should therefore be taken into account in all cases of heart failure (and other oedematous states), and should be prevented by potassium replacement or by giving spironolactones.

References

1 Starr, I., Jeffers, W. A., and Meade, R. H., *American Heart Journal*, 1943, **26**, 91.
2 Warren, J. V., and Stead, E. A., *Archives of Internal Medicine*, 1944, **73**, 138.
3 Futcher, P. H., and Schroeder, H. A., *American Journal of the Medical Sciences*, 1942, **204**, 52.
4 Threefoot, S., Gibbons, T., and Burch, G., *Proceedings of the Society for Experimental Biology and Medicine*, 1947, **66**, 369.
5 Landis, E. M., Brown, E., Fauteux, M., and Wise, C., *Journal of Clinical Investigation*, 1946, **25**, 237.
6 Merrill, A. J., *Journal of Clinical Investigation*, 1936, **25**, 389.
7 Mokotoff, R., Ross, G., and Leiter, L., *Journal of Clinical Investigation*, 1948, **27**, 1.
8 Brod, J., and Fejfar, Z., *Časopis lékařů českých*, 1949, **88**, 91.
9 Brod, J., and Fejfar, Z., *Quarterly Journal of Medicine*, 1950, **19**, 187.
10 Perera, G. A., and Berliner, R. B., *Journal of Clinical Investigation*, 1943, **22**, 25.
11 Barger, A. C., *Annals of the New York Academy of Sciences*, 1966, **139**, 276.
12 Carriere, S., Thorburn, G. D., O'Morchoe, C. C. C., and Barger, A. C., *Circulation Research*, 1966, **19**, 167.
13 Barger, A. C., Herd, J. A., and Sparks, H. V., in *Symposium on Congestive Heart Failure*, ed. H. L. Blumgart, p. 49. New York, American Heart Association, 1966.
14 Brod, J., Fejfar, Z., and Fejfarová, M. H., *Acta Medica Scandinavica*, 1954, **148**, 273.
15 Brod, J., Hejl, Z., Hornych, A., Jirka, J., Šlechta, V., and Buriánová, B., *Clinical Science*, 1969, **36**, 161.
16 Folkow, B., Frost, J., and Uvnäs, B., *Acta Physiologica Scandinavica*, 1948, **15**, 412.
17 Bearn, A. G., Billing, B., and Sherlock, S., *Journal of Physiology*, 1951, **115**, 430.
18 Martin, D. A., White, K. L., and Vernon, P. R., *Circulation Research*, 1959, **7**, 580.
19 Burch, G. E., *Archives of Internal Medicine*, 1956, **98**, 750.
20 Cohen, S. I., Bondurand, S., and Silverman, A. J., *Psychosomatic Medicine*, 1960, **22**, 106.
21 Sharpey-Schafer, E. P., *British Medical Journal*, 1961, **2**, 1589.
22 Brod, J., Přerovský, I., Ulrych, M., and Linhart, J., *Vnitřní Lékařství*, 1970, **16**, 420.
23 Myers, J. D., and Hickam, J. B., *Journal of Clinical Investigation*, 1948, **27**, 620.
24 Zelis, R., Mason, D. T., and Braunwald, E., *Circulation Research*, 1969 **24**, 799.
25 Fejfar, Z., and Brod, J., *Acta Medica Scandinavica*, 1954, **148**, 247.
26 Halmágyi, D., Felkai, B., Iványi, I., and Hetényi, G., *British Heart Journal*, 1952, **14**, 101.
27 Wood, J. E., Litter, T., and Wilkins, R. W., *Circulation*, 1956, **13**, 524.
28 Kramer, R. S., Mason, D. T., and Braunwald, E., *Circulation*, 1968, **38**, 629.
29 Brod, J., Hejl, Z., Ulrych, M., Fencl, V., and Jirka, J., *Kardiologia Polska*, 1968, **11**, 21.
30 Noseda, G., Bollinger, A., de Sépibus, G., and Bussmann, W. B., *Schweizerische medizinische Wochenschrift*, 1969, **99**, 350.
31 Schweitzer, P., Pivoňka, M., and Klvaňova, H., *Zeitschrift für die gesamte experimentelle Medizin*, 1967, **143**, 126.
32 Chidsey, C. A., Braunwald, E., and Morrow, A. G., *American Journal of Medicine*, 1965, **39**, 442.
33 Horster, M., and Thurau, K., *Pflügers Archiv für die gesamte Physiologie des Menschen und der Tiere*, 1968, **301**, 162.
34 Just, H., *et al.*, *Verhandlungen der Deutschen Gesellschaft für innere Medizin*, 1970, **76**, 153.
35 Deming, Q. B., and Luetscher, J. A., *Proceedings of the Society for Experimental Biology and Medicine*, 1950, **73**, 171.
36 Luetscher, J. A., and Johnsson, B. B., *Journal of Clinical Investigation*, 1954, **33**, 1441.
37 Davis, J. O., *Circulation*, 1962, **25**, 1002.
38 Davis, J. O., Urquhart, J., Higgins, J. T., Rubin, E. C., and Hartroft, P. M., *Circulation Research*, 1964, **14**, 471.
39 Wolff, H. P., *Acta Cardiologica*, 1965, **20**, 424.
40 Luetscher, J. A., Dowdy, A. J., Callaghan, A. M., and Cohn, A. P., *Transactions of the Association of American Physicians*, 1962, **75**, 292.
41 Laragh, J. H., *Circulation*, 1962, **25**, 1015.
42 Tait, J. F., Bougas, J., Little, B., Tait, S. A. S., and Flood, C., *Journal of Clinical Endocrinology and Metabolism*, 1965, **25**, 219.
43 Camargo, C. A., Dowdy, A. J., Hancock, E. W., and Luetscher, J. A., *Journal of Clinical Investigation*, 1965, **44**, 356.
44 Johnston, C. I., Davis, J. O., Robb, C. A., and MacKenzie, J. W., *Circulation Research*, 1968, **22**, 113.
45 Veyrat, R., de Champlain, J., Boucher, R., and Genest, J., *Canadian Medical Association Journal*, 1964, **90**, 215.
46 Fasciolo, J. C., de Vito, E., Romero, J. C., and Cucchi, J. N., *Canadian Medical Association Journal*, 1964, **90**, 206.
47 Genest, J., Granger, P., de Champlain, J., and Boucher, R., *American Journal of Cardiology*, 1968, **22**, 38.
48 Wågermark, J., Ungerstedt, U., and Ljungqvist, A., *Circulation Research*, 1968, **22**, 149.
49 Guyton, A. C., *Textbook of Medical Physiology*. Philadelphia, Saunders, 1971.
50 Kloppenborg, P. W., Benraad, T. J., and Majoor, C. L. H., *Acta Endocrinologica*, 1967, Suppl. No. 119, p. 93.
51 Duncan, L. E., Liddle, G. W., and Bartter, F. C., *Journal of Clinical Investigation*, 1956, **35**, 1299.

Scientific Basis of Clinical Practice

Violence: A Clinical Viewpoint

J. A. HARRINGTON

British Medical Journal, 1972, **1**, 228-231

Much confusion surrounds the closely related concepts of aggression and violence. Most authors agree that they are not synonymous and find it helpful to regard violence as an end point in a continuum of aggressive behaviour. Aggression has been defined as the determined pursuit of one's own interests. Violence, on the other hand, is the pursuit of such interests by force or the threat of force. If violence is to be interpreted as one of the ways in which aggressive drives are expressed, one has to distinguish violence from force. Force may be seen as controlled aggression which is limited in degree and appropriately directed to a specific goal. Violence, on the other hand, is more unpredictable in its course and mode of onset and is characterized by its more extreme nature and its more irrational patterns, so that the stimulus which provoked the violence and its goal orientation may be lost. Violent behaviour is frequently without obvious motive, apparently spontaneous, self-perpetuating, and capricious in nature.

The approach to violence varies with the particular discipline involved. The clinician's main concern is with the victims of violence. The social scientist usually focuses on measurement of violence in terms of its departure from normally accepted behaviour and will, for example, emphasize social class differences showing that wealthy and better educated people tend to have a less tolerant attitude to violence, whereas lower socioeconomic groups tolerate a much wider variety of violent behaviour. Anthropologists are concerned with cultural differences in violent and non-violent tribes, while ethologists and other behavioural scientists argue the pros and cons of the biological and environmental schools of aggressive behaviour.

Uffculme Clinic, Moseley, Birmingham
J. A. HARRINGTON, M.D., M.R.C.P., Consultant Psychiatrist and Medical Director

The layman tends to look at violence in terms of its end result, but nevertheless seeks the underlying motivation so that murderous violence is seen in quite a different light to slaughter on the roads. This paper is written from a clinical standpoint so that many social and cultural dimensions of violence are not considered. Even so, their omission does not mean they are not important in the overall picture of violent man.

One of the problems facing the clinician is how far can violence be regarded as a sociopathological phenomenon such as attempted suicide, alcoholism, and venereal disease to be studied as essentially alien to normal society. Few would claim that the violent should be regarded as sick and, like the drug addict, suitable recipients of medical treatment. The lumping of violence together with other forms of social deviance is based mainly on idealistic assumptions about the nature of society. To label all violence as deviant is obviously erroneous. Much violence is socially sanctioned. All societies have found it necessary to have degrees of legally sanctioned violence which are permissible for police work, in the armed Forces, or for the restraint of violently disturbed people. Controlled violence is very much a part of many sports and corporal punishment is still accepted by many people as a necessary corrective for children.

Psychological Theories

An important theory of violence based on the individual is the frustration/violence hypothesis—which says that, while frustration does not inevitably lead to violence, an act of violence always presupposes a frustrating situation. This theory derives mainly from studies of early child development and the observation in infancy and early childhood that aggressive destructive behaviour often follows when a child finds that he cannot have what he wants. Anything that delays, blocks, controls, or limits the satisfaction of a need or want leads to a state of infantile frustration, and the child may react in a destructive manner to any object which appears to come in the way of his satisfaction—for example, a toy that does not respond in a way the child wants—may be savagely destroyed. The abandonment of such infantile aggressive behaviour is not automatic and is learned largely by the limits and controls imposed by the parents. Whether or not a person in later life reacts in a similar violent manner to frustration may depend in no small measure on the degree of over or under control they experienced in early childhood. Either extreme may be linked with later violence.

Psychodynamic Theories

Psychodynamic theorists are currently more concerned with the roots of aggression than psychosexual development.

Freud's use of the death instinct to explain man's propensity for hatred and destruction has not been widely accepted or developed by his followers. Recent researchers on ego psychology throws some light on the problem, by highlighting ambivalence to the primary love object, which may be later reactivated by a symbolic parent figure. The desire for ego fusion and at the same time for separation from the love object leads to the introjection of the loved but also hated object, which remains repressed but a potential threat to the ego. This internalized love/hate object may erupt into an act of destructive violence under the stimulus of a new emotional relationship, or an interpersonal situation which directly or indirectly evokes the image of the frustrating parents. When the ego is weak or where the primary love object was a cruel parent who repeatedly humilated the child, splitting the ego may occur leading to a Jekyll-and-Hyde type of phenomena. Such an individual may present in one situation as a model of respectability but in another as a cruel sadist.

Other Defence Mechanisms

Other defence mechanisms which are important in the psychology of violence are displacement, whereby violent emotions may be transferred on to persons or objects quite different to the original source of frustration. Defences such as projective identification occur, where aggressive feelings are projected on to external objects which are then reflected and perceived as persecutory. The concept of narcissism is important in understanding the psychology of violence. The egocentric individual is most vulnerable to threats to his narcissistic ego and readily reacts with violence against imagined or real frustrations or humiliations. Some violent acts occur rather specifically as defences against the threat or actual breaking of a sex taboo, as in incest or homosexuality. These threats mobilize repressed ego alien impulses and by violent attacks on others the individual successfully denies the possible existence of the same tendency in himself (for example, "queer" bashing). Sexual violence is almost always connected with sexual incompetence.

Defects in superego development are also regarded as important in understanding the forces that normally inhibit violence. Violence is seen as more likely where there is an inadequate superego development and correspondingly less likely where it is adequately but not harshly developed. Adlerian theorists have also some comments on the problem of violence and have seen it as often linked with feelings of inferiority and fear of incompetence which if not compensated for by mastery over the fears of inner weakness and helplessness violent behaviour may result as an over-compensatory response. Anxiety is an important contributor and a combination of fear allied with hate is likely to find resolution in violent behaviour.

The great problem about these psychodynamic theories is, firstly, that their abstract nature often makes them difficult to comprehend and therefore unattractive and, secondly, that as hypotheses they are hard and sometimes impossible to prove or disprove—though they have considerable value in furthering understanding of violence in a particular individual. Violence is in many cases over-determined so that several mechanisms may be operating, and while one may be able to show some defect in the ego defence system one may also be able to show that the person has been subjected to indoctrination and taught to hate and use violence against a particular group of people as part of a natural repertoire of behaviour necessary for social survival.

Imitation

A commonsense explanation of violence is that it can be learned by imitation. Experiments have shown that children tend to imitate the aggressive behaviour of adults, not just from real life experience but from watching films and television. Quite a short exposure can enhance their physical aggressiveness for some months. Undoubtedly violent behaviour can be taught, and war experience has shown that an average citizen can quite quickly be schooled in violence but soon abandons violence when hostilities cease. It is not just a question of how violent behaviour can be learned or stimulated, but why in some it can be inhibited and controlled while in others it finds all too ready antisocial expression.

Personality Theories

Personality theorists have made some contribution to our understanding of violence. Their significance appears to be more clinical and descriptive than fundamental. Aggressive psychopathy once enjoyed widespread acceptance as a clinical concept, but critical scrutiny has revealed many problems and its value is now in doubt. Not only is it difficult to make any clear-cut distinction between an inadequate and an aggressive psychopath, but it is also hard accurately to predict further violence in any individual diagnosed as suffering from aggressive psychopathy. Inhibited timid individuals with obsessional

personality traits who normally never show any vestige of violent behaviour may react to a crisis with catastrophic expressions of violence. So violence is not the prerogative of any particular personality type. We know from statistical and epidemiological evidence that the violent are most likely to be young, male, and to live in an overcrowded part of a large industrial city, but this says nothing of their individual personality. It is possible to build up a picture of a typically violent-prone youth in the form of his likely background and development and other personality traits, but such descriptions have little heuristic value. To say a violent youth has poor emotional control begs the question.

Group Factors

The search for deeper and hidden areas of personal aetiology has tended to obscure the great importance of the group setting in which violence occurs. Violence frequently takes place in small or large groups, where it may flare up apparently spontaneously under the stimulus of group factors. Studies of crowd psychology show how susceptible people are to the influence of the crowd and how normally well-behaved people can indulge in acts of bestial violence under the influence of a lynch mob or a race riot. My own researches[1] have shown how easily violence can erupt in a football crowd. A football fan knows that being one of a large and excited group can summate his emotions, which may at one extreme reflect ecstasy and at another extreme rage. Under the influence of a crowd rational thought is lowered and the social forces that normally inhibit aggression are discarded. The anonymity of the mob allows the acting-out of hidden and previously repressed impluses.

It is in crowds that one sees most clearly the influence of heightened suggestibility. There is an element of contagion, so that a single act of violence can spread rapidly and violence seems to breed further violence, so that the witnessing of a violent display may serve as a stimulus for its spread. While undoubtedly our knowledge of crowd psychology is a substantial help in trying to explain certain acts of mass violence, it is of little use in our understanding of many acts of violence when group factors are operating—for example, the violent gang. Recent researches suggest that ill-defined groups which lack the structure and leadership of a violent gang may be more important and that intergroup factors may outweigh intragroup dynamics. This means that what happens between groups is more important than what happens within them.

Biological Theories

Many investigators support the theory that violence is an essential part of human nature and a natural expression of many innate aggressive qualities which must be accepted as non-alien in human nature. These theorists imply that to attempt to repress man's violence would not only be self-defeating and futile, but inherently dangerous and lead to social regression—for without free aggressive expression human society could hardly exist: it underlies all basic human relationships, personal bonding, and our social systems. Moreover, aggressive behaviour is also a force whereby human intelligence and creative ability have been developed.

Lorenz has been one of the main protagonists of these biologically positivistic theories of violence.[2] His animal studies show that violent behaviour is not primarily reactive and dependent on the appropriate external stimulus but can occur spontaneously and is therefore instinctual. He supports the general principle that the repression of aggression is more dangerous than if it is discharged and sees love and friendship as an evolutionary way of overcoming hostility and necessary to social dominance and rank order systems on which peace and harmony depend. Freud, and more recently Ardrey,[3] postulate man's violent potential as the main underlying reason for the development of civilization and its discontents.

Social systems develop largely as a compensatory response to man's destructive tendency and they are largely directed to controlling aggression. Psychotherapists such as Bettleheim and Storr emphasize the positive functions of aggression and violence and stress the differences of man from animals in his capacity for symbolic thinking and the unconscious forces which lead to man's unique capacity to project his aggression outwards and to see his own hostility as a product of others.

These positivistic theories of violence are rejected by other biologists—notably the Russells,[4] who see violence as not implicit in human nature but as the response to environmental stress like overcrowding. This view is supported by Scott,[5] whose experiments suggest that animals do not fight members of their own species except when aggression is provoked by a state of social disorganization. Gorer as a social anthropologist argues that man is not a born killer and that his violence is best understood in cultural terms.

One surprising feature of these different biological theories is the fact that they are usually put forward as in opposition, suggesting that they are mutually exclusive—so that if one is correct the other must necessarily be wrong. In fact, few logical arguments have been put forward to show that they are irreconcilable and any comprehensive theory of violence may need to take both into account as complementary rather than as in opposition.

Neurophysiology of Violence

Ever since the discovery that sham rage could be produced by transection of the brain stem rostral to the thalamus, there has been an increasing search for the neurophysiological correlates of violence. Recent work on the amygdala and the limbic system, together with work such as the electrical stimulation of imparted electrodes in the postlateral hypothalamus, throw some light on how the threshold for violence may be lowered or violent behaviour inhibited. It has even been suggested that these techniques could be applied to violent men on a large scale but the considerations of both ethics and cost make the use of surgically implanted electrodes a technique that can be used only in very few people. While these developments are of the greatest theoretical interest, the supposition of some researchers that all problems of violence can ultimately be solved in the experimental laboratory is naive.

From a clinical point of view one must consider the still unresolved dispute about the presence or absence of an association between epilepsy and violence. There is a strongly held belief that the epileptic is more likely to become violent than other people. Murderers as a group contain a higher proportion of epileptics than the general population.[6] Moreover, violent offenders, particularly where offences are of the unmotivated violent type, show more abnormalities of a non-specific type in their electroencephalograms.[7] A continuing argument about whether temporal lobe epilepsy has a special link with violence is unresolved. Gunn and Fenton[8] found that "idiopathic cases were sentenced for disproportionately more offences than other focal cases who were sentenced for fewer violent convictions." As they point out, undoubtedly many other factors apart from epilepsy influence the violent offender and his subsequent convictions.

Attempts to understand the other correlates of violence have on the whole been disappointing. Recent genetic studies which have suggested a link between some forms of violent behaviour and chromosome abnormalities have failed to stand up to critical examination. Hamburg[9] recently indicated that there may be other important areas of inquiry, particularly the endocrinology of violence. Noting the rapid rise in violence in youths after puberty, he suggests that levels of circulating androgens deserve further study.

Alcohol and Drugs

Undoubtedly alcohol plays an important part in catalysing violence. There has been one estimate that half of all violent crimes are associated with alcohol intake, and while this could be an over-estimate, undoubtedly it plays a very important part in some episodes of violent behaviour. It is not just a question of drinking, but drinking too much at the wrong time, in the wrong place, and in the wrong frame of mind. It is, too, a question of a little too much rather than much too much, as severe alcoholic intoxication may render a person physically incapable of violence. As one psychoanalyst put it, the superego is to a degree soluble in alcohol and this leads to a blunting of self-criticism and a loss of self-control. Both drink and violence can be seen as easy solutions to underlying emotional conflicts, as both may help to discharge pent-up emotions and tensions which have not found other methods of expression.

How far drugs can be implicated in violence is difficult to assess. There is some evidence that amphetamine intoxication may at times be associated with violent behaviour but more often than not this does not seem to be the case. Cannabis seems to be linked more with facility in withdrawal from interpersonal conflict, but one must not disregard the historical association of hashish with assassination. Heroin and other dangerous drugs have been implicated in violent crimes, but these appear to be secondary and generally due to the addict's need to obtain supplies by any means, be they violent or criminal.

Violence to Children and Babies

Babies who are battered by their parents and older children who are subjected to physical cruelty and violence by their families are very much the concern of the doctor. The term "battered baby" is an emotive label which has had so much publicity that it probably distorts our thinking about the whole problem of violence towards children. Nevertheless, it has alerted the family doctor to the possibility that the explanation the parents may give for a child's injury may be false and that the whole case deserves careful evaluation. True recognition of the problem has been surprisingly recent and it was not until 1960 that Adelson[10] wrote his classical paper, "The Slaughter of the Innocents."

The true incidence of violence towards children is unknown as many cases are not reported or recognized as such. Studies of violence to children under 5 have suggested that over half are less than a year old, with a mean age of 2 months. A substantial proportion suffer repeated injuries and where the first child is injured there is a strong likelihood that subsequent children will be similarly treated. Battering parents tend to be generally between 20 and 30 years old and to have evidence of long-standing emotional difficulties. While mothers are responsible for over half the injuries, many of the fathers have a history of crime and poor work records. The diagnosis of battering should be considered in any small child with recurrent and severe bruising coming from such a family background. There is evidence that children who are battered show disturbance of sleep and feeding, cry excessively, and respond poorly to attempts to comfort them. How far these features are a direct result of parental attitudes and how far they contribute to the violence is impossible to say, but there is a strong presumption that irritable babies are more likely to fall victims than placid ones. Court[11] lists premature babies, hypersensitive babies, and colicky and unresponsive babies as being especially vulnerable to violent abuse.

There has been much speculation and inadequate research about the psychopathology of the battering parents. The mothers may be very insecure and have wholly or partly denied their maternal role. They have definite unresolved independency needs, a strong tendency to morbid jealousy which is reflected in the fact that they see the baby as a rival rather than a subject for affection. Some mothers have been the subject of physical violence themselves in childhood.

Violence in Hospitals

The fact that some psychiatric patients are prone to acts of dangerous violence is common knowledge. But what is less obvious is that the proportion of such violent patients in relation to the psychiatric population as a whole is very small, so that the average modern psychiatric hospital contains only a handful of patients with seriously violent propensities. This is due partly to the fact that most violent psychotic patients are confined to a few special hospitals such as Broadmoor and partly to the current admission policy of most of our open psychiatric hospitals, which shows an understandable reluctance to admit aggressive psychopaths on the basis that such patients are untreatable or can only be treated adequately under conditions of proper security.

It is important to realize that the average psychiatric patient —be he psychotic or neurotic—is no more likely to violence than the population in the neighbourhood whence he came. Recent publications and inquiries point to the unfortunate fact that the problem of violence in hospitals is more likely to stem from the staff than the patients. In the past two decades there has been a considerable transformation in our mental hospitals and this has had a significant effect in reducing the amount of aggression and violence. Some observers have attributed this to the introduction of powerful psychotropic drugs such as the phenothiazines which have been shown to have a profound effect on overactive, restless, and aggressive behaviour. On the other hand, there is good evidence that violent behaviour on the ward is not necessarily the product of a disordered inner psyche or a response to a persecutory hallucination which can be abolished by drugs.

The current social situation on the ward is of great importance. The policy of open doors, increased freedom, and greater status and dignity for the patient has been accompanied by profound social and organizational changes in mental hospitals. The social environment is now seen as a vital therapeutic agent which may have much importance in reducing disturbed and violent behaviour. Where violent behaviour erupts in a psychiatric hospital, an analysis of the problem through group and community meetings can often show why a particular outburst occurred and how it might have been prevented. Studies have shown that the victims of criminal violence often contribute significantly to their subsequent attack. Likewise the understanding of violence in hospitals cannot be furthered without a close look at the dynamic interaction between staff and patients.

While violence is a serious problem that should concern everybody the doctor should not neglect his contribution through the clinical approach of diagnosis, treatment, and prevention.

This article is based on a lecture given in the Birmingham course under the title "The Scientific Basis of Clinical Practice" (see B.M.J., 27 November 1971, p. 510).

References

1 Harrington, J. A., *Soccer Hooliganism*. Bristol, John Wright & Son, 1968.
2 Lorenz, K., *On Aggression*, London, Methuen, 1966.
3 Ardrey, R., *African Genesis*, New York, Atheneum, 1961.
4 Russell, C., and W. S. M., *Violence, Monkeys, and Man*. London, Macmillan, 1968.
5 Scott, J. P., *Aggression*. Chicago, University of Chicago Press, 1958.
6 Hill, D., and Pond, D. A., *Journal of Mental Science*, 1952, 98, 23.
7 Stafford Clark, D., and Taylor, F. H., *Journal of Neurology and Neurosurgery, and Psychiatry*, 1949, 12, 325.
8 Gunn, J., and Fenton, G., *British Medical Journal*, 1969, 4, 326.
9 Hamburg, D. A., Sir Geoffrey Vicker Lecture, Mental Health Research Fund, *Journal of Child Psychology and Psychiatry*, 1971, in press.
10 Adelson, L., *New England Journal of Medicine*, 1961, 264, 1345.
11 Court, J., *Medical Social Worker*, 1969, 22, 11.