Homicide: A Medico-Legal Study of Thirty Cases

DOMINGO PAGAN, M.D., D.A.B.P.N.* and
SELWYN M. SMITH, M.D., F.R.C.P.(C)**

Introduction

Homicide has become a major public health problem, with a doubling of reported rates in the United States since 1960. Among males it is the tenth leading cause of death while for females it is the twelfth. Similar trends are reported from Canada.[8,19,22,31,39]

Extensive literature exploring and defining the phenomenon of violence and specifically the phenomenon of violent death has accompanied the rising homicide rates. Increasing rates of domestic violent crime have been attributed to alterations in the cultural matrix and permissive attitudes that allow for the ready expression of violence.[2,7,12]

Other studies have been presented emphasizing personality factors and patterns of murder.[6,10,15,16,21,24,42] Satten *et al.* mentioned a specific syndrome associated with senseless murders characterized by weakness of impulse control, blurring of the fantasy-reality boundaries, altered consciousness, shallowness of emotion and violent, primitive fantasies; such murders reveal emotional and physical deprivation in early childhood, and occur at times of increasing tension and disorganization.[33] Bizarre, cruel and neurotic relationships associated with fear-hatred and loyalty-jealousy dynamics characterized cases of parricide.[32] In another study, violent child rearing, a severe superego and an altered state of consciousness just prior to the act of homicide characterized the majority of murderers classified into dissociative, psychotic and syntonic types.[41] More recently, Simon has described five varied murder types – type A, type AB, type B, psychotic and felony murderers. Of heuristic value is the categorization of murderers into a developmental series related to the special type of relationship between the victim and the offender, as well as hypothesized underlying nuclear conflicts.[36]

Close or intimate relationships usually characterize a victim and his murderer, although in six per cent of cases homicide occurs during the perpetration of a felony.[45,46] In one quarter of cases, homicide may also be victim-precipitated.[9,45]

Organic factors, and in particular the dyscontrol syndrome, have

*Dr. Pagan is a board certified child psychiatrist who is presently Director of Juvenile Services at the Roxbury Court Clinic, Boston, Massachusetts. At the time this paper was written Dr. Pagan was a staff psychiatrist at the Royal Ottawa Hospital, University of Ottawa, Department of Forensic Psychiatry and Clinical Lecturer at the University of Ottawa, Ontario.

**Dr. Smith is Psychiatrist-in-Chief at the Royal Ottawa Hospital and Associate Clinical Professor at the University of Ottawa, Ontario.

contributed to an understanding of violent behavior and are important from a treatment perspective.[11] Murderers have a reportedly high incidence of EEG abnormalities usually associated with individual and family psychopathology.[17] Rarely automatism is responsible for violent crime.[13,14,35] Other prominent factors include inter-ictal aggression and post-ictal confusional amnestic states, as well as alcohol abuse.[3,4,34]

Subject and Method

Despite clinical descriptions of murderers, there has been no previous comprehensive study which has included both medical and psychological assessment. Because of this, the authors decided to undertake a clinical investigation of murder and any attendant medical-legal correlates. This paper reports on a preliminary study of individuals accused of murder, manslaughter and infanticide, referred for psychiatric evaluation to the authors at the Department of Forensic Psychiatry, University of Ottawa Faculty of Medicine, over approximately a two and one-half year period.

Subjects underwent detailed medical, neurological, psychological and other relevant investigations. Police evidence, photographs of the scene of the crime and the crown brief were also studied. Data was collected on each individual and presented in either written or oral evidence at the time of trial. Some subjects also underwent a polygraph examination and psychological stress evaluation, and these results have been reported elsewhere.[20]

This paper reports on a variety of characteristics of the murderer and his victim. From the data a profile of a murderer is constructed.

Results

Sex

Twenty-one cases (70%) were males and nine cases (30%) were females. Six (20%) and one (3%) of the cases involved women and men respectively who killed their own children. Eliminating infanticide and child battering cases, the sex distribution of the sample comprises twenty (87%) males and three (13%) females.

Age

The mean age of the study sample was thirty years and ranged from fourteen to seventy-nine years (see Figure 1). The mean age of the males was thirty-two and for females twenty-five years. The largest number of cases occurred in the third decade (33%); eighteen (60%) were below thirty years of age; twenty-six (87%) were under forty years of age.

Previous Criminal Record

Seventeen cases (57%) had a previous criminal record (defined as an arrest for a crime against property, person or sexual offense). Fifteen (50%) of these were males and two (7%) were females. Among females who killed their children, none had a prior conviction, and only one murderer, an adolescent, had a previous charge (conviction) of attempted murder.

Psychiatric and Drug History

Twenty cases (66%) had a positive psychiatric history (defined as previous crisis intervention, out-patient therapy or hospitalization). Fifteen (75%) of the males and five (55%) of the females had a positive psychiatric history.

Seventeen (57%) of the sample reported a positive drug history (defined as moderate ot heavy use of any abusive substance reported by the offender) comprising twelve (57%) of the males and five (55%) of the females. Alcohol was the drug most frequently abused, comprising twelve (70%) of the positive drug histories.

Intra-Familial Discord

Twenty-four (80%) of the sample reported intra-familial discord – defined as constant conjugal family or family of origin quarrelling, estrangement and/or physical abuse. Sixteen (76%) of males and eight (90%) of females possessed this type of history.

Marital Status

Fifteen individuals (50%) were single, twelve (40%) were married or living common-law, and three (10%) were divorced or widowed. Differentiation by sex reveals the distribution of 62%, 28% and 10% for the males and 23%, 66% and 11% for the females according to the above-noted categories.

Educational History

Twenty-nine (97%) revealed academic and/or behavioral difficulty in school. A wide scatter in the highest grades achieved was revealed, nine (30%) having completed grade eight or under and twenty-seven (90%) having completed grade twelve or under. Only seven (23%) completed high school. Two adolescents were still within the school setting at the time of their offense.

Intelligence Testing

Psychometric data (Wechsler, Ravens or Otis) was obtained on twenty-eight cases. Figure 2 reveals that twenty-six (90%) fall within/below the average/dull normal intelligence range.

Employment History

Figure 3 shows the employment status at the time of the crime. Seven (23%) were unemployed and fourteen (46%) revealed erratic, sporadic or scanty work histories.

Family History

Figure 4 shows the number of individuals with adverse family backgrounds (defined as abnormal pregnancy, developmental disorder, parental discord, parental psychiatric illness, parental anti-social behavior (arrest record) and alcoholism in the parents). Figure 4 reflects positive findings only; striking features are the relative absence of early difficulties in development, of prior psychiatric histories in the parents, of alcoholism in the parents and especially of reported anti-social behavior (arrest record) in the parents.

Characteristics of Victim

Seven (23%) of victims were pre-school children (one male, six females) and twenty (66%) were adults (fifteen males, five females).

Figure 5 categorizes the relationship of the victim to the murderer. Most victim-murderer relationships were either of the stranger-casual categories (57%) or of the family-spouse categories (40%).

The method of murder is of a strikingly violent nature, with shooting and stabbing the leading modes (57%).

Disposition

Tables II and III (see Discussion) show the disposition and diagnostic

categories of the offender.

Discussion

General Characteristics

In terms of both victims and perpetrator, homicide is predominantly a male crime. Our results show that most victims and perpetrators of homicide were male. This accords well with both United States and Canadian statistics, with two-thirds of victims being male and with the overwhelming majority of homicide suspects being male by a ratio of eight to one. Furthermore, the majority of victims were adults, a finding which was further amplified by eliminating the cases of infanticide and child battering and which is in agreement with the published statistics on murder victims in the United States and Canada.

Most perpetrators were in their third decade and more than half had a previous criminal record. The majority (57%) of offenders had a prior criminal record, a finding which is supported by Wolfgang's study of a large series of homicides in Philadelphia (1948-1952).[45,46] However, Wolfgang's data reveals a significant incidence of prior offenses against the person in the histories of the murders. Such a finding is lacking in this study, but Wolfgang's conclusion that homicide may represent the culmination of a life of violent behavior is a notable one supported by other aspects of this study, namely, the high percentage of concurrent drug use, of prior psychiatric history and of family discord.

In the present study, male offenders were likely to be single and females were likely to be married. This compares with Canadian statistics which show that one-third of all murder suspects are married.[39] Furthermore, the high percentage of married women in our sample reflects the nature of the crime committed by the women, namely, the killing of their own child.

The association between drug use, notably alcohol, and homicide is a noteworthy item in the present study. This finding parallels the national trends for Canada between 1961-1974; namely, forty-four per cent of murders in Canada during this period were associated with alcohol use. Furthermore, Canadian data reveals that alcohol-related homicide is more frequently associated with a close relationship between victim and murderer.[39] The finding that alcohol and some commonly prescribed drugs such as barbiturates are associated with homicide suggests that the focus of societal intervention would seem to belong on the legal rather than the illicit drugs in this regard.

There was an over-representation of poorly educated individuals, and this was associated with low intelligence, retarded educational progress and poor occupational status. This finding also accords well with Canadian statistics that demonstrate an over-representation of less educated persons among homicide suspects.[39]

Interestingly, there was an absence of anti-social conduct in the parents of offenders, a finding which contrasts with other literature suggesting an association with anti-social personality disorder in the families of criminal offenders. This difference may be related to the small sample and to the lack of complete histories on the family of offenders.

In our study, most homicide victims were strangers or casually related to

the murderer. This contrasts with other studies emphasizing familiarity between victim and assailant. When infanticide or child battering cases are excluded this trend is even more striking. Differentiating by sex, the data suggest that a male is most likely to be killed by a stranger or a casual acquaintance; and a female is most likely to be killed by her mother early in childhood. Canadian statistics for the years 1961-1974 show that a previously established social relationship comprised 69.5% of all murder incidents, with murder taking place within the immediate family comprising twenty-seven per cent; the categories of casual relationship (13.1%) and no known relationship (7.1%) comprise 20.2% of the murder incidents.[39]

The method of murder utilized by our subjects accords well with national statistics, with shooting, stabbing, strangling and clubbing being the most frequent modes.

Profile

The profile of the murderer emerging from this study consists of a single male in his third decade with a greater than average chance of a prior criminal record and psychiatric history. Drug abuse (notably alcohol) and family discord characterize his past. He has a poor education and employment skills; a family history reveals marital discord and an absence of parental antisocial behavior (arrest record); the victim is usually an adult male stranger or casual acquaintance who is killed by shooting or stabbing.

Child Murder

One-quarter of the homicides involved pre-school children. Two were infanticide and the remainder were charged with manslaughter. Of these cases, six child-victims were female and six child-murderers were women, supporting the suggestion that child battering is an act of collusion between parents with women carrying out the act of murdering their own children. Historically, infant killing has been regarded almost exclusively as a female crime, and folklore is replete with female-oriented symbolism in this regard.[28]

In fifteenth and sixteenth century Europe, homicide against infants was an adjudicable crime, the criminal groups comprising unwed mothers and old women (witches). Little attention was given to married couples, for they could readily avail themselves of episcopal absolutions.[43] Current difficulties in the psychiatric evaluation and legal processing of parents who murder their own children seem to reflect this historical behavior. The recent enactment of child welfare legislation, judicial reform, reporting statutes and improvement in children's rights do not overcome the tangled legal issues involved in prosecuting baby batterers. Our study showed that two parents (one male, one female) received prison sentences and five parents (all females) received dispositions linked to psychiatric treatment. The two cases of infanticide received probation conditional on treatment. The remaining five cases were classified as manslaughter and were adjudicated via psychiatric (three) and penal (two) dispositions. In these and other cases the future issue following disposition remains the ability to parent and the method of intervention.

It is interesting that the rising homicide rates of the last two decades parallel the increasing attention given by professional and public agencies to child abuse. Rosenfeld and Newburger state that in 1967, fewer than seven

thousand cases of child abuse came to the attention of the authorities but in 1974 there were more than two hundred thousand cases reported.[29] In Canada, the rate is estimated to be two hundred and fifty cases per million population.[1] In England, the estimated rate of severe attacks on children under five years of age is ten per hundred thousand population.[25]

The literature does not support the view that a particular personality profile exists for the abusive parent. In this study, the only obvious differentiation to be made between child murderers and adult murderers relates to sex. However, the psychology of violence and of abusing parents suggests that multiple factors are involved in the causation of violence on children. Violence towards children represents a social derivative of biological, psychological and cultural inter-action.[18,37,38]

TABLE I
CATEGORY OF HOMICIDE

	Murder	Manslaughter	Infanticide
Number of Cases	22	6	2
Age Type of Victim	Adult 19 Adolescent & Preadolescent 3	Child 5 Adult 1	Infant

TABLE II
DISPOSITION AND PRESENTING DIAGNOSIS

Insanity Defense (Section 16) (LGW)	1. Organic Brain Syndrome with degenerative disease of CNS & Epilepsy 2. Organic Brain Syndrome with Epilespy; Explosive Personality Disorder 3. Schizophrenia, Paranoid Type 4. Schizophrenia, Paranoid & Depressive Features 5. Organic Brain Syndrome with Epilepsy (Therapeutic Lobectomy) 6. Schizophrenia, Schizoaffective Type. Depressed with Paranoid Features
Adjudication with Diversion to Hospital (Boomhower)	1. Sexual Deviation, Necrophilia, Antisocial Personality Disorder 2. Antisocial Personality Disorder
Probation With Treatment	1. Manic Depressive Illness, Depressed Type 2. Post Partum Disorder (Depression) 3. Post Partum Disorder (Depression; Inadequate Personality) 4. Schizophrenia, Schizoaffective Type, Depressed
Penal	1. No Psychiatric Illness 2. Hysterical Neurosis, Conversion Type 3. Acute Alcohol Intoxication 4. Non-Psychotic OBS; Amphetamine; Chronic Hepatitis 5. Non-Psychotic OBS with Circulatory Disturbance; Alcoholism 6. Non-Psychotic OBS, Amphetamine 7. Antisocial Personality Disorder 8. Drug & Alcohol Dependency 9. Schizophrenia, Paranoid 10. Postpartum Disorder, Mild Depressive Illness 11. Explosive Personality Disorder; Alcohol Dependency
Acquittal	1. No Psychiatric Illness
Pending	1. Psychotic Depressive Reaction 2. Depressive Neurosis; Drug & Alcohol Dependency; Impulsive Personality 3. Explosive Personality Disorder (Accidental Killing) Probation 4. Antisocial & Paranoid Personality Disorder 5. Explosive Personality Disorder 6. Explosive Personality Disorder; Depression; Suicidal Ideation

TABLE III
DIAGNOSIS AND SUBSEQUENT DISPOSITION

Organic Brain Syndrome	1. Insanity Defense a. OBS with Degenerative Disease of CNS & Epilepsy b. OBS with Epilepsy; Explosive Personality Disorder c. OBS with Epilepsy (Therapeutic Lobectomy) 2. Probation with Treatment a. Postpartum Disorder; (Depression; Inadequate Personality) b. Postpartum Disorder (Depression) 3. Penal a. Acute Alcohol Intoxication b. Non-Psychotic OBS (Amphetamine); Chronic Hepatitis c. Non-Psychotic OBS with Circulatory Disturbance; Alcoholism d. Non-Psychotic OBS (Amphetamine)
Psychoses Not Attributable to Organic Condition	1. Insanity Defense a. Schizophrenia, Paranoid Type b. Schizophrenia, Paranoid & Depressive Features c. Schizophrenia, Schizoaffective Type, Depressed with Paranoid Features 2. Probation with Treatment a. Manic Depressive Illness, Depressed Type b. Schizophrenia, Schizoaffective Type, Depressed 3. Penal a. Schizophrenia, Paranoid
Neuroses	1. Penal a. Hysterical Neuroses, Conversion Type b. Postpartum Disorder, Mild Depressive Illness
Personality Disorders and Related Conditions	1. Adjudication with Diversion to Hospital a. Sexual Deviation, Necrophilia; Antisocial Personality Disorder b. Antisocial Personality Disorder 2. Penal a. Antisocial Personality Disorder b. Drug & Alcohol Dependency c. Explosive Personality Disorder
No Psychiatric Illness	1. Penal 2. Acquittal

Disposition

The diagnosis and disposition of the varied cases are summarized in Tables II and III. Twenty-four cases have definitive dispositions at this time. Table II reveals that the insanity defense is utilized successfully in severe psychiatric disturbance of an organic or functional nature; adjudication with diversion into a hospital setting is associated with a bizarre personality disturbance and with a child killing occurring amidst emotional deprivation and personality disturbance; probation with psychiatric treatment is associated with a severe acute psychotic disorganization associated with affective illness; in short, psychiatric intervention (disposition) is associated with severe personality disorganization and characterized by a gradient of treatment involvement related to clinical features, chronicity, prognosis and potential dangerousness.

Table III demonstrates that organic brain syndromes and functional psychoses have a wide representation among the disposition categories suggesting the importance of clinical evaluation in the individual case. Furthermore, we can appreciate that these diagnostic categories are frequently associated with psychiatric dispositions. On the other hand, neuroses and personality disorders are associated with incarceration.

Medical-legal literature highlights the inherent difficulty in psychiatric

evaluation of particular violent offenders in the context of the legal dichotomy of sane and insane murderers.[23,24] In this study, the disposition category "adjudication with diversion into a hospital setting" is based on a Canadian case (*Regina v. Boombower*) in which "the very circumstances giving rights to conviction indicated that appellant might be suffering from a mental disorder which made him a continuing danger to the community . . . that incarceration in a penitentiary would probably increase the anti-social attitude of the appellant and would provide no long term protection for the public . . . [the appellant] was so certified and committed under the act" (mental health act).[27] Furthermore, this data occurs in the context of a legal system which explicitly recognizes the insanity defense and which informally recognizes the concept of diminished responsibility. The formal recognition and codification of the concept of diminished responsibility would substitute a doctrine which focuses on the specific issue of whether a defendant actually possessed the requisite mental state associated with a particular crime, which allows all of the evidence available to assist in this determination and which circumvents the unwieldiness of the all or none insanity defense. Interestingly, English law has accepted the concept of diminished responsibility with the homicide act of 1957, but the ghost of McNaughton has lingered elsewhere.[23,44]

Conclusion

Obviously, criminal homicide, like all of human behaviors, is multi-dimensional. Varied studies offer particular glimpses of the overall phenomenon. A subculture of violence or particular subcultures of violence within the ubiquitous sea of violence may be observed, defined and perhaps anticipated. Observation, storage and retrieval of data relating to violence should be an item of high priority and should be linked to well financed, comprehensive and relevant preventive and rehabilitative systems of health legislation, judicial reform, penal reform and overall social reform.

Broadly speaking, societal concerns regarding violence consist of preventive, predictive and rehabilitative capacities. The preventive capacity is largely related to significant restructuring of cultural attitudes and institutions.

The predictive capacity is largely concerned with serving the present societal structure in dealing with potential violence. Much effort has been made to distinguish the violent from the non-violent individual without much accompanying success. This study highlights the relative absence of crimes against the person, and particularly of attempted murder in the study population. The literature is replete with references to the tendency of violent offenders to warn about the impending violent act, but such warning does not seem to have the import of the more widely accepted warning of the potentially suicidal individual. However, there are many difficulties inherent in the prediction of violence; for example, what degree of precision would be required from a process which would attempt to predict dangerousness and effect involuntary institutionalization? There may well be a tendency to err on the side of caution and institutionalize non-dangerous offenders; even so, however, an infrequent but overly tragic result of such a process will be the release of dangerous offenders who repeat violent acts.

Obviously, dangerousness has had increasing implications for the psychiatrist: namely, dangerousness is becoming more and more important in the involuntary commitment of mental patients under the varied mental health acts; dangerousness involves prediction; the capacity to predict dangerous conduct would appear to be no greater in the case of mentally ill persons than others; there is a lack of empirical support and research for the psychiatrist's ability to make predictions in this area.[5,26,30,40]

Finally, the rehabilitative capacity represents the healing aspect of the social structure. The medical-legal process bears a particular burden in this regard. "Simply put, the judicial phases can exacerbate or ameliorate the defects of personality related to the expression of violence" or "this raises the question of proper assessment of murderers for treatment."[36]

This study has presented general characteristics of a population of murderers with an attendant composite profile of a murderer. The profile that emerges is consistent with prior studies in varied regard, but also highlights the particular differences related to personality, family and social factors. Such findings speak for the need of greater observation, research and clinical assessment in this area. Moreover, while the study of murder has always fascinated mankind, we must be prepared to go beyond fascination to enlightened rehabilitation.

FIGURE 1
AGE DISTRIBUTION OF PERPETRATORS

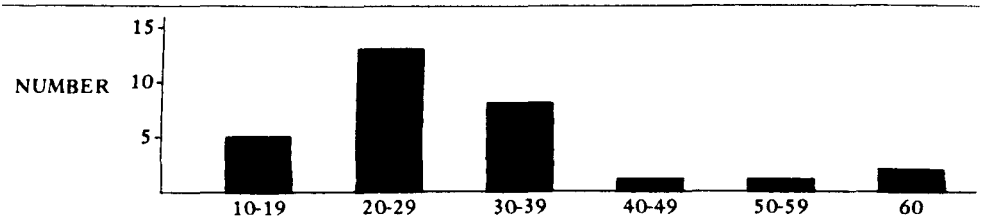


FIGURE 2
INTELLIGENCE TESTING

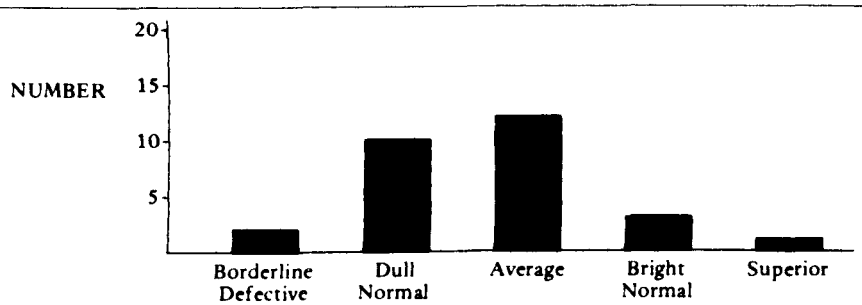


FIGURE 3
EMPLOYMENT STATUS

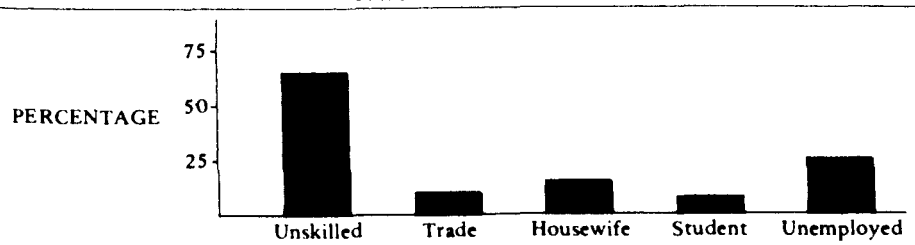


FIGURE 4
FAMILY HISTORY

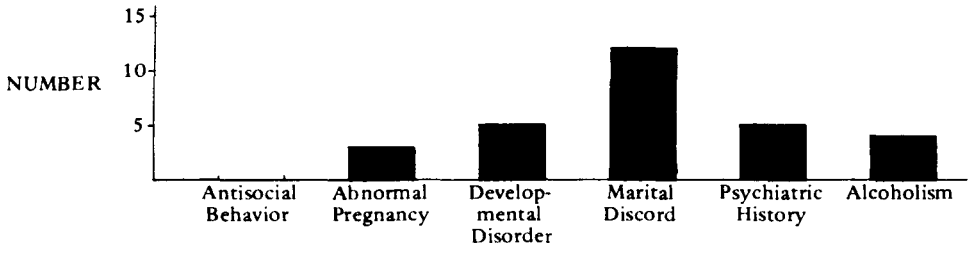
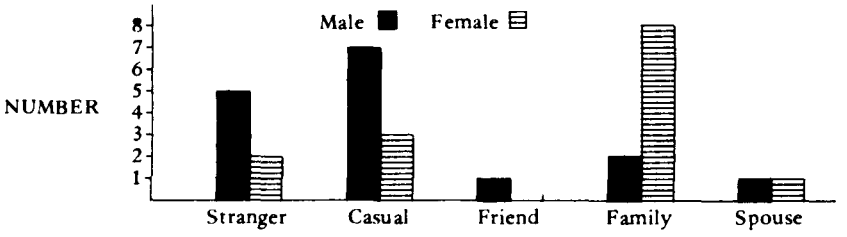


FIGURE 5
RELATIONSHIP OF VICTIM TO MURDERER



References

1. Anderson J: Extent of the problem. In: Child Abuse and Neglect. A Report to the Canadian House of Commons. Ottawa: Printing and Publishing Supply and Services, Canada, 1976
2. Archer D, Gartner R: Violent acts and violent times: a comparative approach to postwar homicide rates. American Sociological Review 41:937 (1976)
3. Bear D: The significance of behavioral change in temporal lobe epilepsy. McLean Hospital J June, 1977
4. Blumer D: Temporal lobe epilepsy and its psychiatric significance. In: Benson DF, Blumer D (ed.), Psychiatric Aspects of Neurological Disease. New York, Grune & Stratton, 1975
5. Butler Report. Chapter 4, Dangerous Mentally Disordered Offenders, HMSO, London, England
6. Cassity J: Personality study of 100 murderers. I J Crim Psychopath 2:296 (1941)
7. Coser LA: Continuities in the Study of Social Conflict. New York, Macmillan, 1967
8. Costantino J *et al.*: An epidemiologic study of homicides in Allegheny County, Pennsylvania. Amer J Epidemiology 106:314 (1977)
9. Dietz PE: Medical criminology notes #1: Victim-precipitated criminal homicide. Bulletin of the American Academy of Psychiatry and the Law 5:367 (1978)
10. Duncan G *et al.*: Etiological factors in first degree murder. JAMA 168:1755 (1958)
11. Elliott F: Neurological factors in violent behavior (the dyscontrol syndrome). Bulletin of the American Academy of Psychiatry and the Law 5:297 (1976)
12. Gil D: Violence Against Children: Physical Abuse in the U.S. Cambridge, Massachusetts, Harvard University Press, 1970
13. Gunn J, Fenton G: Epilepsy, automatism and crime. Lancet 1:1173 (1971)
14. Gunn J: Epileptic homicide: a case report. Brit J Psychiat 132:510 (1978)
15. Guttmacher MS: The Mind of the Murderer. New York, Farrar, Straus & Cudahy, 1960
16. Harlan H: Five hundred homicides. J Crim Law 40:736 (1950)
17. Hill D, Pond DA: Reflections on one hundred capital cases submitted to electroencephalography. J Ment Sc 98:23 (1952)
18. Helfer RE, Kempe CH: The Battered Child. Chicago, University of Chicago Press, 1968
19. Klebba AJ: Homicide trends in the United States, 1900-74. Public Health Reports 90:195 (1975)
20. Lynch B: Detection of deception: Its application to forensic psychiatry (unpublished) Department of Forensic Psychiatry, University of Ottawa, 1978
21. MacDonald JM: The Murderer and His Victim. Illinois, Charles C. Thomas, 1961
22. Metropolitan Life Insurance Company: Mortality from Homicide (U.S.). Statistical Bulletin, 1977, p. 2
23. Morris GH: Insanity Defense: A Blueprint for Reform. Maryland, Lexington Books, 1975
24. Neustatter WL: The Mind of The Murderer. London, Christopher Johnson, 1957
25. Oliver JE *et al.*: Severely ill-treated young children in north-east Wiltshire. Research report No. 4. Oxford Record Linkage Study. Oxford Regional Health Authority, 1974

26. Rector M: Who are the dangerous? Bulletin of the American Academy of Psychiatry and the Law. 1:186 (1973)
27. *Regina v. Boombower* (Ontario Court of Appeal). Criminal Reports C.R.N.S. 27:188
28. Resnick PJ: Infanticide. In: Howells JG (ed.): Modern Perspectives in Psycho-Obstetrics. New York, Brunner/Mazel, 1972
29. Rosenfeld AA, Newburger EH: Compassion vs. control. Conceptual and practical pitfalls in the broadened definition of child abuse. JAMA 237:2086 (1977)
30. Rubin B: Prediction of dangerousness in mentally ill criminals. Arch Gen Psychiat 27:397 (1972)
31. Rushforth NB *et al.*: Violent death in a metropolitan county. N Engl J Med 297:531 (1977)
32. Sadoff RL: Clinical observations on parricide. Psych Quarterly 45:65 (1971)
33. Satten J *et al.*: Murder without apparent motive. Amer J Psychiat 117:48 (1960)
34. Schupe LM: Alcohol and crime. J Crim Law 44:661 (1954)
35. Scott DF: Psychiatric aspects of epilepsy. Brit J Psychiat 132:417 (1978)
36. Simon RI: Type A, AB, B Murderers: their relationship to the victims and to the criminal justice system. Bulletin of the American Academy of Psychiatry and the Law 5:344 (1978)
37. Smith SM: The Battered Child Syndrome. London & Boston, Butterworths, 1975
38. Smith SM, Pagan D: The battered young child. In: Howells JG (ed.): Modern Perspectives in the Psychiatry of Infancy. New York, Brunner/Mazel, 1979
39. Statistics Canada: Homicide in Canada, A Statistical Synopsis. Ottawa, Information Canada, 1976
40. Steadman HJ: Implications from the Baxstrom experience. Bulletin of the American Academy of Psychiatry and the Law 1:189 (1973)
41. Tanay E: Psychiatric study of homicide. Amer J Psychiat 125:1252 (1969)
42. Tanay E, Freeman L: The Murderers. Indianapolis/New York, Bobbs-Merrill, 1976
43. Trexler RC: Infanticide in Florence: new sources and first results. History of Childhood Quarterly 1:98 (1972)
44. West DJ, Walk A: Daniel McNaughton: His Trial and the Aftermath. Kent, Headley Brothers Ltd., 1977
45. Wolfgang ME: Patterns in Criminal Homicide. Philadelphia, University of Pennsylvania, 1958
46. Wolfgang ME: A sociological analysis of criminal homicide. Federal Probation 23:48 (1961)