

Some bases of aggression and
their relationship to law

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Aggression has been studied from several vantage points: the behavioral, the somatic, the social, the cultural and the experiential. Each of these vantage points dictates a different method of interfering with or "doing something about" aggression. Each can be "corrected"; by behavior control, by surgery or drugs, by altering the social system, by changing cultural values and by reconstructing the interpretation of experience. Law can be seen as a cultural device for turning a social dyad into a triad in order to "solve" a conflict at the same time that it reinstitutionalizes some cultural norms of basic social institutions in a legal context. All of the various vantage points must be recognized as law is reinstitutionalized from the primary institutions of society.

Both scientists and judges must consider the biological basis of human behavior if they are to deal adequately with it. What can they learn from each other? I am here concerned with one topic in which both have a stake: aggression. No one questions that aggression springs from biological roots, that it is affected by social norms, altered by cultural values, tempered by experience, that it can become abnormal during somatic or mental disease, and often leads to confrontations with the law. Other such many-faceted subjects include alcoholism (Madsen, 1974), bastardy (Laslett, Oversteen & Smith, 1980, has a good bibliography, centered on demography but covering many other dimensions of the subject), death itself.

Aggression, as a topic of scholarly concern, has had immense difficulty shaking loose from religious attitudes and from centuries of moral philosophy, some of which is relevant in the discussion of the relationship of biology and law (Masters: this volume), but some of which may be used as blinders rather than as a beacon. There is still a tendency on the part of most Westerners to assume that aggression and destructiveness are the same thing - they are not.

A period in the study of aggression seems to have come to an end in the early 1970s. During that period, the major question was the biological basis of aggression reaction to the "discovery" by ethologists that there is a biological dimension, and the claim of the more bold that aggression is therefore "innate." The big argument was whether aggression was innate or acquired - it is, of course, both. The definition of aggression sometimes swings from one criterion to another in the middle of a thought, thereby making this very complex word a muddle. The best summarizers from that period are Storr (1968) and Fromm (1974).

Since those days, there has been, in some behavioral sciences, a movement away from mere aggression and toward the topic of conflict management (an avatar of "conflict resolution").

Studies of human aggression are to an unfortunate degree beset by another difficulty, one they share with criminology in general: investigators are urged, either by their sponsors or their consciences, to find out what we *do* about some problem before they have formed any very clear opinion of what the problem *is*, and certainly before we understand the action chains that underlie it. The policy question gets stuck into the mix too early.

Although most students of aggression insist that the subject is complicated and requires input from many sciences, few of them have been willing to go beyond lip service to get an overview of the topic.

We can well understand, of course, that no one is "expert" in all those sciences. But not being an expert in something is no license to disregard it, especially if we recognize our "limits of naivete" as Adamson Hoebel warned us above.

Research on aggression can be easily split into five spheres or categories, depending on the definition the researcher employs. There are those scientists whose focus on:

- 1) aggressive behavior,
- 2) the bodily, somatic infrastructure (either in its entirety or in specialized areas),
- 3) the social groups that are involved in aggression,
- 4) bellicose or peaceful culture, and how culture can be manipulated and forced into non-aggressive molds,
- 5) the fall-out of the experience of aggression.

It is usual that the researcher, having taken up one of these positions, uses it as a causal lever to indict one of the other spheres. The literature is full of comments about how aggressive behavior is "caused" by our hormones or our brains, by the inept or faulty structure of society which is therefore inadequate to contain or provide alternatives to aggression, by our culture with its bellicose values, by our unfortunate or craven individual experiences. Far less attention is given to the premises behind the complicated ideas of cause and effect - they are usually naive or unexamined - or to interaction among the various spheres.

In this paper, I shall review some of the literature on aggression, paying special attention to how these points of view have led to different attempts to alter aggressive behavior; I shall then turn to the law.

CORRECTING THE BODY

There is no doubt that there is a biological infrastructure underlying aggressive behavior. The scholars who have looked at it can be divided into two sorts: those interested primarily in the brain and the central nervous system who want to know how aggressive behavior correlates with brain function, and those concerned with chemistry who want to know how hormones, enzymes, peptides and other chemicals affect behavior. Some writers, of course, concentrate on the correlation of the two. They have found, to summarize quickly, that the brain

centers unequivocally associated with aggression are the amygdala and the hypothalamus, but that different types of aggression seem to erupt from different locations in those and other brain parts, and often involve other regions of the brain and apparently no brain function is associated simply with one specific brain part. In human beings, the matter is even more complex because the cerebral cortex is involved extensively.

Chemicals such as hormones and peptides also affect aggressive behavior: adrenalin and the male sex hormones are the traditionally studied agents. Bartley Hoebel's paper in this volume deals with peptides, which have been identified comparatively recently as chemical agents involved in the complex brain mechanism guiding or rewarding behavior, including aggressive behavior. Again, the true state of affairs is immensely complicated, but we are beginning to accumulate considerable information about the biological elements that underlie aggressive behavior.

Consonant with these two approaches—using discoveries of physiology and biochemistry as starting points for applying a policy of reducing aggression—are at least two ways in which attempts have been made to change aggressive behavior by altering the body: surgery and drugs.

To take only one example of chemical control of aggression, both stimulants and sedatives have been administered to school children in order to get the behavioral response (including reduction of aggressive behavior) that the doctors and/or teachers desire. Stimulants such as Ritalin have been found to calm the behavior of hyperactive children and to increase their attention span. The drugs, on impeccable evidence, are neither narcotic nor physically addictive, but tolerances increase so that dosages have to be increased. Psychological dependencies may develop if the child associates acceptance at home or in the classroom with the drug. The drugs are withdrawn slowly when the child's behavior pattern is that desired by the authorities with the hope that the behavior pattern can persist on less and less of the drug.

According to rules of the Federal Drug Administration of 1970, a child must be diagnosed as a case of "minimal brain dysfunction" before the drugs can be prescribed. Since all hyperactive children do not by any means show brain dysfunction, this practice seems to be an attempt to vitiate any unscientific judgment of "abnormal" behavior and hence to prohibit use of drugs merely to control behavior. It is difficult to assess the degree to which attempts to control such programs have been successful (and, as far as that goes, just what

minimal brain dysfunction means -it seems to be a term made up to categorize those for whom drugs are effective).

The scope for treatment by such drugs is apparently large -the manufacturers of Ritalin estimated in 1970 that 2,000,000 American children would "benefit" from the drug. But consumption of the drug for controlling aggression and "hyperactivity" in children did not reach that proportion, and apparently treatment with the drug is less frequent now.

There is a considerable literature about surgery to control behavior, admirably summarized and evaluated by Valenstein (1973). Such methods are very old. Trephining the skull was one in many parts of the world, from early times. However, it was only after the later eighteenth and early nineteenth century, with the development of neurophysiology as an experimental science, that scientific rather than religious or magical rationales began to be applied to brain manipulation. The earliest published account of psychosurgery dates from 1891 (Valenstein, 1973: 266). Lobotomy was first carried out by a Portuguese surgeon in the middle 1930s (Valenstein, 1973: 53 -54) and it had become infamous by the middle 1950s. By the late 1930s the temporal lobe of the brain -and specifically the amygdala and the hypothalamus-had become implicated in aggressive and sexual behavior. Surgery on that portion of the brain was found to reduce aggressive behavior in monkeys, cats, dogs, rats and other experimental adults; it had been used also to control the effects of Parkinson's disease and epilepsy in human beings. Temporal lobectomies on human beings were first carried out in the early 1950s. An operation called cingulotomy has been performed on a number of sufferers from psychomotor epilepsy to reduce aggression. Operations on both the amygdala and the hypothalamus have had results that the surgeons called good -they relieved the symptoms of aggressive rage in an impressive proportion of cases, although Valenstein has harsh words to say about their evaluations: "there is no convincing evidence that stimulation of any brain region specifically activates or inhibits one and only one motivational system" (1973: 198), and even more damning: "One recurrent difficulty in evaluating all psychosurgical procedures is that it is usually not possible to make an independent judgment about the results. Clinical reports generally are written in a very subjective style, leaning heavily on impressions of the ward staff. It is rare indeed that any data obtained from objective tests are included in the reports. The surgeons are often too busy to become involved in time-consuming behavioral testing, and they seldom have

adequate training in this field anyway" (Valenstein, 1973:219-220). What the law did or did not do to encourage or prohibit these types of treatment is unfortunately beyond the scope of this paper.

CORRECTING THE CULTURE

In 1971 Leon Eisenberg published this statement in *Science*.

Learning may not account completely for human aggression, but the social forces in contemporary society that encourage its development are so evident that preoccupations with hypothesized biological factors is almost quixotic.

There is little doubt that culture effects the nature and amount of aggression. Changing culture is the most popular way of trying to alter aggressive behavior. The documented results are also least convincing. We shall examine only three of the many points: television violence, myths about the nature of masculinity and femininity and face-saving devices.

(1) Research has indicated over the years that aggressive acts on television are numerous - up to a dozen violent acts an hour, but the number varies not only with the year the count was taken, but with the definition of a violent act and the predilections of the observers. It is also true that high incidence of violence in a program is correlated with its rating - high violence goes with high ratings. We have to ask why. Is it a characteristic of television as a medium that a lot of action filling the small screen is more riveting than other kinds of material? Is it more basic - part of the soma or spirit of the human creature? Does violence represent a demand of the culture or of members of the society? We only know for sure that, whether it is "damaging" or not, television is a good way to spread the culture of violence - a lot of violent criminals have apparently learned at least some of their techniques and may be some of their values from television.

(2) The place of agonistic behavior and aggression in creating the cultural view of masculinity is well understood. There is a great deal written, most of it in snippets, about *machismo* in Latin cultures, about warrior culture, and about the various modes by which young men - and sometimes men who are not so young - think they must maintain their masculine images through aggressive behavior. There is much less written, but enough that it could profitably be brought together, on the masculine role that different societies associate with lack of

violence—priests, shamans, judges and perhaps many others, who may be masculine without being aggressive. Except for Ashley Montagu (1976), anthropologists have been backward in studying this problem. And Montagu's material deals almost entirely with small, peripheral groups that would seem to have been on the verge of extinction—many of them may have been exhausted rather than non-violent. Some anthropologists have certainly noted such matters about individual societies they themselves have studied, but surveys of this literature are hard to find.

There was a profound change in the cultural definition of masculine behavior in the United States in the late 1960s. It went along with dress alike styles: the message was that people did not have to take on agonistic roles in order to be masculine. Many of the older generation—and no small proportion of the younger generation—were disturbed by these changes. It seems just as apparent that, as this paper is written, we are in the middle of a back-swing.

(3) On an impressionistic level, it seems that in many societies with different cultural traditions a great deal of aggression occurs because there are few or no cultural norms providing honorable alternatives to aggressive acts. How much fighting do people—especially young boys—have to do because there is no honorable way to get out of it? I know of no study of face-saving devices, or how to improve or extend them. The material in the literature is sparse, but such a study, if it could be made, would be invaluable.

The degree of bellicosity of a culture may thus be directly associated with the fact that there is no other recognized way out of a situation in which violence is traditionally employed. The available data are few because few ethnographers have ever looked at the problem in this way. But it is obvious that bellicose values in culture have an immense impact on aggressive behavior.

CORRECTING THE SOCIAL STRUCTURE

We shall here mention only two devices that might be built into the social order for the purpose of reducing aggressive interaction: one of them involves particular methods for avoiding polarization (most often within large, particularly intercultural or international social situations); the other deals with law and order.

Complex groups must reach a state of polarization before war can breakout. I would like to see a study made of a number of wars, showing the steps by which such polarization occurred, with particular

attention paid to the choice points that led ultimately to the polarization and the resultant conflict. I think that struggles like the War Between the States and the Hundred Years War would provide a good beginning point because the polarization in those wars was never total. Many wars could then be examined in a comparative study to get a broad overview.

A common reaction to smaller scale, non-international situations in which our cultural values tell us there is "too much aggression" is likely to result in a demand for "law and order." An historical example is to be found in the reorganization of the police in the United States in the 1840s and 1850s after the phenomenal rise of the crime rate after the War of 1812. It is possible, today, to see that in those years the crime rate rose in response to the destruction of the traditional community and the problems attendant on the creation of decent living conditions in the new industrial city. The fact is that the crime rate rose precipitously. The police were not sensibly organized—in fact, they were scarcely organized at all. The tasks of maintaining order were piecemeal and poorly coordinated among a whole series of officials—constables, magistrates, night-watch, port guard, militia and others. When authorities attempted to create city-wide or state-wide police systems, there was violent opposition—not just from those with vested interests, but also from a civilian population who feared a police state even more than they feared the rise in the crime rate. "Liveried" policemen, they felt certain, would expropriate the civil rights of all citizens.

The police system in any country works as long as it takes into consideration a respect for social structure and culture, a certain degree of tolerance about human behavior, and the strictures of the evolved human organism. But human behavior can be constrained only so far. Choices that powerful political systems or leaders leave open to ordinary people may be narrowed and the price for certain of those options made very high. But people ultimately make their own choices, even as they feel constrained, even as they buckle under, hating themselves almost as much as they hate their oppressors. Thus, the limits of "law and order" are built into the somatic mechanisms of behavior, and burnished by experience and cultural value systems.

Social change, therefore, will always follow "too much violence" because such change is the result of a feedback mechanism, with the reference level for "too much" set by a working combination of biology and culture. If the resultant swing is too far in the direction of law and order—that is, if crime is reduced and anti-crime activities are

felt to be oppressive -the same kind of public and individual reaction occurs as happened with the rise of the crime rate: when political power becomes too oppressive, resistance will mount, requiring ever more oppression.

In short, "law and order" —whether it be "too much" or "too little" —will not work if it is out of proportion to the cultural experience and expectations. Yet, police systems have to be improved and their organization changed as society becomes more complicated and culture more developed. The imbalance is probably a constant feature.

CORRECTING THE EXPERIENCE

Every society has ideas about which particular violent behavior is understandable and forgivable. It would seem that this point puts the scientists in the same boat as the victims and the violators. Both experience the biological bases of violence and the cultural and social context of violent behavior. For the scientist, all violent behavior in which he can empathize with both victim and perpetrator is "understandable." If he can empathize with only the victim, then it is not. The standards of empathy may be -but may not be -quite different for the violent criminal or the victim.

As we all know, there are only two or three ways of "correcting" experience. One is by therapy, whether it be insight -based psycho -therapy, or social learning therapy, or operant conditioning. A second is by a sort of conversion experience -it need not be a religious one -that casts the past and one's part in it into a completely new light, causing the individual to think about his past experience in different terms, and hence changing both expectations and behavior. The third would seem to be extensive travel and immersion in a foreign culture, which provides a background and a basis for a new view of the self.

There is some doubt in my mind about a fourth alternative: the power of education in altering experience. Freud said some place that he had trouble remembering what he had learned and just as much trouble forgetting what he had experienced. Yet I am convinced that without some way of purposefully altering experience -that is, getting people to evaluate their personal history and their current lives by new and different criteria -we cannot fully succeed in altering behavior in such a way as to arrive at our social and cultural goals.

CORRECTING BEHAVIOR

Behavior seems not to be an independent variable in the way the foregoing topics are. Violent, aggressive behavior is, apparently, to be controlled by manipulating the other variables. Most often, attempts to change behavior have been built on the axiom that if you change the soma, or the culture, or the society, or the way we comprehend our experience, then behavior will "automatically" change.

I have found it convenient to use a simple tetrahedral model to examine these matters. The advantage is that a tetrahedron is a solid figure with four sides, each of which touches the others. The sides of the tetrahedron can be labeled: soma, society, culture and experience. Anyone who wants to try to control aggressive behavior is very likely to land firstly on one of the sides. Too often they forget that there are other sides, and that all the sides are connected. It may be that you cannot change aggressive behavior by changing only one side of the tetrahedron: every dimension may have to be altered. Each of these sides has been said to "cause" violent behavior, and attempts have been seriously made to try to alter them often in complete disregard for the other dimensions of the problem. Very few attempts have been made to change two dimensions, let alone the entire figure: almost nobody works on all the faces at once.

It is my contention that one of the problems underlying this conference is how to consider all the surfaces and angles of that tetrahedron (on which the biophysical dimension of man touches on every other dimension), as we discuss and evaluate human legal behavior.

In the rest of this paper, I shall review briefly how law fits into this matter of dealing with or altering aggressive behavior.

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AGGRESSIVE BEHAVIOR AND THE LAW

At this conference we are involved in examining the relationship between biological explanations of behavior and a particular set of cultural norms called "laws." Among the different kinds of somatically based behavior that require the attention of the legal profession, aggression ranks among the most important. In studying aggression in its multidimensional aspects, a major goal is to find ways to control and utilize the aggressive capacities of the human being for pro-social ends. We have to be sure that we involve every surface of the tetrahedron. A sub-question is, then: what is the relationship between

the biological dimensions of aggression (or of every other kind of behavior) and the functions of law?

Law can be seen as a cultural device that evolved to do two things at once: {1} socially it turns a conflicted or "adversary" dyadic relationship into a triadic group in which a third party intervenes in order to "solve" the conflict, thereby getting two surfaces (culture and society) into the picture, then {2} it reinstitutionalizes *some of* the *norms* of basic institutions like the family, the business firm or the political group into the realm of a more complicated, secondary institution, the jural institution. (This process of reinstitutionalization may, of course, work backwards - in complex societies such as our own, many innovations begin in the jural and legislative institutions and are then required to be institutionalized in the primary institutions.)

Thus, the law is a cultural means of controlling social relationships in such a way as to reduce physical aggression or solve the unacceptable results of aggression. Indeed, the law, as it is perceived in the Western world, is itself a very interesting tool to contain our biologically based aggression. It is founded, in Western societies, on what we call the adversary process (with aggressive behavior by competing parties), and it is triadic in nature: two-party conflicts are settled by the interference of a third party in the person of policemen and judges. Obviously, we know from legal anthropology that there are a lot of jural mechanisms for controlling aggression, even in our own society, that are not in fact triadic. But triadic forms are nevertheless central to all highly developed legal systems. Thus, if the principals do not bring their case before a judge, thus turning their dispute into a triad, the state or some other organization will do so. The law in complex societies supercedes disputes, but one of its basic concerns is with dyadic disputes - and it deals with them in a triadic way.

Aggression in the two-group can lead to death, to flight or to relationships of dominance and submission. The aggression may or may not be expressed as violence - indeed even violent acts of domination may be followed by reassurance or atonement. But when a third party is brought in, whether as a judge or as a peacemaker, the three-group is a solution to hostility into two-groups.

What, then, is aggression? Aggression among human beings is a drive originating in the brain; it may be triggered by hormonal and chemical processes; it may be inhibited or expressed under the influence of cultural values, social structures and past experience (the latter of which may include cost-benefit calculations concerning the social and cultural sanctions of a specific piece of behavior). Adversary

relationships are social relationships in which two aggressive persons claim conflicting rights. Bellicosity is the cultural norm of using aggression more or less freely to achieve given ends. Conflict can occur in the drives, in the experience, in the society or in the culture.

We are therefore talking about at least five different, if inter-connected, things: (1) the drive of aggression, as it is or is not (2) expressed in hostile behavior, in (3) adversary social relationships more or less in accordance with (4) bellicose or peaceful cultural values, and (5) the experience of the organism. When the law deals with aggression, it must necessarily deal with all of them, including the biological processes that are part of the experience.

In this view, the legal system is a cultural device for reducing hostile behavior to predictable social dyads in accordance with a set of cultural values that can be more or less bellicose. It sometimes takes experience into account, as it does when it defines extenuating circumstances. However, so far scholars and practitioners of law have paid little attention to the biological dimensions of aggression. Yet, effective legal sanctions - "good law" - should surely take all dimensions into account along with the other aspects. Legal behavior has foundations in biology just as it has in society and culture and psychology and history.

Law already deals with aggressive behavior on some levels. That it does not yet deal adequately with the somatic or biological dimension seems to concern all of us who are here. Law is traditionally concerned with behavior, with the principles and the content of social relationships, and with cultural values about peace, stability and conflict. So far little attention has been paid in the legal context to analysis of the biological foundation of aggression. But the facts are that this biological trait can be used for pro-social ends, that law is one of the fundamental human means for insuring a livable society, and that we need all the help from the profession of the law we can get.