediately if it is to be effective; yet in Chessman's case the consequence was applied eleven years after the behavior. Such punishment does not recondition or rehabilitate. There is also present the fact that execution makes further rehabilitation impossible. The lesson to be learned from capital punishment is not that punishment does not deter, but that the improper and sloppy use of punishment does not deter or rehabilitate.

The immediate consequence of a crime—rape, murder, robbery, burglary—is the presentation of a reinforcing stimulus: money, sex gratification, or the removal of an enemy or hated individual. When one commits a criminal act, the behavior, like all behavior, is under the control of reinforcing stimuli. There are no aversive stimuli in the environment at that moment. If a robber is caught in the act and is immediately punished, then the effect of punishment on behavior is radically different.

These statements on punishment are not to be interpreted as supporting any wholesale drive to pass laws that inflict heavier penalties on crimi-

nals. Increasing the penalties for crimes has the negative effect of making the punishment less certain. Throughout the history of penology an increase in punitive measures has been accompanied by an increase in measures, legal and otherwise, by which punishment is avoided. Severity of punishment can be gained only by sacrificing certainty. The Holz-Azrin experiment definitely established the fact that mild punishment can control a response, whereas heavy punishment under different conditions will not control the response. Legislators think in terms of severity of punishment, which is an inappropriate and harmful way to use punishment.

The use of punishment as it is currently administered by the legal system does not eliminate criminal behavior, although undoubtedly it does reduce the crime rate; but it does shape other behaviors, known as *avoidance responses*. An organism will respond in such a way as to avoid an aversive consequence. This, of course, is negative reinforcement. Escape responses, which are like avoidance responses except that they terminate an aversive stimulus rather than avoid it, likewise increase in rate in the face of aversive stimuli.

The avoidance and escape responses available to the criminal are many: avoid detection, don't leave fingerprints, hire a good lawyer, bribe the police, plead guilty to a reduced charge, plead insanity, tell the probation officer the right kind of story, etc. Law enforcement procedures shape a great deal of avoidance and escape behavior, but this can be quite unrelated to the behavior the law is trying to prevent and control.

It must also be kept in mind that the effects of punishment upon different people differ according to what they have to lose as a result. As an example, a university professor who was accused of a misdemeanor (contributing to the delinquency of a minor) was dismissed from his position, lost status in his professional community, and was divorced by his wife. He was never convicted, and he never served a day for this minor offense, and yet the aversive consequences to this man were much greater than a five to ten year sentence would be to a felon who had already served three terms in a prison.

#### DELINQUENT SUBCULTURES

The theoretical work of Cohen, Cloward and Ohlin, Miller, Bloch and Niederhoffer, and Yablonsky could be reformulated in terms of reinforcement principles (9). The work of Cloward

and Ohlin comes closest to the theoretical scheme presented in this paper; in fact, some readers might feel that it is a new way of talking about means, ends, and opportunities. A goal or end is obviously a general term referring to the environmental contingencies which have been labeled herein reinforcers. When Cloward and Ohlin note that different behaviors emerge in different subcultural groups, they are saying that in certain environments a response is reinforced, whereas in other environments it is not. There is nothing in the Cloward and Ohlin treatment of delinquency that contradicts what has been said in this paper concerning criminal behavior as learned behavior. The difference is that this paper attempts to look with a microscope at individual responses in a given environment, whereas Cloward and Ohlin were looking at social organization rather than individual behavior.

However, if we wish to deal with delinquent behavior, we must deal with individual behavior. We now know a great deal about the environment from which delinquents come; we know very little about the variables in this environment controlling individual responses. A systematic application of learning principles to criminal behavior might be appropriate at this stage in the development of criminology since criminality involves both an environment and a response to an environment. Research in learning processes has provided us with some principles with which we can investigate in greater detail the interaction of the criminal with his environment.

#### SUMMARY

Criminal behavior is learned behavior. Sutherland's theory of differential association is basically correct; however, it needs to be revised in terms of recent advances in the psychology of learning. Operant behavior is behavior that is maintained by its consequences.

Criminal behavior is maintained by its consequences, both material and social. Such social variables as age, sex, social class, ethnic membership, and residential area influence the manner in which criminal behavior is conditioned.

Punishment decreases a response rate only if it is used in a consistent manner, and is applied near the time of the occurrence of the forbidden act. As it is used to control criminal behavior, punishment is likely to create avoidance and escape behaviors rather than law abiding behaviors.

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