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**Evaluation of Selective  
Strategies  
for the Prevention of  
Criminal Homicide in China**

**Hui-Yu Li**

**May, 1993**

**Submitted to the Department of Criminology  
University of Ottawa  
in partial fulfillment of the requirements  
for the degree of Master of Arts**



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## Acknowledgements

Three years ago, when I sat in the class and met so many "foreign people" for the first time, I could not speak English fluently or communicate easily with them. I felt very frustrated. At that time, it was hard for me to imagine writing a thesis in English. Today, as I submit my thesis to the Department of Criminology at the University of Ottawa, I realize that this thesis became possible thanks to the kindness of those who assisted me in its preparation. It is with pleasure that I thank them for their invaluable assistance.

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Finally I would like to thank my family, particularly my husband, for their constant understanding, encouragement and support.

### Summary

The legal philosophy views human behaviour, including criminal behaviour, as influenced by

(a) predisposing factors: environmental influences, statuses, or other traits such as broken homes, low socioeconomic class, urban residency. Such predisposing factors simply make an individual much more likely be attracted to crime, or to other problematic behaviour(Holman & Quinn,1992);

(b) facilitating factors: alcohol, drugs, weapons. These factor often are present when crimes are committed, but do not actually cause crime. They are called facilitating factors because they increase the chance that a situation will lead to criminal violence(Conklin,1992); and

(c) inhibitory factors: factors ruling out potentially detrimental influences of predisposing factors, thus preventing actualization of criminal behaviour(Hart & Honore,1962, Jayewardene,1992).

The legal theory of crime causation postulates three main strategies for crime control:

a) increasing inhibitory factors (those which might prevent actualization of criminal behaviour). Here the death penalty plays a part.

b) reducing facilitating factors (decreasing the availability of the prerequisites for the offence). Gun control legislation may be employed to this end, since it decreases the availability of lethal weapons.

c) controlling predisposing factors. If these are known, medical intervention is supposed, in some points of view, to be able to rectify them.

Prevention of criminal homicide, like the prevention of most crime, takes two forms: first, the offender may be prevented from repeating an act; second: the non-offender may be prevented from ever committing his first criminal act. Within the framework of the legal perspective, there are therefore two different types of strategies that may be adopted: specific deterrence, directed at the offender after the act, and general deterrence, directed at potential offenders before acts are perpetrated. With respect to currently used strategies, the death penalty operates as specific deterrence, since it is of course imposed after the act. However, because of a supposed general deterrence, it is also thought to the potential offender.

The principle of general deterrence rests on the assumption that all persons are similar, and that threat of the death penalty will affect all members of a society equally. This, evidently, is not the case. Those who did not commit homicide are not necessarily those who were deterred by the death penalty or other penalties. In any and all populations there is a segment that is physically, psychologically, or environmentally incapable of committing homicide. The size of this segment of the population is not known (Jayewardene, 1972).

Gun control legislation is a strategy of reducing facilitating factors, directed at the general population and designed to prevent the commission of the act. Here, again, there is the assumption

that all persons are similar and that non-availability of prerequisite weapons will prevent the homicide. This, however, is not the case. Those who have committed homicide with weapons other than guns were not prevented by gun control legislation. Those who proceed with single-minded intentions to kill will find sufficiently lethal weapon, even their hands, if guns are not readily available(Cook,1982).

Medical interventions have been utilized, for offenders as well as for potential offenders. In both cases, however, a diagnosis of the anomaly must be first made. In the case of potential offenders, such a strategy requires investigating entire populations, an unrealistic and unfeasible project. The knowledge required to identify potential offenders before acts are committed is simply not available(Jayewardene,1992).

This study examines these three strategies, one of which at least has been adopted in most countries, and evaluates the available data to determine not just their effectiveness, but also the conditions under which they may be theoretically considered most effective. The intent of this study is to determine which of these strategies would be most suitable for the control of homicide in China.

## References

- Conklin, J.E. (1992) Criminology 4th Edition; Toronto:Maxwell Macmillan Canada.
- Cook, P.J. (1982) "The Role of Firearms in Violent Crime: An Interpretive Review of the Literature" in Criminal Violence (M.E.Wolfgang & N.A.Weiner, Eds.); Beverly Hills CA:Sage. (P.231-291)
- Hart, H.L.A. & A.M. Honore (1962) Causation in the Law; Oxford:Clarendon Press.
- Holman, J.E. & J.F. Quinn (1992) Criminology: Applying Theory; USA:West Publishing Company.
- Jayewardene, C.H.S. (1972) Crime and Society in Churchill; Ottawa:Centre of Criminology, University of Ottawa.
- Jayewardene, C.H.S. (1992) Criminology Theory: Biological and Psychological Aspects; Ottawa:University of Ottawa, Department of Criminology.

## I

Introduction

From earliest times, societies have reacted to what was considered to be wrong doing by their members. In non-literate societies, three types of wrongdoing were commonly defined, with each type producing a different reaction(Hoebel,1954). The first type of wrongdoing comprised tribal and sacral offenses such as treason, witchcraft and sacrilege, which were thought to endanger the entire society. These offenses, which occurred rarely, aroused the societal reaction of annihilation. The offender, as far as society was concerned, became non-existent: he or she was either put to death or exiled. According to popular beliefs, he or she was thought to be polluted; elimination of the offender was seen as a measure of social hygiene. Such a reaction was believed to please the gods, who presided over the welfare of the community.

The second group of wrongdoings were those inflicted on private individuals, by other individuals who were not members of the same family. Society reacted to these wrongdoings (currently defined as crime) by permitting the injured party to extract from the offender what ever recompense he or she wished and dared to demand. Often, this provoked feuds between families which may have lasted over generations and resulted in severe suffering.

The third group of wrongdoings were those inflicted by individuals on members of their own family. Even when the

wrongdoing was extreme or considered horrible, for example, the murder of parent or child, the societal reaction was one of disapproval and ridicule. This category of wrongdoings was seen as weakening the family sufficiently that to weaken it further by inflicting injury on the perpetrator would be foolish. Societal disapproval and ridicule, however, was keenly felt(Brown,1922).

With civilization, and the rise of kingship and king's authority, wrongdoing became a matter for public interest. Offenders, when discovered, might be killed or mutilated. Such punishments were designed to satisfy and halt blood feuds, to appease irate deities, to remove evil individuals from society (as a wild beast would be removed), to make offenders less expert in their criminal careers, or to mark them as possibly dangerous and therefore shunned(Lee,1901). With the further development of societies, there was a proliferation of possible societal reactions as well as alterations in the rationale for such reactions.

Three models subsume the present day societal reaction to crime, namely :

- (1) retribution and vengeance with justice;
- (2) punishment and deterrence; and
- (3) treatment and reformation.

According to the "retribution/vengeance with justice" model, criminal law does, and should, operate to "give distinct shape" to moral indignation toward, and hatred of, the criminal(Hart,1968). Justifying the response toward the criminal, following the doctrine of "an eye for an eye, a tooth for a tooth", is the concept of the

fairness of suffering a harm commensurate with the harm inflicted. Transgressors must be punished to satisfy a societal sense of justice. The tenets of this point of view are:

- (1) The criminal act is voluntary and morally wrong;
- (2) Punishment must fit the offence; and
- (3) Punishment must represent reciprocal suffering to the wrong-doer for a morally wrong act(Jeffery,1977:37).

Retribution/vengeance is a philosophical and moral position that focuses on past behaviour of a defendant, and not on his or her likely future behaviour. Some scholars have claimed, therefore, that it is not a form of control.

The "punishment/deterrence" model, defined in writings by classical theorists such as Bentham and Beccaria, Romilly and Feuerback(Jeffery,1977:17), is based on the notion that criminal law must ensure punishment to fit the offence, not the offender. As free moral agents, offenders choose to act so as to maximize pleasure and minimize pain. Adding an element of punishment would, it was believed, influence individual choice of behaviour.

The "treatment/reformation" model, according to Jeffery (1977) is the positivistic viewpoint which, in the nineteenth-century, became a "standard part of the criminal-justice system" based on "the application of behavioral-science principles to criminal law and criminal behavior", and represents the "mechanical crime prevention" approach(Jeffery:19). Applying scientific methods to the study of criminals and considering their biological and psychological characteristics, gave rise to the notion that persons

behaved antisocially because of some innate, inherent, or genetic characteristic. A legal-scientific viewpoint holds that such characteristics may be mechanically prevented or corrected, by intervention with respect to thought or behaviour patterns. This belief underlies many of the treatments used with prisoners.

Whatever model describes the prevailing societal reaction, be it the "retribution and vengeance with justice" model, the "punishment and deterrence" model, or the "treatment and reformation" model, the main aim is to reduce the incidence of crime. Whatever is done to an offender is not done to appease deities, to halt blood feuds, to separate and isolate criminals: it is done with the aim of preventing and controlling the incidence of criminal phenomenon. Society, in expressing moral indignation and hatred toward a criminal, conveys the message to all its members that they must refrain from committing crime. More explicit exhortations are made by reactions in the "punishment and deterrence" model, which operates to deter the conscious or unconscious cost-benefit analysis that is alleged to precede the performance of an act. In the "treatment and reformation" model, concerted efforts are made to change the attitude and behaviour of the offender.

Prevention, strictly speaking, is intervention in the natural sequence of events to block the occurrence of events that are considered undesirable. Preventive action, consequently, is action taken *a priori*. With increased understanding of the complexity of crime, and movement toward situational responses, "crime

prevention" is a term restricted to describe actions which:

- (1) are set in motion before, not after, a crime is committed;
- (2) focus on direct rather than indirect control over behaviour; and
- (3) focus on environments in which crimes are committed and on interactions between organisms and their environments, not on individual offenders(Jeffery,1977).

Interventions with offenders following the commission of crimes are not considered crime prevention. Yet, the main concept in support of any interventions after the commission of an offence, is reduction of the incidence of offenses, hopefully to zero level. Inflicted punishments are thought to prevent repetition by wrongdoers, and to prevent others from following his or her example.

Modern civilizations, in the material aspects of life, give increasing evidence of mastery of the forces of nature. In the field of human relationships, however, there has been significant failure to effect similar progress. Failure in the field of human relations is manifested in the persistence of crime and criminal behaviour. Highly ranked among the more significant manifestations of such failure is the prevalence of homicide: the slaying of one person by another. As a behavioral category, homicide includes various types of killing, legally subdivided into criminal and non criminal homicide categories, depending on circumstances surrounding the killing. Accidental killings, killings in self-

defence, and killings of prisoners attempting to escape fall into the category of non-criminal homicides; killings "with malice aforethought" and "assisted suicides" constitute criminal homicide. The law proscribes killings by "free, deliberate, informed act or omission". Killing is not criminal by individuals temporarily or permanently bereft of mental capacity at the time the act was committed, or if external circumstances (defined by law) warrant ignoring the dictates of law.

In Canada, criminal homicide falls into the following categories:

(a) Murder in the first degree: four types of killing are defined in Section 231 of the Criminal Code of Canada as murder in the first degree:

1. planned and deliberate killing of an individual;
2. killing a police or custodial officer in the line of duty, or killing a prison worker while acting in the course of his or her work therein;
3. killing committed in the course of committing certain criminal acts such as hijacking, kidnapping, forcible confinement or sexual assault; and
4. killing by persons previously convicted of first or second degree murder;

(b) Murder in the second degree: according to Section 231, this includes all murders except those previously defined as first degree murders;

(c) Manslaughter: defined in Section 232 as "culpable

homicide that would otherwise be murder" but where "the person who committed it, did so in the heat of passion caused by sudden provocation". The code states that "a wrongful act or insult that is of such a nature as to be sufficient as to deprive an ordinary person of the power of self control is provocation enough", if the individual acted immediately and before there was time for the passion to subside(Revised Statutes of Canada, 1985 (RSC-1985):C-46;S.231-232);

Infanticide, the killing of the newly born child by its mother, at one time considered a form of criminal homicide, is currently considered a distinct and separate crime if at the time the mother has not fully recovered from the effects of childbirth. Other offenses, which may be legally defined as "criminal negligence causing death" or "lesser offenses" such as concealing the body of a child, are not included in Canada in the classification of homicide(RSC-1985: C-46;S.233).

The criminal code currently operating in China, issued July 1, 1979, and put into effect on January 1, 1980, has as a basic principle the belief that inborn rights of individuals must be protected, and that no person or institution may be permitted to infringe upon those rights. Criminal sanctions are applied to those directly responsible for consequences of unlawful infringement. The code construes homicide as an infringement of those rights, and recognizes two categories of homicide: intentional and negligent. Punishment for the former is death, life imprisonment, or a fixed term of imprisonment of not less than

ten years; punishment for the latter is a fixed-term of not less than five years of imprisonment(P.R.China,1987). Such sentences may vary, however, according to individual circumstances. In the case of intentional homicide with mitigating circumstances, the penalty may be reduced to imprisonment for a fixed term of not less than three years and not more than ten years. In the case of negligent homicide with particularly odious circumstances, the sentence cannot be reduced to less than imprisonment for a fixed term of five-years. The code also provides sanctions for causing other bodily injuries.

Variations in the incidence of criminal homicide, from country to country, may be described as reflecting the "genus and genius" of its people. During the period from 1977 through 1987, average homicide rates in the United States were at 8.9 per 100,000 population (Table 1-1). In Canada, average rates during the same period were about one-third that of their neighbour(Statistics Canada,1987:81). Criminal homicide statistics may be subject to a number of errors such as under-reporting and under-recording, or police investigations which determine whether deaths are accidental, suicides, or homicides(Jayewardene,1960). Most occidental countries, however, consider police statistics of criminal homicide to be a relatively accurate measure of the phenomenon.

War with Japan, the civil war which followed and the establishment of a communist social order in China resulted in a low priority of concern for the determination of volume of criminality in that country. Statistical data on the subject was either not collected or not released. Since 1980, however,

Table 1-1  
Comparative Homicide Rates, Canada and the United States,  
1977-1987\*

Year	United States		Canada		Comparative ratio	
	Number	Rate	Number	Rate	U.S.	Canada
1977	19,120	8.8	711	3.1	2.9	: 1
1978	19,560	9.0	661	2.8	3.2	: 1
1979	21,460	9.7	631	2.7	3.6	: 1
1980	23,040	10.2	593	2.5	4.1	: 1
1981	22,520	9.8	648	2.7	3.7	: 1
1982	21,010	9.1	668	2.7	3.4	: 1
1983	19,310	8.3	682	2.7	3.1	: 1
1984	18,690	7.9	667	2.7	3.0	: 1
1985	18,980	7.9	704	2.8	2.8	: 1
1986	20,613	8.6	569	2.2	3.9	: 1
1987	20,096	8.3	642	2.5	3.3	: 1
Average	20,430	8.9	653	2.7	3.3	: 1

- \* 1. One "offence" is counted for each victim;
2. Rates are calculated on the basis of "per 100,000 population";
3. These data are supplied by the Uniform Crime Reporting Program, United States Department of Justice and Statistics Canada.

such data have been collected and published in the Law Annual. The quality of these statistics is unknown; certainly they are, as elsewhere, subject to the same errors of under-reporting and under-recording. Published figures for homicide (Table 1-2) demonstrate a relatively low incidence of homicide. However, due to the size of the population, the absolute number of persons dying at the hands of other persons is comparable to the number so dying in the United States, with a rate per 100,000 population about eight times that of China. What is significant about published homicide rates, however, is not that they are low but that, as in many other countries, they are rising.

Table 1-2  
Criminal Homicide Rate Of P.R.China  
1981-1988\*

Year	Number	Rate*
1981	9,567	0.96
1982	9,324	0.92
1984	9,021	0.88
1985	10,440	1.00
1986	11,510	2.10
1987	13,154	2.31
1988	15,950	1.93

\* Source "Law Annual of P.R.China,1989"

\* Rates are calculated on the basis of "per 100,000 population

According to legal philosophy, because of the nature of human beings -- they are seen as blessed with intelligence that permits self direction -- human action cannot be caused by events. However, human actions do result in events, and causal relationships can be established between events. An event can precipitate other events or effects, independently of whether or not the first event was the result of an action(Wright,1971). To illustrate this concept, the firing of a shot may be used. An individual is not forced to fire a shot by some external cause: it is his or her free, deliberate, and informed action. However, if the shot results in an injury and death ensues from that injury, then the injury is the cause of the death. The individual is then considered to have caused the death, since he or she started the chain of events by firing the shot leading to the death.

From a legal perspective, the act is the first cause in any series of events. The act itself is without cause(Wright,1974). Further from this perspective, an individual's decision to perform an act depends on his or her consideration of the pain and the pleasure that would accrue from the act. Certain other factors, however, may predispose, facilitate, or impede the performance of an act. The law takes into consideration, for example, opportunities for the performance of the act (the "second cause") and impediments to its performance (the "third cause")(Hart & Honore,1959, Jayewardene,1992). From the legal point of view, the factors that impinge on human behaviour are defined as follows:

(a) predisposing factors - factors which by themselves may

explain a significant portion of criminal behaviour. These constitute an integral part of an individual;

(b) facilitating factors - factors which by themselves cannot produce crime, but which add momentum to the delinquent process; and

(c) inhibitory factors - factors that may overrule the potentially detrimental influence of predisposing factors, and thereby prevent the actualization of criminal behaviour (Hart & Honore, 1959).

Following this philosophy, legislation has determined various interventions in an attempt to control homicide:

(a) outlawing certain actions and threatening the perpetrator with punishment;

(b) outlawing a series of other actions which are conceivably involved in the causal chain leading to homicide (acts which cause serious bodily injury but not death, acts which do not cause bodily injury but which are capable of causing such injuries and even death, and certain acts which, while not causing bodily injury, are incapable of producing the outlawed harm and are a necessary prerequisite for acts causing bodily harm or death.)

In many parts of the world, the penalty threatened for homicide is death. It is considered the maximum punishment that can be imposed on an individual. In countries such as Canada, where the death penalty has been abolished, convicted homicide offenders may be sentenced to life imprisonment, with parole

eligibility only after the offender has been incarcerated for a period of time (in Canada, up to twenty-five years for first-degree homicides).

The permanent or temporary removal of an offender from society has not succeeded in curbing the incidence of homicide. In most countries, there is a relentless increase in its incidence. In addition to threatening and inflicting the most severe punishments for homicide, in their effort to control its incidence many countries have also introduced gun control legislation which restricts the availability of lethal weapons. Recently, a further strategy has been adopted; in cases where homicide was attributed to neurochemical and hormonal disorders is, offenders have been subjected to various pharmacological treatments.

This study will examine these three strategies, evaluating the data available to determine the conditions under which they are theoretically considered effective, and their actual or apparent effectiveness. The data will be used to determine the possible suitability of these strategies for the control of homicide in China.

### References

- Brown, A.R. (1922) The Andaman Islanders; Cambridge:The University Press.
- Canada (1987) Homicide in Canada: A Statistics Perspective, (Statistics Canada) Ottawa:Supply & Services Canada.
- Canada (1985) Revised Statutes of Canada 1985 Vol.3.C-46. (S:231-233)
- China, The People's Republic of (1987) The Criminal Law and Criminal Procedure Law of People's Republic of China; Beijing:Foreign Languages Press.
- Hart, H.L.A. & A.M. Honore' (1959) Causation in Law; Oxford:Clarendon Press.
- Hart, H.L.A. (1968) Punishment and Responsibility; New York:Oxford University Press.
- Hoebel, E. Adamson (1954) The Law of Primitive Man: A Study in Comparative Legal Dynamics; Cambridge:Harvard University Press.
- Jayewardene, C.H.S. (1960) Criminal Homicide: A Study in Culture Conflict; University of Pennsylvania:Ph.D. Thesis.
- Jayewardene, C.H.S. (1992) Criminological Theory: Biological and Psychological Aspects; Ottawa:Department of Criminology.
- Jeffery, C. Ray (1977) Crime Prevention through Environmental Design; Sage Publications Inc.
- Lee, W.L.M. (1901) History of Police in England; London:Methuen.
- Wright, G.H. Von (1971) Explanation and Understanding; New York:Columbia University Press.
- Wright, G.H. Von (1974) Causality and Determinism; New York:Columbia University Press.

## II

The Death Penalty

In China as in all other countries, homicidal behaviour is intensely abhorred. Unfortunately, as in all other countries, this intense abhorrence of an act is demonstrated not by those persons who desist from the behaviour, but through the severity of the punishment that is threatened, and inflicted on those members of the population who indulge in that behaviour. Furthermore, the societal abhorrence of homicide is not manifested by the outlawing of all homicide. In all countries, a category of homicide (that committed under certain conditions) is not a crime: this includes the homicides described as excusable or justifiable. In addition, conditions under which the act is committed influence the severity of the offence which may be considered first degree murder, second degree murder where the culpability is lower, or death caused by rash and negligent action(s), where the culpability is further reduced.

Thought to be one of the most effective means of controlling criminal homicide, the death penalty has been and still is used extensively in the world. According to Amnesty International, in 1991 there were ninety-two countries and territories which retained and used the death penalty; in forty-four countries the penalty had been abolished for all crimes; in seventeen countries it was used only for ordinary (i.e. non-military, non-wartime) crime; and in

twenty-five countries, the penalty had not been used in the last ten years or more(Welsh,1991:1).

The People's Republic of China is one country which still retains and uses the death penalty. The current Criminal Law of China, issued by the Standing Committee of the National People's Congress of July 1, 1979, and implemented January 1, 1980, lists six ordinary offenses and nine "counter-revolutionary" offenses as capital offenses. The ordinary offenses include:

- (1) setting fires, breaching dikes, causing explosions, spreading poisons, or using other dangerous means that lead to peoples' serious injuries or death, or causing public or private property to suffer major losses(Article 106);
- (2) sabotaging means of transportation, transportation equipment, electric power or gas equipment, or combustible or explosive equipment, and causing serious consequences thereby(Article 110);
- (3) deliberate or intensive homicide(Article 132);
- (4) rape "when the victim is seriously wounded or killed"(Article 139);
- (5) robbery in circumstances causing "injury or the death of any person"(Article 150); and
- (6) embezzlement in "extremely grave cases"(Article 155).

The counter-revolutionary offenses are:

- (1) colluding with foreign countries to jeopardize the security of the motherland(Article 91);
- (2) plotting to overthrow the government and divide the

country(Article 92);

(3) inciting to defection or rebellion(Article 93);

(4) defecting to the enemy and turning traitor, when the circumstances are serious or where a group is led to defect to the enemy and turn traitor; leading members of the armed forces, people's police or people's militia to defect to the enemy and turn traitor(Article 94);

(5) being a ringleader in armed mass rebellion or of other persons whose crimes are monstrous(Article 95);

(6) being a ringleader in a mass prison raid or in organizing a jailbreak with others whose crimes are monstrous(Article 96);

(7) stealing, secretly gathering or providing intelligence for an enemy; supplying arms and ammunition or other military materials to an enemy; and taking part in a secret service or espionage organization or accepting a mission assigned by an enemy(Article 97);

(8) carrying on, for the purpose of counterrevolution, any of the following acts of sabotage: causing explosions, setting fires, breaching dikes, using technological or other means to sabotage military equipment, production facilities, communication or transportation equipment, construction projects, danger-prevention equipment or other public construction or articles of public property; robbing state records, military materials, industrial or mining enterprises, banks, shops warehouses or other articles of public property;

hijacking ships, airplanes, trains, bus or motor vehicles; pointing out bombing or shelling targets to the enemy; and manufacturing, seizing or stealing guns or ammunition(Article 100); and

(9) for the purpose of counterrevolution spreading poisons, disseminating germs, or by other means killing or injuring people(Article 101).

Since 1981, new legislation has made a further fourteen offenses punishable by death. An amendment to the Criminal Law issued March 8, 1982, provided the death penalty for such serious economic crimes as serious smuggling, speculative arbitrage, and speculation, serious theft, stealing and exporting precious cultural relics and extorting or accepting bribes. Another amendment, issued September 2, 1983, also made the following serious crimes capital offenses:

- (1) being a ringleader of criminal hooligan group, or of those who carry lethal weapons to engage in criminal hooliganism, where the circumstances are serious, or of those who engage in criminal hooliganism resulting in especially serious harm;
- (2) intentionally injuring the persons of others, causing a person's serious injury or death, when the circumstances are odious, or committing violence and doing injury to state personnel and citizens who accuse, expose or arrest criminal elements and stop criminal conduct;
- (3) being a ringleader of a group that abducts and sells people, or that abducts and sells people when the circumstance

are especially serious;

(4) illegally manufacturing, trading in, transporting, stealing or forcibly seizing guns, ammunition or explosives, when the circumstances are especially serious or when serious consequences are caused;

(5) organizing reactionary superstitious sects and secret societies, and using feudal superstitions to carry on counterrevolutionary activities that seriously endanger public security;

(6) luring, sheltering, or forcing women into prostitution, when the circumstances are especially serious;

(7) imparting criminal methods, when the circumstances are serious.

Although today nearly twenty ordinary offenses and nine political offenses may be punished by death in China, no offenders have been sentenced to death in the case of a number of these offenses, during the last ten years. No political offenders, for example, have been punished by death since the Cultural Revolution.

There are a number of arguments put forward in support of the death penalty. These are divided into two categories: moral and utilitarian. Among moral justifications is the argument that it is not only the right but also the duty of the state to punish homicide offenders by death, following the biblical diction of "an eye for an eye". Execution is thus considered retribution for an evil deed. Equally, executing the offender is thought to demonstrate society's condemnation of the offender's crime. These

arguments are matters of belief, and are not amenable to empirical verification(Sellin,1959). Currently, the major argument in favour of capital punishment is the utilitarian argument, that the death penalty has a deterrent effect, based on the belief that fear of death will keep people from committing serious crimes(Sellin,1959).

A common definition of deterrence is "the preventive effect which actual or threatened punishment of offenders has upon potential offenders"(Fattah,1976:9). Cooper expands the definition to include the prevention mechanism. Pointing out that the concept is concerned with human behaviour, and based upon behavioural theories that postulate the possibility of altering or regulating human conduct by taking measures designed to check, change or eliminate certain behaviours, he defines deterrent punishment as "any measure designed actively to impede, discourage, or restrain the way in which another might think or act"(Fattah,1976:9). Zimring gives an operational definition: the deterrent effect of a particular threat is the total number of threatened behaviours it prevents. However, Zimring's definition would make the quantitative assessment of the deterrent effect of any punishment quite impossible, since it can never be known how many persons actually refrain from committing a certain offence because of the threat of punishment(Fattah,1976).

The claim that the death penalty has a deterrent effect is based on certain assumptions about the nature of human beings:

- (1) Humans are rational beings, who can carefully calculate possible gains and losses before deciding upon their course of

action(Fattah,1976:10);

(2) Humans are hedonistic, attracted by pleasure and repelled by pain. In relation to the rough goals of ordinary human motivation, habits are developed and conduct is oriented, in fair part at least, by the search for pleasure and the avoidance of pain(Fattah,1976:10);

(3) Humans are free to choose alternative behaviours;

(4) Humans know in every case what is harmful to themselves;

(5) Humans are able to control their behaviour;

(6) Humans learn from their own experiences and from the experiences of others;

(7) Humans can be deterred by fear;

(8) Humans are knowledgeable of laws and sanctions.

These assumptions suggest that the public knows about acts prohibited by the law and have an idea about the penalties prescribed for such acts(Fattah,1976:12).

The propriety of capital punishment revolves round its deterrent power(Jayewardene,1977:9). This power can be divided into specific deterrence and general deterrence. Specific deterrence refers to the use of punishment to prevent offenders from repeating their offenses(Fattah,1976:13). Its effect is very significant as far as the death penalty is concerned. Once killed, a person is incapacitated forever and the deterrence "is one hundred per cent in as much as it successfully prevents those on whom it has been inflicted from ever repeating their act"(Jayewardene,1977:11). General deterrence refers to the use of

punishment to demonstrate to others what they can expect if they follow an offender's example(Fattah,1976:13). In theory, it is possible that some potential homicides are deterred simply by the knowledge that capital punishment exists. The assumption that a person takes into consideration the risks and consequences of engaging in any behaviour refers to rational acts, raising the question as to whether homicide is a rational act.

Empirical testing of the deterrent effect of the death penalty requires demonstrating that a relationship exists between punishment and the incidence of capital crimes. The argument is that if the death penalty exercises a deterrent effect, it should prevent people from committing homicide. The multitude of studies that have been conducted could be divided into a number of groups, depending on the manner in which this relationship has been operationalized and statistical techniques that have been utilized.

One set of studies explores the effect that actual executions has on the incidence of homicide. These studies have their basis in the contention that what matters is not so much the threat of punishment, but the extent to which the threat is actualized. This has been a criticism raised against various investigations of the deterrent effect of the death penalty, which focus on rates of capital offenses in jurisdictions with differing statutory provisions for capital punishment and rather than differing rates in its actual use(Gibbs,1968; Haag,1969; Bedau,1970). In some of the studies falling into this category, the occurrence of homicides has been compared before and after actual executions have taken

place. The argument here is that the deterrent effect of the death penalty is greatest immediately following an execution, when persons are most acutely aware of the threatened punishment. Executions were reported in the press, and it was assumed that this report gave the executions wide publicity.

Savitz (1958) studied the incidence of homicide during an eight week period preceding the pronouncement of the death penalty, and the eight weeks following its imposition, in five murder cases. There were twenty-three capital and twenty possibly capital crimes committed during the eight week periods before the pronouncement of the death penalty, and twenty-eight capital and thirteen possibly capital crimes committed during the eight weeks following the pronouncement of sentence. Graves (1964) studied the effect of executions in California, all of which were scheduled for Fridays. He compared homicides on days proceeding and following execution Fridays. Execution weeks had significantly more homicide on Thursdays and Fridays and significantly fewer on Saturdays and Sundays.

In other studies, homicide rates were related to the frequency of executions, the hypothesis being that the less frequently the death penalty is inflicted, the more likely it is to be considered an empty threat and the less likely is it to have any influence on homicide rates. The relationship was studied in the United States (Chambliss, 1967) and in Australia (Barber & Wilson, 1968). In the United States, the comparison dealt with the situation in the entire country, where there had been a steady decline in the

administration of capital punishment. Capital punishment ceased to be a mandatory penalty by 1964, and had been abolished in a number of states. In the states where the penalty was not abolished, there was a significant decline in the number of persons actually executed. The number of person executed in the whole of the United States was reduced from one hundred five (1951) to fifteen (1964) to seven (1965) and to one (1966). These changes were not reflected in the homicide rates; homicide rates during the 1951-1966 period remain more or less the same. In Australia, the comparison dealt with the situation in different states. It was shown that Queensland which had a rate of execution much higher than for all other Australian states, also had a homicide rate much higher than for all the others.

Echoing the criticism that most empirical studies of the deterrent effect of the death penalty consider only the legal status of the penalty and not its application, Ehrlich (1975) constructed a model whereby to study the relationship between homicide rates for the United States as a whole and rates at which convicted murderers were executed, using multivariate regression analysis. He attempted to isolate a purely deterrent effect of capital punishment by first computing an "execution risk": the conditional probability of execution. This computation considers the probability of arrest for homicide, the probability of conviction given the arrest, and the probability of execution given the conviction. He hoped to correlate risk and homicide rates, controlling for the influence of variables that might affect

homicide rates such as labour force participation, unemployment rates, and changing proportions of non-whites in the country. Using data for the period from 1933 to 1969, Ehrlich discovered that "on the average, the trade off between the execution of an offender and the lives of potential victims it might have saved was of the order of magnitude of one for eight for the period 1933-1967 in the U.S."

There are a number of aspects of this model which tend to render it meaningless. Most importantly, Forst (1977) found that when the proportion of convicts executed for murder fell from eight per cent to none, during the period from 1933 to 1969, the probability of arrest and the probability of conviction in the event of arrest moved in the opposite direction. In other words, execution tended to reduce and be counterproductive to arrest and conviction rates. One problem here, of course, is the peculiarity of the time period which Ehrlich chose to study to estimate the deterrent effect of the death penalty. When the period from 1965 to 1969 is eliminated from the analysis, a period when homicide rates increased dramatically and the use of capital punishment ceased, the impact of the conditional probability of execution on the homicide rate is not statistically significant(Forst,1977).

Ehrlich claimed that his study provided evidence refuting the hypothesis that the death penalty has no deterrent effect. It generated a number of similar studies which examined the value of execution as a punishment. A number of studies reexamined Ehrlich's data, others applied the Ehrlich model to examine other

data.

Studies reexamining his data claim that Ehrlich fails to demonstrate reliable evidence of a deterrent effect of the death penalty(Bowers, William & Pierce,1976; Passell & Taylor,1976). These studies argue that Ehrlich's research was deficient, that his data was inadequate for the purposes of his analysis(Bowers & Pierce,1976; Passell & Taylor,1976). For the measure of the variables at the core of his theoretical analysis, Ehrlich relies on the Federal Bureau of Investigation (FBI) Uniform Crime Reporting System (UCRS). According to the report of the National Commission on the Causes and Prevention of Violence, the FBI national homicide statistics collected in the early years of the UCRS are unreliable(Bowers & Pierce,1976; Hann,1976).

It was further argued that the statistical techniques used by Ehrlich were misapplied(Passell & Taylor,1976; Bowers & Pierce,1976; Hann,1976). Studies applying Ehrlich's regression technique to other comparable data demonstrate that his evidence of deterrence emerges only under restrictive assumptions about the types of relationships among the variables, excluding consideration of any relationship that could conceivably reverse his finding(Bowers & Pierce,1976; Hann,1976). These also demonstrate that findings are extremely sensitive to the time period analyzed. All studies attempting to replicate Ehrlich's findings, using data from different time periods, failed to reproduce his results(Hann,1976).

In summary, reexamination indicates that Ehrlich's work is not

a reliable basis for inferring deterrent effects of capital punishment on the criminal homicide, and contributes little to the capital punishment deterrence issue (Bowers & Pierce, 1976; Passell & Taylor, 1976).

Bailey (1976) examined the relationship between execution rates and homicide rates for the retentionist states, cross-sectionally and longitudinally, during the period from 1910 to 1967. With the exception of a few states and a few years, analysis utilizing the rectilinear regression model and a power function showed that executions, as practised over those six decades, were generally unrelated to levels of homicide. The relationship remained basically unaltered when a number of socio-economic and demographic factors associated with homicide were introduced as control variables. Using multiple regression analysis, and controlling for variables such as the changes in a state's non-white population, male populations, unemployment rater, urban population densities, and proportions of the population aged twenty to forty, Bailey examined the effects of executions on homicide rates in California (Bailey, 1979a), Oregon (Bailey, 1979b), North Carolina (Bailey, 1978a) and Utah (Bailey, 1978b). He also explored the effect of lagged execution rates and reported the results for both ordinary and two-stage least squares. Whatever the method used, the results demonstrated that executions are invariably unimportant in predicting homicide rates.

Using a single equation model and the execution rate during the period from 1955 to 1959, Cloniger (1977) found a significant

negative effect on homicides in thirty two non-southern states during 1960. No such effect was found in sixteen southern states. The results of the analysis implied that in Ohio, the number of homicides would have reduced from three hundred eleven to forty if only one more murderer had been executed during the 1955-1959 period. Another similar study conducted earlier had led to the conclusion that each execution prevented one hundred fifty six murders(Yunker,1976). Similar studies, however, failed to replicate these findings(Knorr,1979; Forst,1977).

"Before and after" comparisons have also been made for homicide rates in jurisdictions that have abolished the death penalty more recently. Samuelson (1969), in his attempt to determine why Delaware reinstated the death penalty in 1961 after abolishing it in 1958, made such a comparison and found that the homicide rates were not affected by the abolition. In Canada, however, increases in murder rates were reported immediately following the suspension of the death penalty in 1962. The statistics analyzed to determine whether there was an increase in the incidence of murder following the non-use of the death penalty showed an increase, but that increase could not be interpreted as an effect of the suspension. McDonald (1969,1971) attributed the increase in murder rate to an increase in cases of homicide being dealt with as murder that would have been dealt as manslaughter prior to the suspension. She pointed out that during the period from 1955 to 1960, when there was an increase in the murder rate, there was no discernible increase in the manslaughter rate; when

murder and manslaughter rates were combined, the increase was in convictions not for murder but for the lesser offence of manslaughter. This suggests that the police included in the category of murder a large number of manslaughter cases. She also found that when murder rates were computed using conviction rates, there was no increase in the murder rate.

Fattah (1972), after an extensive analysis of the patterns of criminal homicide and violent crimes in different provinces in Canada during the period from 1961 to 1970, concluded that an increase in criminal homicide rate could not be attributed to suspension of the death penalty, but rather to other factors in the total social situation which increased the propensity of the Canadian population to resort to violence. Schloss and Giesbrecht (1972) in their analysis of the murder statistics from 1961 to 1970, hypothesized that four factors were all responsible for the increase. These were:

- (1) adjustment in the techniques of collecting and reporting murder;
- (2) changes in the manner of classifying homicides;
- (3) revisions of the law that influenced the penalty that could be expected by those contemplating murder; and
- (4) variations in social behaviour such as the level and type of criminal activity, social mobility, and forms of social interaction.

An econometric model was used by Avio (1979) to test the deterrent effect of the death penalty in Canada. Incorporating the

unconditional probability of arrest, the probability of conviction conditional to arrest, the expected length of sentence of convicted murderers conditional upon conviction and commutation, and the probability of execution, conditional upon conviction, into his model, he found that data for the period from 1920 to 1960 provided little evidence of an independent deterrent effect. Only the unconditional probability of arrest bore any statistically significant relationship to murder. His study was replicated by Layson (1983), who included additional data up to 1977. His study provided evidence of a deterrent effect. Layson attributes to the truncated sample used by Avio the difference in the results obtained.

Another set of studies were conceptualized in terms of the magnitude of the homicide problem in retentionist and in abolitionist jurisdictions. The simplest form was to compare homicide rates before and after the abolition of the death penalty, in jurisdictions where the death penalty had been abolished. Over the years, before the recent trend toward abolition began, the death penalty was abolished in a number of countries, in some even for a second conviction. The deterrent hypothesis suggests that rates of homicides should demonstrate an increase after abolition, and, if the penalty were reinstated, a decrease and return to original levels. While these countries which had experimented with the death penalty appeared to offer an opportunity to test the deterrence hypothesis, the nature of statistical data concerning whether the death penalty was in abeyance tended to reduce the

value of a "before and after" comparison. Nevertheless, it was attempted(United Kingdom,1930,1954; Schuessler,1952; Sellin,1967). The comparison does not demonstrate that the expected relationship exists. In one jurisdiction (Denmark) abolition is actually associated with a significant decrease in homicide rates(United Kingdom,1954).

The "before and after" comparison has been criticized on the ground that it compares the incidence of homicide in two different periods, when socio-economic conditions may have differed. An improved model that has come to be called the "with/without, before/after" model, involves comparing homicide rates for the same time period, in retentionist and abolitionist jurisdictions, both before and after the abolition in the abolitionist jurisdiction. The expectation is of course that the deterrent effect of the death penalty would keep stable the incidence of homicide in retentionist jurisdictions, while its absence in abolitionist jurisdictions should permit incidence to soar during the same time period. Rates are compared before abolition, to establish the similarity between jurisdictions being compared.

This method was used by Sellin (1959,1964,1967 & 1980) in his study of the situation in the United States. Because Sellin felt differences in culture, social, economic and political conditions as well as in the genius and genius of the people in the retentionist and abolitionist states might tend to introduce an error, he limited his comparison to contiguous abolitionist and retentionist states. He studied four sets of three states each,

first with data covering the period from 1920 to 1955(Sellin,1959), then with data covering the period from 1920 to 1958(Sellin,1964), then with data for the period from 1920 to 1963(Sellin,1964) and finally with data for the period from 1920 to 1974(Sellin,1980). He found that rates in different regional clusters were dissimilar, that rates and trends in states in the same regional cluster were similar, and that it was impossible to identify the abolitionist state in a regional cluster by level or trends in homicide rates. Comparability of states in clusters was also tested by Baldus and Cole (1975). Whatever differences they found were generally small and did not affect observed homicide rates.

Other comparisons of situations in contiguous retentionist and abolitionist jurisdictions have been made. Reckless (1969) compared rates for murder, aggravated assault, and combined major crimes of violence in nine contiguous abolitionist and retentionist states, using data from the 1967 Uniform Crime Reports. As contiguity cannot apply to Alaska, it was linked with Nevada which, like Alaska, is a large state with a small population. Conceding that the comparison were not completely justified, he nevertheless concluded that the data does not support the deterrent hypothesis as rates were lower for abolitionist states in five of his contiguous pairs, higher in two, and relatively similar in the remaining two. Another study of contiguous abolitionist and retentionist states was conducted by Bailey (1976a) using data from forty two states, for convictions for first and second degree murder and commissions to state penal institutions in 1967 and

1968. Abolitionist and retentionist states compared were similar on a number of socio-economic and demographic factors, thus meeting the objection that contiguity did not make the compared states sufficiently similar. He found the rates in the retentionist states (with one exception) to be higher than those in contiguous abolitionist states.

There exists little or no scientific evidence supporting the claim that the death penalty deters murder. This does not mean that it is not deterrent. Murder is a complex phenomenon; its quantity and quality differ as society develops and the situation of its members changes. A number of factors both in the individual and in society influence the propensity to murder, making it almost impossible for a researcher to estimate the effect of any one factor(Sellin,1980). Deterrence is an equally complex phenomenon, influenced by a multitude of factors. There are factors relative to the infliction of punishment such as its severity, its certainty, the swiftness with which it is inflicted, and the publicity that is given its infliction(Fattah,1976). There are also factors related to the target of such punishment, which include:

- (a) individual personality;
- (b) possible mental dysfunctions(Zimring,1971);
- (c) individual socialization;
- (d) an individual's status in society, and his or her attitude toward authority(Zimring,1971).

As Passell (1976) has pointed out "it cannot be proven that

executions do not serve as a deterrent to murder. Proof is simply beyond the capacities of empirical science". Reiterating this sentiment, Hann (1976) hastens to add "if a number of studies produce the same answer, it could be assumed to be correct". As Zeisel (1977) claims, the question that remains unanswered is whether deterrence is only a functional rationalization that clothes the death penalty, made attractive by a belief in retributive justice.

## References

- Avio, Kenneth L. (1979) "Capital Punishment In Canada: A Time Series Analysis of the Deterrent Hypothesis" in Canadian Journal of Economics; November, 1979. (P.647-676)
- Bailey, William C. (1976) "Murder and Capital Punishment: Some Further Evidence" in Capital Punishment in the United States (Hugo Adam Bedau & Chester M. Pierce, Eds.); New York:AMS Press Inc. (P.314-335)
- Bailey, William C. (1976a) "A Multivariate Cross Sectional Analysis of the Deterrent Effect of the Death Penalty"; Paper: American Society of Criminology.
- Bailey, William C. (1979a) "The Deterrence Effect and the Death Penalty for Murder in California" in California Law Review (Southern); Vol.52. (P.734-764)
- Bailey, William C. (1979b) "Deterrence and the Death Penalty for Murder in Oregon" in Willamette Law Review Vol.16 (P.67-85)
- Bailey, William C. (1978a) "An Analysis of the Deterrent Effect of the Death Penalty in North Carolina" in North Carolina Central Law Journal; Vol.10. (P.29-49)
- Bailey, William C. (1978b) "Deterrence and the Death Penalty for Murder in Utah: A Time Series Analysis" in Journal of Contemporary Law; Vol.5. (P.1-20)
- Baldus, David C. & James W.L. Cole (1975) "A Comparison of the Work of Thorsten Sellin and Isaac Ehrlich on the Deterrent Effect of Capital Punishment" in The Yale Law Journal; Vol.85. (P.170-186)
- Barber, R.N. & P.R. Wilson (1968) "Deterrent Aspect of Capital Punishment and its Effect on Conviction Rates: the Queensland Experience" in Australian and New Zealand Journal of Criminology; Vol.1. (P.100-108)
- Bedau, Hugo Adam (1970) "Deterrence and Death Penalty" in Journal of Criminal Law and Criminology; Vol.61.No.4. (P.539-548)
- Bowers, W.J., C. William & Glenn L. Pierce (1976) "The Illusion of Deterrence In Isaac Ehrlich's Research on Capital Punishment" in Capital Punishment in the United States (Hugo Adam Bedau & Chester M. Pierce, Eds.); New York:AMS Press Inc. (P.37-396)
- Cloniger, D.O. (1977) "Deterrence and the Death Penalty: A Cross Sectional Analysis" in Journal of Behavioral Economics Vol.6. (P.87-106)
- Chambliss, W.J. (1967) "Type of Deviance and the Effectiveness of Legal Sanctions" in Wisconsin Law Review; Vol.3. (P.703-719)
- Ehrlich, Isaac (1975) "The Deterrent Effect of Capital Punishment: A question of Life and Death" in American Economic Review; Vol.65. (P.397-417)
- Fattah, E.A. (1972) A Study of the Deterrent Effect of Capital Punishment with Special Reference to the Canadian Situation; Ottawa:Information Canada.
- Fattah, E.A. (1976) "Deterrence: A Review of the Literature" in Fear of Punishment: Deterrence; Ottawa:Law Reform Commission Centre.
- Forst, B.E. (1977) "The Deterrent Effect of Capital Punishment: A Cross State Analysis of the 1960s" in Minnesota Law Review; Vol.61. (P.743-767)
- Gibbs, J.P. (1968) "Crime, Punishment and Deterrence" in Southwestern Social Science Quarterly; Vol.48. (P.515-530)
- Graves, W.F. (1964) "The Deterrent Effect of Capital Punishment in California" in

- The Death Penalty in American (Hugo Adam Bedau Eds.); Garden City:Anchor-Doubleday. (P.322-332)
- Haag, E. van den (1969) "On Deterrence and the Death Penalty" in Journal of Criminology; Vol.60. (P.141-147)
- Hann, Robert G. (1976) Deterrence and the Death Penalty : a Critical Review of the Econometric Literature; Published under the Authority of the Honourable Francis Fox, Solicitor-General of Canada.
- Knorr, S.J. (1979) "Deterrence and the Death Penalty: A Temporal Cross Sectional Analysis" in Journal of Criminal Law and Criminology; Vol.70. (P.235-254)
- Jayewardene, C.H.S. (1977) The Penalty of Death: The Canadian Experiment; Lexington:Lexington Books.
- Layson, Stephen (1983) "Homicide and Deterrence: Another View of the Canadian Time Series Evidence" in Canadian Journal of Economics; February,1983. (P.52-73)
- McDonald, L. (1969) "Crime and Punishment in Canada: A Statistics Test of the Conventional Wisdom" in Canadian Review of Sociology and Anthropology; Vol.6. (P.212-236)
- McDonald, L. (1971) "Is the Crime Rate Increasing?" in Critical Issues in Canadian Society (L. Boydell, G.F. Grindstaff & P.C. Whitehead, Eds.); Toronto:Holt, Rinehart & Winston. (P.467-478)
- Passell, Peter & John B. Taylor (1976) "The Deterrence Controversy: A Reconsideration of the Time Series Evidence" in Capital Punishment in the United States (Hugo Adam Bedau & Chester M. Pierce, Eds.); New York:AMS Press Inc. (P.359-371)
- Reckless, W.C. (1969) "The Use of the Death Penalty: A Factual Statement" in Crime and Delinquency; Vol.15. (P.43-46)
- Samuelson, G.W. (1969) "Why was Capital Punishment Restored in Delaware" in Journal of Criminal Law and Criminology; Vol.60. (P.148-151)
- Savitz, L.D. (1958) "A Study of Capital Punishment" in Journal of Criminal Law and Criminology; Vol.48. (P.338-341)
- Schessler, K.F. (1952) "The Deterrent influence of the Death Penalty" in The Annals of the American Academy of Political and Social Sciences; Vol.284. (P.54-62.)
- Schloss, Barbara & N.A. Giesbrecht (1972) Murder in Canada: A Report on Capital and Non-Capital Murder Statistics 1961-1970; Toronto:University of Toronto Centre of Criminology.
- Sellin, Thorsten (1959) The Death Penalty; Philadelphia:American Law Institute.
- Sellin, Thorsten (1964) "Death and Imprisonment as Deterrents to Murder" The Death Penalty in America (Hugo Adam Bedau, Ed.); Garden City:Anchor-Doubleday. (P.272-284)
- Sellin, Thorsten (1967) Capital Punishment; Harper and Row Publishers.
- Sellin, Thorsten (1980) The Penalty of Death; Beverly Hills:Sage Publications.
- United Kingdom (1930) Report from the Select Committee on Capital Punishment; London:HMSO.
- United Kingdom (1954) Report of the Royal Commission on Capital Punishment; London:HMSO.
- Welsh, James (1991) "Psychiatry and the Death Penalty: A Human Rights Perspective"

in Amnesty International (August, 1991).

Yunker, J.A. (1976) "Is the Death Penalty a Deterrent to Homicide? Some Time Series Evidence" in Journal of Behaviour Economics; Vol.5. (P.45-81)

Zeisel, Hans (1977) " The Deterrent Effect of the Death Penalty: Facts v. Fiction in The Supreme Court Review 1976 (B. Kurland Phillip, Eds.); Chicago:University of Chicago Press. (P.337-388)

Zimring, Franklin E. (1971) Perspectives on Deterrence; National Institute of Mental Health Centre for Studies of Crime and Delinquency, DHEW Publication.

## III

Gun Control

It has been argued that the availability of a weapon is the single most important factor in criminal homicide (Zimring, 1972), and in this connection attention has been focused on firearms. Supporting this argument is the hypothesis of "crime as opportunity", suggested by Clarke and Mayhew (Lester, 1991), who claim that incidence of criminal behaviour is strongly affected by opportunities presented to potential offenders for committing criminal acts. In consequence, they argue that the lethality of a weapon plays a very important part in criminal homicide. They claim furthermore that the more readily available the firearm, the higher homicide rates will be.

In support of these arguments is the "objective dangerousness" hypothesis, originally reported by Zimring (McDowall, 1991). Zimring (1968) argues that while some homicides may be committed with the single-minded intention to kill, most are not so motivated. While homicide is legally defined as a distinct category of crime, in practice it is probably more likely to be committed as a by-product of another offence, in association with an assault, a robbery, or a rape. In such cases, it is the lethality of the weapon employed that determines the outcome. As Zimring points out, furthermore, gunshot victims are more likely to die from their wounds than victims of alternate forms of attack. All things being equal,

therefore, the use of a gun in a crime would increase the likelihood of death. Several observations support this argument. First, variations in firearm availability, across time and space, have affected the frequency with which guns are used in crime. Second, the use of a gun in crime has increased the risk of homicide.

The rate of homicides committed with firearms varies from country to country. In 1977 in the United States, six hundred eighty-two thousand (682,000) violent crimes were committed with firearms. Of these eleven thousand three hundred (11,300) were homicides, three hundred sixty-seven thousand (367,000) were assaults, fifteen thousand (15,000) were rapes, and two hundred eighty-nine thousand (289,000) were robberies(Lester,1984). In 1980 in that country, homicides committed with firearm constituted 62.4 per cent of a total of twenty-one thousand eight hundred sixty (21,860) murders. In 1985, they constituted 58.7 per cent of a total of seventeen thousand five hundred forty-five (17,545) murders. In 1988, they constituted 59.1 per cent in 1986 and 60.7 per cent. From 1980 to 1990, the murder rates had alternated between 7.9 and 10.2 per million population in the United States(Statistical Abstracts of the United States,1990).

In the United Kingdom from the 1940s to the 1970s, a period of strict gun control legislation, the homicide rate was low (fluctuating from 3.6 to 5.0 per million population) and shooting as a means of killing was relatively uncommon. The most common forms of homicide were stabbing or slashing with a sharp

instrument. Shootings, however, appear to be increasing. From 1967 to 1970, a five-fold increase in the use of the sawn-off shotgun was demonstrated (Cameron, 1973).

In Iceland, which since 1262 possessed no military force other than armed fishery-protection vessels, only twenty one criminal homicides occurred between 1946 and 1970 (constituting 0.07 per cent of all deaths in the country, five involving a firearm). This rate is very low compared with that in the neighbouring country of Greenland, where a total of forty-five cases were recorded during this period, constituting 0.45 per cent of deaths (Hansen & Bjarnason, 1974).

In Canada, the annual number of murders with firearms and the per capita rate increased steadily from 1961 to 1975 until the enactment of firearm legislation in 1978. Between 1975 and 1989, the number of firearm homicides decreased by 25 per cent, from 292 to 218 incidents. In 1989, the rate of firearm homicides in Canada increased. In 1989, there were six hundred fifty-seven (657) homicides, with shootings accounting for 33 per cent -- an increase of 29 per cent over previous rates (Juristat, 1990). In 1990, there were six hundred fifty-six (656) homicides in Canada; 30 per cent were shootings -- a decrease of 10 per cent from the 1989 number, and 5 per cent from the previous ten year average.

In Singapore, homicide with a gun is exceptional; shooting is an infrequent method of killing. Deaths by gunshots in this country are mainly by (and of) police and robbers, who are killed during pursuit or arrest. Some firearm deaths have occurred in gun

battles between pirates and police at sea. Premeditated murders with guns appear rarely or never to occur(Chao,1973).

In a given country, the use of firearms in violent crime has varied over time. Block (1975), in a nine year (1965 to 1973) study of homicide in Chicago, found a manifest change in the type of weapon used in homicide. The percentage of homicides with a firearm as the murder weapon increased every year during this nine year period, from 50 per cent in 1965 to 71 per cent in 1973.

Klebba (1975), studying homicide trends in the United States from 1900 to 1974, found an increase in rates of homicide rate during the period from 1900 to 1933, followed by a slow decline during the 1940s and 1950s. During the period from 1960 to 1974, the trend again turned clearly upward. The total rate for homicide deaths rose from 4.7 per 100,000 in 1960, to 9.8 per 100,000 in 1973. Klebba found that firearms were the primary means used to perpetrate these homicides. According to information on death certificates of victims, homicides committed by means of firearms and explosives rose from 54.7 per cent in 1960 to 67.2 per cent in 1973; homicides committed with cutting and piercing instruments dropped from 21.7 per cent in 1960 to 15.9 per cent in 1973.

The relationship between the availability of firearms and criminal homicide by firearms has also been studied. In Detroit, the highest proportion of firearms homicides during the period studied was recorded in 1968 at 71.8 per cent. In the same year, registered firearms in that city also reached their highest number, sixteen thousand one hundred sixty-seven (16,167). The lowest

proportion of firearms homicides was recorded for 1962, at 27.7 per cent; the number of registered firearms also reached their lowest number, two thousand nine hundred forty (2940)(Boudouris,1971). Although the series of Detroit's data is insufficiently long to draw clear conclusions, there exists a clear indication that as firearms became more readily available, the proportion of firearms homicides increased at a similar rate.

The Task Force on Firearms of America found the same pattern in the United States with respect to firearms accidents. Accidental firearms deaths were found to roughly parallel levels of gun ownership across the census regions. In the southern states, 59 per cent of households owned firearms and accidental civilian firearms deaths were recorded at 2.46 per million population. In the north central states, 51 per cent of households owned firearms and accidental civilian firearms deaths were recorded at 1.25 per million population. In the western states, 49 per cent of households owned firearms; accidental civilian firearms deaths were recorded at 1.25 per million population. In the northeastern states, 33 per cent of households owned firearms; accidental civilian firearms deaths were recorded at 0.59 per million population. The data reveal a positive correlation between levels of gun ownership and numbers of accidental civilian firearms deaths(Seitz,1972).

Connor (1973) made a comparative study of criminal homicide by firearms in the Soviet Union and the United States, using firearms homicide data for three cities in each country: Moscow, Briansk,

Rostov (U.S.S.R.) and Philadelphia, Houston, Cleveland (U.S.A.). In each of the American cities, the proportion of homicide by firearms was far greater than that in the three Soviet cities. Connor hypothesized that differences in gun control contributed to differing rates in the Soviet Union and the United States, attributing to low rates of gun ownership the low firearms homicide rate in Moscow: "although there is no direct statistical proof, it seems reasonable to argue that the possession of firearms is proportionally much less likely in the high-density population of Moscow"(Connor,1973:113).

In the United States, where the question of gun control seems inextricably intermeshed with the subject of murder, many persons indicate a belief that crimes of violence and accidental homicides would decrease substantially if handguns were suppressed. The evidence appears to support this belief. Between 1962 and 1968, sales of long guns doubled while sales of handguns quadrupled (ten million were sold in the last decade). Since 1963, homicides involving firearms increased by 48 per cent, while homicides by other means rose only 10 per cent. Furthermore, two-thirds of all homicides, one-third of all robberies, and one-fifth of all aggravated assaults are committed with firearms(Edwards,1972).

King (1973) studied data from Switzerland and United Kingdom and found no positive correlation between the prevalence of civilian-owned firearms and the incidence of violent crime. Switzerland, with very liberal gun control policies, seems little bothered by serious violent crime or domestic violence, and police

do not even record the use of firearms in crime. The United Kingdom, with a long tradition of unarmed police officers and strict control of firearms, faces a crisis of domestic violence. King contended that the basic cause of crime is too deeply rooted in a particular society to be affected by the presence or absence of the particular tool chosen by a criminal to consummate his or her deed, and that the weapon chosen is only a reflection of patterns of cultural activity in a particular society.

Fisher (1976) studied homicide in Detroit in the 1960s. He found an increase in homicide rates from 1963 to 1971 attributable entirely to an increase in firearms homicides. During the period covered, the proportion of homicide in which firearms were used rose from 47 per cent (1963) to 76 per cent (1971). Firearms availability, measured by the annual number of firearm registrations and permits issued for their purchase, correlated positively with homicide rates during this period.

The relationship was also studied by David McDowall, who measured firearm availability with a "gun density index", combining the proportion of robberies committed with a gun with the proportion of suicides committed with a gun to construct this index. He argued that as firearms become more available, they would more frequently be used by robbers and by persons wishing to commit suicide. In his study, he examined this gun density index with respect to homicide rates in Detroit during the years 1951 through 1986. McDowall found that each per cent increase in the gun density index is associated with a greater than 1 per cent

increase in homicides per million population (McDowall, 1991).

McDowall examined the relationship further by replacing the gun density index with the annual number of licences to purchase handguns issued in Detroit per million residents. The number of licences issued was found to be positively correlated to the homicide rate; increases in ownership licences were associated with large and statistically significant increases in homicide rates (McDowall, 1991).

David Lester (1991) used proportions of firearms suicides and rates of accidental firearms deaths to measure firearms availability, and compared those measures with rates of firearms homicides in sixteen European countries. The Pearson correlation between the percentage of firearms suicides and the rates of firearms homicides was 0.42 ( $n=16$ ,  $p=0.05$ ); the Pearson correlation between rates of accidental firearms deaths and rates of firearms homicides was 0.59 ( $n=10$ ,  $p<0.05$ ). Data from this study show that firearms homicide rates roughly parallel levels of suicide and accidents with firearms in these sixteen countries. Nations with greater percentages of firearms suicides and accidents also had a higher firearms homicide rates. Finland, for example, had the greatest percentage of firearms suicides (26.3 per cent) as well as the highest firearms homicide rate (0.795 per cent). Hungary, on the contrary, demonstrated the lowest firearms suicide rates (1.4 per cent) and the second lowest firearms homicide rate (0.121 per cent). England and Wales had the lowest firearms homicide rate (0.039 per cent) and the second lowest firearms suicide rate (5.1

percent)(Lester,1991).

Zimring (1968) argues for gun control legislation as a means of preventing criminal homicide. He reasons, first, that it is easier for potential criminals to acquire firearms when general levels of gun ownership are already high. Second, he reasons that when many citizens own guns, offenders have an added incentive to acquire firearms to protect themselves in interactions with armed victims. Finally, he reasons that since criminals are as likely to value firearms as their law-abiding neighbours, the criminal demand for guns would be greater in areas where gun ownership is already supported by cultural tradition. Cook similarly argues that reduced firearms availability would decrease the likelihood of unplanned homicide resulting from altercations between people. In the case of premeditated homicides, Cook's argument is that reduced firearms availability would result in a switch to the use of other, potentially less lethal weapons, and a subsequent decrease homicide rates. Furthermore, if firearms were not as available, intelligent criminals might potentially avoid crimes requiring firearms, resulting in a decrease in such crimes as armed robbery(Cook,1982).

Many countries have enacted gun-control legislation. During the 1960s, the United States State Department made surveys of foreign firearms restrictions, reviewing the laws of twenty-nine European countries which required either a licence to carry a firearm, registration of the ownership or sale of each privately owned firearm, or both. The laws of nineteen countries in North

and South America were also reviewed, fifteen of which required a licence to possess or to carry a firearm and registration of all firearms. Laws of twenty-three Asian countries and Australia were reviewed; all required a license to possess or carry a firearm as well as registration of firearms. The laws of thirty-three African nations were reviewed; twenty-five required registration of the ownership or sale of firearms (Newton & Zimring, 1969:119-120).

In Canada, the Criminal Law Amendment Act of 1977 extensively amended the Canadian Criminal Code provision relative to possession of firearms and other weapons. Prior to this amendment, the Criminal Code specified three categories of "prohibited weapons":

- (1) muzzle silencers;
- (2) switch blades; and
- (3) any weapon declared by the cabinet to be prohibited, not being an antique firearm or of a kind commonly used in this country for hunting or sporting purposes.

With the amendment, firearms were categorized as:

- (1) prohibited weapons;
- (2) restricted weapons; and
- (3) other firearms (Scarff, 1983).

The legislation defines prohibited weapons as

- (a) any device or contrivance designed or intended to muffle or stop the sound or report of a firearm;
- b) any firearm not described in the restricted weapon section, capable of firing bullets in rapid succession during one pressure of the trigger;

(c) any firearm adapted from a rifle or shotgun, whether by sawing, cutting or other alteration or modification, so that the adapted barrel measures less than eighteen inches in length or so that the overall length of the firearm is less than twenty-six inches.

A "restricted weapon" includes

- (1) handguns (pistols);
- (2) short barrelled semi-automatic weapons (with barrels measuring less than 40 millimetres);
- (3) folding or telescoping firearms capable of being reduced to a length equal to or less than 457 millimetres;
- (4) automatic firearms registered as restricted weapon prior to January 1, 1978, and forming part of the gun collection of a genuine collector; and
- (5) any other weapon, in the opinion of cabinet not reasonably usable for hunting or sport, that is declared by order of cabinet to be restricted.

According to the amendment, possession of prohibited weapons is a serious offence with penalties of up to five years in prison; the same punishment is provided for anyone who imports, sells, transfers, or delivers such a weapon (Criminal Law Amendment Act 1977, Bill C-51; Scarff, 1983:145-149).

Only the police or the military may possess prohibited weapons. The law provides that a Canadian citizen may only possess restricted firearm if he or she holds a "registration certificate". Possession of a restricted weapon without a valid registration

certificate, or at any place other than the place specified in the certificate, renders a person liable to imprisonment for a period of up to five years. The same punishment is provided for transferring, in any form, a restricted firearm to a person not holding the required certificate, or for importing such a weapon without a certificate.

There are currently approximately twenty thousand different gun control laws in the United States, ranging from those enacted by municipalities and states, to those enacted by federal statute (Udolph, 1989). Gun-control legislation in this country was first passed at the federal level in 1934 by the National Firearms Act, which encompassed both registration and taxation measures designed to regulate the trade in firearms to some degree. Four years later, the Federal Firearms Act was passed. This Act

(a) required the licensing of importers and manufacturers of firearms and ammunition for handguns by the Internal Revenue Service (IRS);

(b) made it illegal for a dealer or manufacturer to ship firearms to unlicensed firms in states which required licensing; and

(c) made it unlawful knowingly to ship firearms and ammunition to anyone under indictment or convicted of any serious crime.

In 1968, the Gun Control Act was passed. Title I of the Act deals with definitions, unlawful acts, licensing, penalties, exceptions, the use of restricted ammunition, and the possession of firearms

and dangerous weapons in federal facilities. Title II of the Act requires manufacturers and importers to register each firearm produced or imported, and to control and record transfers. The greatest significance of Title I is that it embraces a broader range of firearms, defining a firearm as any weapon which will, or is designed to, or may readily be converted to expel a projectile by the action of an explosive (Bartlett, 1990). It identifies firearms as

- (a) short-barrelled shotguns and rifles;
- (b) machine guns;
- (c) mufflers and other silencing devices;
- (d) destructive devices" (including bombs, grenades, rockets, missiles, mines and similar devices); and
- (e) certain other concealable smooth-bore weapons.

The vast majority of firearms -- handguns, sporting rifles, shotguns, semi-automatic assault weapons -- were excluded and not made subject to registration and control provisions of Title II of the Act. They were, however, affected by other provisions in Title I, and were therefore subject to applicable state licensing and other requirements.

The United Kingdom, which has a long history of firearms control, started licensing such weapon in 1870. In the modern era, a 1937 Firearms Act consolidated various earlier arms control statutes. This law was further amended by the 1965 Firearms Act, and in 1968 an act consolidating and amending these acts was passed. The 1968 Firearms Act is wide in scope, and while in some

ways it resembles Canada's legislation it is somewhat more stringent with respect to firearms(Bartlett,1990). Under this Firearms Act, anyone in England, Wales or Scotland who has in his possession or wishes to acquire a firearm, must obtain a firearms certificate from the local police. No certificate is required in Canada to possess a firearm that was acquired before new gun control provisions came into effect in 1978.

The 1968 Firearms Act was significantly expanded and toughened by the 1988 Firearms (Amendment) Act. Under this amendment, the class of prohibited weapons was expanded. The most significant addition was the inclusion on the prohibited list of most semi-automatic rifles and smooth-bore guns (shotguns), as well as those which could be quickly reloaded with some manual action. Also added to the prohibited list were "burst fire" weapons, which are capable of firing two or more rounds with each pull of the trigger(Bartlett,1990).

Under the 1968 Firearms Act, possessing a firearm or ammunition without a certificate can result in maximum sentences of imprisonment for up to three years, fines up to two thousand (2,000) pounds, or both. Possessing or distributing prohibited weapons or ammunition can result in a maximum sentence of up to five years imprisonment, fines, or both(Bartlett,1990).

The People's Republic of China also has gun control legislation. In this country, a number of acts relate to the possession of firearms; the special legislation in this connection is the Regulations of the People's Republic of China on Firearms

Control. The Regulations of the People's Republic of China on Administrative Penalties for Public Security (APPS) and the Criminal Law of the People's Republic of China also have sections dealing with gun control. Article 20 of the APPS, for example, stipulates that "whoever carries or keeps firearms or ammunition, or commits other acts in violation of firearms control regulations that are not serious enough for criminal punishment shall be detained for a maximum of fifteen days, fined a maximum of two hundred yuan, or given a warning". The provisions in the Criminal Law of Peoples' Republic of China are as follows:

Whoever for the purpose of counterrevolution, manufactures, seizes or steals guns or ammunition, is to be sentenced to death, life imprisonment, or fixed-term imprisonment of not less than ten years; when the circumstances are relatively minor, the sentence is to be not less than three years and not more than ten years of fixed-term imprisonment(Article 100);

Whoever illegally manufactures, trades in or transports guns or ammunition, or steals or seizes the guns or ammunition of state organisms, military or police personnel or people's militia, is to be sentenced to not more than seven years of fixed-term imprisonment; when the circumstances are serious, the sentence is to be not less than seven years of fixed-term imprisonment or life imprisonment"(Article 112);

Whoever violates gun control regulations, privately storing guns or ammunition and refusing to hand them over, is to be sentenced to not more than two years of fixed-term imprisonment or criminal detention"(Article 163).

Whether firearms legislation can effectively reduce gun violence is one of the most controversial issues in debates concerning prevention of criminal homicide. Statistical data from different countries lead to different conclusions.

The effect of gun control legislations has been extensively evaluated in Canada. In 1977, with Bill C-15, Canada introduced

comprehensive gun control legislation. In 1983, the Canadian Ministry of the Solicitor-General commissioned a study of the law's effectiveness. Results were reported on behalf of Decision Dynamics Corporation by Elizabeth Scarff (Mundt, 1990). This report showed an increase in firearms murder rates from 1961 to 1975, and a decline from 1975 to 1981 (Scarff, 1983).

The effect of this legislation on homicide was further analyzed by Sproule and Kennett (1988), who compared changes in the homicide rates before and after the 1977 enactment of gun control. The standardized national rates for each year were examined over defined year block periods, from 1972-1976, and from 1977-1982. Separate analyses of variance were performed for suspects and victims, comparing standardized national total homicide rates, firearm homicide rates, and non-firearm homicide rates for the defined year blocks. In the case of firearms homicides, significant decreases were found: the standardized national rate of suspects using firearms to kill decreased from a mean of 1.13 prior to gun control legislation to 0.92 after its implementation. Similarly, the standardized national rate of victims dying from firearms wounds decreased from a mean of 1.38 to 1.10. Sproule and Kennett concluded that the use of firearms in Canadian homicides has declined since the legislative changes.

England and Wales's experience supports the hypothesis that stricter gun control legislation reduces the number of criminal homicides with guns. In England, before 1967 when stricter shotgun controls were put into effect, shotguns were used in 10 per cent of

all homicides compared to 9 per cent in the United States. In 1967, rates of firearm usage in violent crimes committed in England and Wales were lower than those for the United States. This suggests the conclusion that legislation to control firearms, which makes it substantially more difficult to obtain guns, is correlated with a reduction in the use of firearms in criminal violence (Newton & Zimring, 1969).

In contrast to Canadian and England and Wales experiences, gun control legislation does not seem to have had a significant effect in the United States. During the twenty-seven year period from 1964 to 1990, there were no significant changes in firearms homicide rates. The failure of gun control legislation to produce an effect on United States firearms homicide rates has been attributed, in part, to three considerations: first, legislation is not uniform; second, legislation is insufficient to control firearm possession and to prevent problems of firearms misuse; third, controls in place are not effectively enforced (Udulutch, 1989). All these combine to nullify the efforts of any particular state to control firearms. In addition, lack of uniformity in firearm control laws facilitates interstate transportation of firearms.

To test the relationship between strictness of gun control legislation and firearm homicide, Lester and Murrell (1980, 1981a, 1981b, 1982) conducted three studies, examining the effect of handgun control laws on rates of death due to suicide, homicide and accident. In these studies, a measure of handgun law strictness was correlated with suicide rates, homicide rates and accident

rates in different American states, using a Guttman scale which Lester (1984) constructed using Bakal's eight standards:

1. Is a licence or permit required to purchase a handgun?
2. Is there a required waiting period between the purchase and delivery of a handgun?
3. Are handgun sales reported to police?
4. Is a licence required for retail sales of handguns?
5. Is there a minimum age requirement for buying or receiving a handgun?
6. Is a permit or licence required to own a handgun which is kept in the home or at the place of business?
7. Is a permit or licence required to carry a handgun openly on one's person?
8. Is a permit or licence required to carry a concealed handgun on one's person?

Lester and Murrell studied the position in 1960, 1970, and changes that occurred between 1960 and 1970. They found stricter gun control laws correlated with lowered suicide rates, but had no effect on homicide rates.

Gun control legislation is based on the assumption of a weapon's lethality, and the role of its availability. In this connection, it is argued that the lethality of the available weapon is an important variable when motivational circumstances related to fatal and non-fatal attacks are similar, and that in many cases the only difference between the two is the weapon used. According to this argument, if a significant proportion of homicide results from

less than deliberate or predetermined intention, elimination of guns would reduce the number of homicides(Zimring,1968). In support of this argument, a study of fatal and non-fatal assaults with knives and guns in Chicago in 1967 revealed that:

- (1) More than two-thirds of all killings involved spouses, lovers, friends, or tavern guests as victims and attackers;
- (2) 82 per cent of homicides occurred as a result of altercations involving domestic problems, money, liquor, etc;
- (3) in 54 per cent of the situations which led to homicide, police noted that offenders, victims, or both had been drinking prior to the homicidal attack.

Zimring concluded that most homicide is not the result of "a single-minded intention to kill at any cost"(Zimring,1968).

In 1969, in a further study undertaken to determine the relationship between circumstances of assault cases and weapons used, Newton and Zimring computed the proportions where guns were used and where knives were used. In circumstance of unspecified domestic conflicts, 21 per cent of attackers used a gun; 25 per cent a knife. In quarrels over money, 6 per cent used guns and 7 per cent of used knives. Deaths resulting from gun attacks were at 12.2 per cent, with deaths from knife attacks at 2.4 per cent. Death rates for gun attacks were about five times as high as death rates for knife attacks. Newton and Zimring concluded, therefore, that, independent of any other factor, weapon dangerousness substantially influenced death rates from attacks(Newton & Zimring,1969; Zimring,1972).

Zimring (1972), assessing the hypothesis of "objective dangerousness", examined the relationship of firearm calibre to death rates. Zimring presumed that because of the greater destructive potential of large-calibre firearms than small-calibre firearms, a comparison of death rates from large-calibre and small-calibre attacks would provide an opportunity to confirm this hypothesis. Zimring examined one thousand one hundred fifteen (1115) gun attack cases, reported to Chicago police between March 5, 1970, and July 22, 1970. Data revealed that attacks from .38 calibre gun were more than twice as deadly as attacks from .22 calibre guns.

Other views counter Zimring's position, including the argument that it is not the dangerousness of the weapon which principally determines the outcome of an attack, but rather the degree of passion -- the intensity of the attacker's determination to kill. Wolfgang (1958), for example, argues that several factors are more important than firearm availability, including circumstance where the homicide occurred, relationships between victims and offenders, motives, personalities, and other such variables. He contended that attackers' motivation and passion were as important as the availability of the weapon. In his investigation, he found that while firearms -- pistols and revolvers -- were not difficult to purchase legally or illegally in Philadelphia, knives -- penknives and butcher knives -- were much cheaper and more easily obtained. He argued therefore that if guns were not available at crucial moments, attackers would select other weapons to achieve the same

destructive goals(Wolfgang,1958). Greenwood (1972) supported Wolfgang's position. He analyzed individual case in England and Wales, and suggested that in the offenses classified as domestic assaults, the presence or absence of a firearm, or any other type of weapon, is of far less importance to the outcome than the passion generated in the attacker(Greenwood,1972).

Most studies concerning the relationship between homicide and firearms conceptualize the problem in terms of its magnitude. Another way to conceptualize the effect of gun control legislation might be to determine the probability of death ensuing from a particular type of injury, the probability of that type of injury resulting from assault with a particular type of weapon, and the probability that a particular type of weapon would be used under varying conditions of gun control(Sarvesvaran & Jayewardene,1985).

Zimring analyzed all cases of criminal homicide and serious, but not fatal, criminal assaults reported to the Chicago police during the years 1965, 1966 and 1967. He found that from injuries with firearms, persons injured had a chance of dying from their injuries five times greater than that for persons wounded with knives(Zimring,1968).

Sarvesvaran and Jayewardene (1985) studied all cases of assault occurring over a three year period in the judicial district of Batticaloa in Sri Lanka, a country with strict gun control legislation. They found a statistically significant relationship between the weapon, the site of the injury, the nature of the injury, and the final outcome of the injury. Using firearms or

explosives, the greatest probable site of the injury was the chest (77.8 per cent), the most likely nature of the injury involved damage to internal organs (88.9 per cent), and the most likely outcome of the injury was death, even before hospitalization (44.4 per cent). Babapulle and Gammanpilla (1988), in a similar study with data from the judicial district of Kandy in Sri Lanka, found similar results.

Most studies support the hypothesis that the nature of the weapon plays an important role in the homicide drama, and that the availability of firearms is the single most important factor in homicide. Many studies conclude that legislative control over the availability of guns would work to reduce criminal homicide rates.

In China, the incidence of firearms homicide is so rare that statistical data often lump firearms with such other means as "with electricity " and "with an automobile". Together, these homicides constituted only 7.49 per cent of homicide deaths in Fujian provincial criminal statistics from 1984 to 1988. In Wuhan, with a total of fifty-four serious violent crimes in the period from 1981 to 1986, only nine cases of homicide and robbery involved the use of a firearm(Police University of the P.R.China,1989). Strict gun control legislation, and strict enforcement of that legislation, are often given as reasons for the paucity of firearms homicides in China. No empirical research, however, has been conducted to test this hypothesis.

In conclusion: studies reveal that gun availability is a factor which facilitates the occurrence of criminal homicide. It

is plausible to conclude that gun control legislation does limit the availability of guns, and thereby reduces the use of guns in violence. However, gun control legislation by itself cannot prevent homicide.

## References

- Babapulle, C.J. & V. Gammanpilla (1988) "Dangerous weapons" Crimcare Journal; Vol.4.No.2. (P.132-141)
- Bartlett, W.C. (1990) Gun Control Legislation in Canada, the United Kingdom and the United States; Library of Parliament, Research Branch.
- Block, R. (1975) "Homicide in Chicago: A Nine Year Study" in Journal of Criminal Law and Criminology; Vol.66.No.4. (P.496-510)
- Boudouris, J. (1971) "Methods for Homicide" in Police; Vol.16.No.2. (P.5-8)
- Cameron, J.H. (1973) "Changing Patterns in Violence" in Medicine, Science and the Law; Vol.13. (P.261-264)
- Chao, J.P. (1973) "Homicides and Suspected Homicides in Singapore" in Medicine, Science and the Law; Vol.13. (P.98-102)
- Connor, M.D. (1973) "Criminal Homicide USSR/USA: Reflection on Soviet Data in a Comparative Framework" in Journal of Criminal Law and Criminology; Vol.64.No.1. (P.111-117)
- Cook, P.J. (1982) "The Role of Firearms in Violent Crime: An Interpretive Review of the Literature" in Criminal Violence (M.E.Wolfgang & N.A.Weiner, Eds.); Beverly Hills CA:Sage. (P.231-291)
- Edwards, G. (1972) "Murder and Gun Control" in American Journal of Psychiatry; Vol.128.No.7. (P.111-117)
- Fisher, J.C. (1976) "Homicide in Detroit" in Criminology; Vol.14. (P.387-400)
- Greenwood, C. (1972) Firearms Control; London:Routledge & Kegan Paul. (P.115-136)
- Hansen, J.P. & O. Bjarnason (1974) "Homicide in Iceland 1946-1970" in Forensic Science; Vol.4.No.2. (P.107-117)
- Juristat (1990) Homicide in Canada, 1989; Vol.10.No.14. Ottawa:Supply & Services Canada.
- King, D.P. (1973) "Firearms and Crime" in Criminologist; Vol.8.No.28. (P.50-58)
- Klebba, A.J. (1975) "Homicide Trends in the United States, 1900-74" in Public Health Report; Vol.90.No.3. (P.195-204)
- Lester, D. (1991) "Crime as Opportunity: A Test of the Hypothesis with European Homicide Rates" in British Journal of Criminology; Vol.31.No.2. (P.186-191)
- Lester, D. (1984) Gun Control; USA:Charles C. Thomas Publisher.
- Lester, D. & M.E. Murrell (1980) "The Influence of Gun Control Laws on Suicidal Behaviour" in American Journal of Psychiatry; Vol.137. (P.121-122)
- Lester, D. & M.E. Murrell (1981a) "The Influence of Gun Control Laws on the Incidence of Accidents with Guns" in Accident Analysis and Prevention; Vol.13. (P.357-359)
- Lester, D. & M.E. Murrell (1981b) "The Relationship between Gun Control Statutes and Homicides Rates" in Journal of Crime and Justice; Vol.4. (P.145-148)
- Lester, D. & M.E. Murrell (1982) "The Preventive Effect of Strict Gun Control Laws on Suicide and Homicide" in Suicide and Life-Threatening Behaviour; Vol.12. (P.131-140)

- McDowall, David (1991) "Firearm Availability and Homicide Rates in Detroit, 1951-1986" in Social Forces; Vol.69.No.4. (P.1085-1101)
- Mundt, R.J. (1990) "Gun Control and Rates of Firearms Violence in Canada and United States" in Canadian Journal of Criminology; Vol.32.No.1. (P.136-154)
- Newton, G.D. & F.E. Zimring (1969) Firearms and Violence in American Life; Washington:U.S. Government Printing Office.
- Police University of P.R.China (1989) Research of Current Criminal Phenomenon in China; Beijing:Police University of China Press.
- Sarvesvaran, R. & C.H.S. Jayewardene (1985) "The Role of the Weapon in the Homicide Drama" in Medicine and Law; Vol.4. (P.315-326)
- Scarff, Elizabeth (1983) Evaluation of Canadian Gun Control Legislation: Final Report; Ottawa:Canadian Government Publishing Centre, Supply & Services Canada.
- Seitz, S.G. (1972) "Firearms, Homicides and Gun Control Effectiveness" in Law Society Review; Vol.6.No.4. (P.595-613)
- Sproule, C.F. & D.J. Kennett (1988) "The Use of Firearms in Canadian Homicides, 1972-1982: The Need for Gun Control" in Canadian Journal of Criminology; Vol.30. (P.31-37)
- Udulutch, M. (1989) "The Constitutional Implications of Gun Control and Several Realistic Gun Control Proposals" in American Journal of Criminal Law; Vol.17. (P.19-54)
- United States (1990) Statistical Abstracts of the United States; Vol.173/1990. Washington:U.S. Department of Commerce.
- Wolfgang, M.E. (1958) Patterns in Criminal Homicide; Philadelphia:University of Pennsylvania.
- Zimring, F.E. (1968) "Is Gun Control Likely to Reduce Violent Killing?" in University of Chicago Law Review; Vol.35. (P.721-737)
- Zimring, F.E. (1972) "The medium is the Message: Firearm Calibre as a Determinant of Death from Assault" in The Journal of Legal Studies; Vol.1.No.1. (P.97)

## IV

Medical Intervention

In 1943, Hill and Sargent report the case of a twenty year old man who had killed his mother. He had been living alone with his mother. During the five days preceding the murder he had worked hard, and had eaten only irregular meals; in addition, he had had a number of quarrels with his mother over money. On the morning of the day of the murder he struck her, a very unusual act for which he apologized. That day, he ate very poorly, consuming his last carbohydrate meal at noon; he drank four pints of mild ale between 9:00 p.m. and 10:30 p.m.

Upon coming home at 11:00 p.m. he engaged in another quarrel with his mother over money; this resulted in her pushing him out of her room. The young man would later report that at this moment he suddenly felt thirsty, went to the kitchen to get a bottle opener, and saw there a kitchen knife. He would later testify that "I was like a homicide maniac". He stabbed his mother to death. Realizing what he had done, he subsequently wiped the knife for fingerprints, washed, dressed, and left the house. For seven hours following the crime, there is a gap in his memory. The next day, he gave himself up to the police and made a full statement.

After his arrest, the young man's family physician notified the defense attorney that, two years prior to this crime, a sugar tolerance curve had shown a tendency to low blood sugar, or

hypoglycaemia(Wilder,1947). Multiple examinations were conducted to investigate the possible connection of this homicide with hypoglycaemia, including:

- (1) insulin resistance curve;
- (2) colorimetric estimation of 17-ketosteroids in a 24-hour specimen of urine;
- (3) Glucose Tolerance Test;
- (4) Electroencephalograms (EEGs) at high, fasting and low blood sugar levels;
- (5) EEGs during artificial lowering of blood sugar level with insulin and three observations on mental state during this test;
- (6) investigation of blood sugar levels after four pints of mild beer, reactions of the EEGs, and observation of mental state after this alcohol;
- (7) tests for impairment of consciousness associated with abnormal electrical potentials, which appeared in the EEGs during periods of voluntary deep breathing with low and high blood sugar levels.

In all, eighty-one blood sugar estimations and thirty EEG records were taken(Lyle,1979).

Based on the evidence of these tests, according to Hill and Sargent, the patient's blood sugar at the time of the crime must have been below 100-mgm. per cent; his brain at that time was therefore functioning abnormally; his judgment was thus impaired at the time of the crime(Wilder,1947). The judge explained the

M'Naghten rules<sup>1</sup> to the jury, which may be used to assess a plea of insanity, pointing out that the medical evidence presented had only shown that, according to law, the accused was guilty. After one hundred minutes of deliberation, the jury returned a verdict of "guilty but insane"(Lyle,1979).

Hypoglycaemia is not a category of insanity. However, there exist other reports of cases where hypoglycaemia was used as a defence. Bovill (1973) reported that a physician's wife had killed someone as a result of hypoglycaemia. The court took evidence of the hypoglycaemic condition into consideration; she was discharged with a nominal fine and her driver's licence was removed.

The possibility of murder as a result of hypoglycaemia or other endocrine abnormalities is being seriously considered as a criminal defence. In recent years, courts of Great Britain, Canada, and the United States have considered as a defense in criminal cases, automatism and uncontrolled, impulsive behaviour that may be the result of epilepsy, hypoglycaemia, or premenstrual syndrome(Bovill,1973; Taylor & Dalton,1983; Carly-Thomas,1982).

Theoretically, hypoglycaemia or low blood sugar level has been postulated as causing criminality, since blood sugar levels affect the functioning of the brain. Although the brain constitutes only 2 per cent of the body's weight, it utilizes about 50 per cent of

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<sup>1</sup> M'Naghten Rule has been accepted as the test to be applied for the defense of insanity. Under M'Naghten rule, an accused is not criminally responsible if, at the time of committing the act, he was labouring under such a defect of reason from disease of the mind act he was doing, or if he did know it that he did not know he was doing what was wrong (Black,1979:904).

the available blood sugar. If this blood sugar content falls to extremely low levels, the functioning of the brain may become deranged, resulting in confusion and unconsciousness. An important connection of hypoglycaemia and homicide can thus be made, in that hypoglycaemia results in confusion and is associated with amnesia. Literature indicates that disorderly conduct, assault and battery, attempted suicides, homicides, and battering of babies and spouses have all been occurred while perpetrators were in this condition(Lyle,1979; Alderberg & Dolger,1979; Hill & Sargent,1943; Wilder,1947; O'Connell,1960).

Virrkunen and Huttunen (1982) report on glucose tolerance tests, performed on three different groups of habitually violent, middle-aged men:

- (1) violent offenders with antisocial personalities;
- (2) violent offenders with no diagnosis of antisocial personality;
- (3) male employees of a psychiatric clinic.

A very low hypoglycaemic phase was found to occur in members of all three samples, but in numbers significantly smaller in the control groups than in the group diagnosed as having antisocial personalities. Blood sugar concentrations of less than 2.6 mmol/litre were encountered in 78.1 per cent of the violent antisocial personality group, in only 33.3 per cent of the violent controls and in only 20 per cent of the psychiatric personnel(Virrkunen & Huttunen,1982).

Another hormonal disturbance which has been implicated as

involved in murder is premenstrual syndrome (PMS). Studies of female criminality have demonstrated an occurrence of crime that seems to correlate with the menstrual cycle. Crimes of violence committed by females (Morton et al, 1953; Dalton, 1961; Moyer, 1971) as well as accidents in which they were involved (Jayewardene, 1992), all tended to cluster around menstruation, with predominance in the premenstrual rather than the post-menstrual period (Morton et al, 1953).

Premenstrual syndrome is considered a hormone deficiency disease, which causes changes in mood, behaviour, and physical symptoms during the period of the menstrual cycle prior to menstruation. A number of surveys found that women suffering from premenstrual tension constituted 53 per cent of attempted suicides, 47 per cent of admissions for acute depression, and 45 per cent of schizophrenic admissions (Dalton, 1977; Janowsky et al, 1969; Tonks et al, 1968). A recent study identified five subcategories of premenstrual tension: major depressive syndrome; impulsive syndrome; impaired social functioning; water retention syndrome; and general discomfort syndrome. Depression, irritability and lethargy were identified as the most common psychological symptoms of premenstrual tension (Taylor & Dalton, 1983; Mulligan, 1983). Further evidence related premenstrual tension to antisocial behaviour (Dalton, 1960, 1977; Taylor & Dalton, 1983).

A study conducted by Taylor and Dalton (1983) in an English women's prison, concluded that among one hundred fifty-six new inmates, PMS was present in an incapacitating severity in 27 per

cent of cases, and that in 67 per cent of these cases, the crimes had been committed during the premenstruum.

Premenstrual syndrome (PMS) has been raised as a criminal defence during the past year. One defendant in England was successful in having charges in a criminal case reduced from murder to manslaughter, due to diminished responsibility as a result of PMS. Sandie Smith, aged 30, was charged with threatening to kill a police officer and possessing an offensive weapon. She alleged that at the time of these incidents, she had recently had her progesterone dosage reduced from the massive amounts she had been receiving. Smith's doctors testified that her violent behaviour could be attributed to this reduced dosage of progesterone. Although the jury found Smith guilty, her sentence was reduced to probation and provisions made for medical treatment, with periodic progesterone injections, of her "raging hormones" (Cary-Thomas, 1982; Mulligan, 1983).

PMS and its causes, while still not completely understood, has been clinically treated with some degree of success using the hormone progesterone and lithium compounds. The administration of progesterone was reported to relieve the symptoms of PMS in several cases (Dalton, 1980; Taylor & Dalton, 1983).

The idea of controlling behaviour with drugs may be traced to the early 1950s, at which time tranquillizers came into widespread psychiatric use. Many other drugs are now used to change and control the emotions; there are several different categories of these including tranquillizers, energizers and hallucinogens. All

work on the central nervous system, and their over-all effect is exactly as suggested by their names: tranquillizers result in calming persons, energizers arouse, and hallucinogens alter their perceptions(London,1969).

Lithium has been reported as successfully used in the treatment of some violent patients: aggressive delinquents and impulsive aggressive convicts(Sheard,1975). After Lithium treatment, patients showed reduced levels of anger and aggressive behaviour, and an increased capacity to reflect on consequences of behaviour. Decreased impulsivity and increased anticipatory avoidant behaviour was also observed. Benefits were also reported for violent criminals, who demonstrated anxiety and paranoia(Tupin et al,1973), and for aggressive criminals who demonstrated hyperactivity and overtalkativeness(Sheard,1975). It was reported that from 25 to 33 per cent of such criminals improved substantially.

Lithium's known pharmacological effects include enhancement of serotonergic activity, by increasing the blood and brain levels of the serotonin precursor tryptophan and thereby of serotonin production in brain neurons. It also has an anticholinergic effect, decreasing acetylcholine turnover and synthesis. Lithium has many effects on catecholaminergic systems, including inhibition of tyrosine-hydroxylase, and reduces the release of catecholamine at the synaptic cleft(Leventhal & Brodie,1981).

Neuroleptics (including piperidine, piperazine, and aliphatic-phenothiazine) are another category among drugs which have been

used to treat antisocial personality and conduct disorders. Long-acting preparations such as fluophenazine-enanthate were reported to be effective in reducing aggressive behaviour in certain aggressive, antisocial individuals (Itil & Wadud, 1975).

Beneficial results in the treatment of antisocial children and adults with catecholamine agonists, such as amphetamine, methylphenidate and pemoline, were consistently reported only for patients with characteristics of inattention, impulsivity, and hyperactivity beginning in childhood (Wender et al, 1981; Allen et al, 1975; Eisenberg et al, 1963). The antidepressants recommended for treatment of antisocial subjects are tranylcypromine and imipramine. Tranylcypromine is reported as more effective in cases of dysphoric states associated with somatic anxiety and hostility, than in depressions (Baldessarini, 1980).

Drug therapy, which at first seems promising in this connection, is also associated with several harmful effects:

- (1) drug abuse may lead to addiction and/or worsening of behaviour;
- (2) adverse reactions may occur, including increased violence or agitation;
- (3) the prescription or ingestion of such drugs may provide manipulative patients with an excuse to deny responsibility for their behaviour (Cloninger, 1987:331).

The use of benzodiazepines has been associated with both increased and decreased aggression and antisocial behaviour (Lader & Petursson, 1981, Cloninger, 1987). It has been reported that some

psychiatric drugs may even promote violent behaviour. On May 20, 1988, for example, a woman walked into a Winnetka, Illinois, second-grade classroom carrying three pistols; she began shooting children, killing one and wounding five others before she killed herself (Newsweek, 1989). Subsequent blood tests revealed that at the time of the killings, she had been under the influence of a psychiatric drug of a class clearly shown to cause unexplained, hostile, and violent behaviour (USA Today, 1988). A Canadian study which examined the effects of psychiatric drugs on prisoners found that "violent, aggressive incidents occurred significantly more frequently in inmates who were on psychotropic medication than when these inmates were not on psychotropic drugs". Inmates were shown to be more than twice as violent while taking major tranquillizers, than they were when not taking psychiatric drugs (Workman, 1975).

Research has demonstrated that behaviour can be traced to specific sites in the brain, and that particular behaviours can be aroused by stimulation of these sites. Violent behaviour has also been found to be produced by abnormalities in brain functioning. Some of the cases in which physical and chemical brain functional disorders have been implicated in criminal homicide have become famous. Charles Whitman, the "Texas Tower sniper", killed a dozen people and wounded thirty-three others before he himself being shot by police. Prior to this incident, he had sought help from a university psychiatrist and related having the urge to "climb a tall tower and start shooting". Whitman's autopsy revealed a malignant brain tumour, which may have precipitated his

outburst(Mayer & Wheeler,1982:5-6).

Mark and Ervin (1970) who contend that violent behaviour must be regarded as an indication of the malfunctioning brain, propose a theory relating human violence, especially irrational assault, to a dysfunction in the limbic system(Mayer & Wheeler,1982:78-79). They argue that the violence in these cases was analogous to the convulsions of the frontal-lobe epileptic. They had been able to control violent behaviour arising from temporal-lobe epilepsy. Through electrical stimulation which initiated or stopped assaultive behaviour, they had been able to isolate particular areas of the amygdala (a small structure in front of the temporal lobe with connections to the hypothalamus) as implicated in such reactions(Mayer & Wheeler,1982). Based on this theory, they advocated psychosurgery as a means to control violent behaviour.

Psychosurgery is an interruption of histologically normal brain tissue. It involves the removal or destruction of parts of the brain that are apparently normal; it is a drastic, irreversible procedure(Mayer & Wheeler,1982). As a treatment modality for antisocial behaviour it is not in extensive use. In O'Callaghan and Carroll's (1982) analysis of published reports, encompassing some fifteen thousand (15,000) cases of psychosurgery, only about 2.5 per cent of the operations were performed for the control of antisocial behaviour.

Advocating psychosurgery, Mark and Ervin (1970) cite several cases of patients successfully treated by psychosurgery. These involved patients whose behaviour was described as unpredictable

and physically assaultive. The authors reported that, with stereotactic surgery, rages and unprovoked assaults stopped, frequency of epileptic seizures diminished, and patients were able to resume a more normal lifestyle(Mark & Ervin,1970). In an extensive number of cases, however, stopping the rages and diminishing the frequency of fits was the result of reducing the patients' capability for any self-generated activity, and reducing the patient to a vegetable-like state(Jayewardene,1992). A number of suits for damages were filed against the surgeons. In psychiatric writing, however, a current prevails that holds that persons with episodes of violence and specific abnormalities can be successfully treated by psychosurgery(Sano et al,1966). The treatment of violent behaviour by destruction of the bilateral amygdala was carried out by other teams in addition to Mark and his colleagues in Boston. By 1970, it had been carried out in Japan, India, Mexico, France, and Denmark(Mark & Ervin,1970; Mayer & Wheeler,1982).

Brain implantations have also been used to control violent behaviour. Brain implantation involves placing electrodes or chemically stimulating devices in strategic brain tissue sites(London,1969:136). Dozens of studies have demonstrated that brain stimulation may result in the arousal of aggressive behaviour; the theoretical possibility is therefore postulated that the reverse may be true, and that aggressive behaviour can be controlled through brain stimulation. Electrical stimulation of the brain (ESB) permits the structure of brain centre to be

retained and brain-centre activity to be controlled by operating a stimulating device(London,1969).

Implant studies have been done, but most of that reported has been performed with animals(Delgado,1965). Brain implants have been used, however, to treat a limited number of cases of violence(London,1969). In Boston, an interdisciplinary team from Harvard Medical School, Massachusetts General Hospital, and Boston City Hospital operates a clinic for the study and control of violent people. Many of the patients have typically long histories of violent acts and significant numbers of psychological problems that are not a function of brain disorders in the usual sense. Some patients do have significant brain damage. Authors of studies on the Boston experience report that Electrical Stimulation of the Brain (ESB) can be used effectively, in some of cases as a diagnostic tool and in others as a means of control(London,1969).

Despite optimism about such physical manipulations of the brain as psychosurgery and brain implantation, these methods have considerable defects. Prefrontal lobotomy, which at one time was one of the most popular psychosurgery treatment for unusual motivation, cannot be used treat uncontrollable patients. Lobotomies have tremendous side effects, ranging from more subtle behaviour changes such as the loss of intellectual abilities, to such dramatic effects as death, which occurred in 1 to 4 per cent of these surgeries. The general opinion is that its risks far outweigh its expected benefits, particularly since the damage from such surgery is predominantly irreversible(London,1969:138).

Medical intervention programs are only a means of control, and their usefulness is limited to specific cases. The function of medical intervention is restriction. Antisocial behaviour is developmentally complex, with many different personal and environmental determinants; surgery and drugs can only be adjuncts in a comprehensive treatment program(Cloninger,1987). All available treatment modalities have drawbacks with respect to potential side effects. Current medical knowledge is insufficient to pinpoint, as a cause of criminality, clear linkages between crime and sites of endocrine or psychiatric abnormalities.

### References

- Alderberg D. & H. Dolger (1979) "Medico-Legal Problems of Hypoglycaemic Reactions in Diabetes" in Annals of Internal Medicine; Vol.8.No.3. (P.200-212)
- Allen, R.P., D. Safer & L. Covi (1975) "Effects of Psycho-Stimulants on Aggression" in Journal of Nervous and Mental Disorders; Vol.160. (P.138)
- Baldessarini, R.J. (1980) "Drug and Treatment of Psychiatric Disorders" in The Pharmacological Basis of Therapeutics (L.S.Goodman & A.Gilman, Eds.); New York:Macmillan (P.391-447)
- Black, H.C. (1979) Black's Law Dictionary 5th Edition; USA:West Publishing Co.
- Bovill, D. (1973) "A Case of Functional Hypoglycaemia: A Medico-Legal Problem" in British Journal of Psychiatry; Vol.123. (P.353-358)
- Cloninger, C.R. (1987) "Pharmacological Approaches to the Treatment of Antisocial Behaviour" in The Causes of Crime -New Biological Approaches (S.Mednick, T.Moffitt & S.Stack, Eds.); UK:Cambridge University Press (U.S.A.)
- Carly-Thomas, E (1982) "Premenstrual Syndrome: Whether Defence?" in Criminal Law Review; Vol.8 (P.531-532)
- Dalton, K. (1960) "Menstruation and Accidents" in British Medical Journal; vol.2 (P.1425)
- Dalton, K. (1961) "Menstruation and Crime" in British Medical Journal; Vol.2 (P.1752-1753)
- Dalton, K. (1977) The Premenstrual Syndrome and Progesterone Therapy; London:William Heinemann Medical Books. (P.33)
- Dalton, K. (1980) "Cyclical Criminal Acts in Premenstrual Syndrome" in Lancet; Vol.2. (P.1070)
- Delgado, J.M.R. (1965) "Chronic Radio-Stimulation of the Brain in Monkey Colonies" in Excerpta Medica International Congress Series; No.87. Tokyo:Proceedings of the 23rd International Congress of Physiological Science.
- Eisenberg, L., R.Lachman, P.A.Molling, A.Lockner, J.D.Mizelle & C.K.Conners (1963) "A Psychopharmacological Experiment in A Training School for Delinquent Boys: Methods, Problems, Findings" in American Journal of Orthopsychiatry; Vol.33 (P.431)
- Hill, D. & W.Sargent (1943) "A Case of Matricide" in Lancet; Vol.1 (P.526-527)
- Itil, T.M. & A.Wadud (1975) "Treatment of Human Aggression with Major Tranquillizer, Antidepressants, and Newer Psychotropic Drugs" in Journal of Nervous and Mental Disorders; Vol.160. (P.83)
- Jayewardene, C.H.S. (1992) Criminology Theory: Biological and Psychological Aspects Ottawa:University of Ottawa, Department of Criminology.
- Janowsky, D., R.Gorney, P.Castelnuovo-Tedesco & C.Stone (1969) "Premenstrual-Menstrual Increases in Psychiatric Hospital Admission Rates" in American Journal of Obstetrics and Gynecology; Vol.103. (P.189)
- Lader, M.H. & H.Petursson (1981) "Benzodiazepine Derivatives: Side Effects and Dangers" in Biological Psychiatry; Vol.16. (P.1195)

- Leventhal, B.L. & H.K.H.Brodie (1981) "The Pharmacology of Violence" in Biobehavioural Aspects of Aggression (D.A.Hamburg & M.B. Trudeau, Eds.); New York:Liss. (P.85-100)
- London, P. (1969) Behaviour Control New York:Harper and Row.
- Lyle, W.H. (1979) "Temporary Insanity: Some Practical Considerations in a Legal Defence" in Journal of Orthomolecular Psychiatry; Vol.8.No.3. (P.200-212)
- Mark, V.H. & F.R.Ervin (1970) Violence and the Brain; New York:Harper and Row (Medical Department)
- Mayer, A. & M.Wheeler (1982) The Crocodile Man; Boston:Houghton Mifflin Company.
- Morton, J.H., H.Addiction, R.G.Addison, L.Hunt & J.J.Sullivan (1953) "A Clinical Study of Premenstrual Tension" in American Journal of Obstetrics and Gynaecology; Vol.65. (P.1182-1191)
- Moyer, K.E. (1971) The Physiology of Hostility; Chicago:Markham.
- Mulligan, N. (1983) "Premenstrual Syndrome" in Harvard Women's Law Journal; Vol.6 (P.219-227)
- Newsweek (1989) June 13, 1989 (P.33)
- O'Callaghan, M.A.J. & Douglas Carroll (1982) Psychosurgery: A Scientific Analysis; Lancaster:Medical & Technical Publishing.
- O'Connell, B. (1960) "Amnesia and Homicide" in British Journal of Delinquency; Vol.10. (P.262-277)
- Sano, K., M.Yoshioka, N.Ogasuwa, B.Ishijima & C.Ohye (1966) "Posteromedial Hypothalamotomy in the Treatment of Aggressive Behaviour" in Confinia Neurologica; Vol.27. (P.164-167)
- Sheard, M.H. (1975) "Lithium in the Treatment of Aggression" in Journal of Nervous and Mental Disorders; Vol.160 (P.108)
- Sheard, M.H. (1976) "The Effect of Lithium on Impulsive Aggressive Behaviour in Man" in American Journal of Psychiatry; Vol.133. (P.1409)
- Taylor, L. & K.Dalton (1983) "Premenstrual Syndrome: A New Criminal Defence" in California Western Law Review; Vol.9. (P.269-285)
- Tonks, C., P.Rack & M.Rose (1968) "Attempted Suicide and the Menstrual Cycle" in Journal of Psychosomatic Research; Vol.11. (P.319)
- Tupin, J.P., D.B.Smith, T.L.Clanon, L.I.Kim, A.Nugent & A.Groupe (1973) "The Long-Term Use of Lithium in Aggressive Prisoners" in Comprehensive Psychiatry; Vol.14. (P.311)
- Virkkunen, M. & M.O.Huttunen (1982) "Evidence for Abnormal Glucose Tolerance Tests Among Violent Offenders" in Neuropsychobiology; Vol.10. (P.30-34)
- USA Today (1988) Drug treatment; June 3, 1988.
- Wender, P.H., F.W.Reimherr & D.R.Wood (1981) "Attention Deficit Disorder ('Minimal Brain Dysfunction') in Adults: A Replication Study of Diagnosis and Drug Treatment" in Archives of General Psychiatry; Vol.38. (P.449)
- Wilder, J. (1947) "Sugar Metabolism in its Relation to Criminology" in Handbook of Correctional Psychology (R.M.Lindner & R.V.Seligman Eds.); New York:Philosophical Library.

### Conclusion

A crime is behaviour which results from a freely chosen, deliberate, and informed intervention on a person or persons, made by a second person or persons not acting in concert with the first, with the intention of bringing about or recklessly courting harm which, in fact, occurs (Hart & Honore, 1962). From the legal philosophy, human behaviour (which includes criminal behaviour) is influenced by

- (a) predisposing factors (environmental influences, status, or other factors such as broken homes, low socioeconomic class, urban residency) which simply make one individual more likely than another to be attracted to crime or other problematic behaviour (Holman & Quinn, 1992);
- (b) facilitating factors (alcohol, drugs, firearms) which are often present when crime is committed, but do not actually cause crime, so named since they increase the likelihood that a situation will lead to criminal violence (Conklin, 1992); and
- (c) inhibitory factors which rule out potentially detrimental influences of predisposing factors, thus preventing the actualization of criminal behaviour. (Hart & Honore, 1962; Jayewardene, 1992).

According to the legal theory of crime causation, three possible strategies may be applied to control crime. One such

strategy is to increase inhibitory factors, which could prevent the actualization of criminal behaviour; this may be the role of the death penalty. A second possibility is to reduce facilitating factors by such interventions as decreasing the availability of the weapons prerequisite for the offence. Gun control legislation can be employed as a facilitating factor since it reduces the availability of lethal weapons. The third possibility is to reduce predisposing factors. If such factors are known, social or medical intervention may be used in an attempt to rectify them.

The death penalty is considered the most severe punishment, and the maximum punishment that can be inflicted on a criminal individual. A number of countries have adopted this penalty as a means to control criminal homicide and other serious violent crime. The consideration is that capital punishment exercises a deterrent function, since the nature of human beings is to avoid pain and promote pleasure. There has been considerable debate on the deterrent power of capital punishment, and several models have been used to prove its existence or absence empirically. Some of these have explored the relationship between actual executions and the incidence of criminal homicide (Savitz, 1958; Graves, 1964); others have compared rates of criminal homicide in retentionist and abolitionist jurisdictions (United Kingdom, 1930, 1954; Schuessler, 1952; Sellin, 1967). Criminal homicide rates before and after the abolition of the death penalty have been compared in particular jurisdictions (Samuelson, 1969; McDonald, 1969, 1971; Fattah, 1972). Some studies have used sophisticated econometric

models to parcel out the role played by a number of factors including the death penalty(Ehrlich,1975; Avio,1979; Layson,1983). Despite the volume of research on this topic, no definite conclusion has been possible. This may be due in part to the influence of such factors as the certainty and celerity of the infliction of punishment; it may also be related to the nature of the individual -- his or her susceptibility to being influenced by the threat of punishment.

In the second type of strategy, in conjunction with others, restriction of the availability of lethal weapons through gun control legislation has been studied. The Canadian experience indicates that gun control legislation is correlated with a reduction in the incidence of criminal homicide(Scarff,1983); the experience of England and Wales also supports the hypothesis that stricter gun control law reduces the number of criminal homicides(Newton & Zimring,1969). The experience of the United States, where stricter gun control legislation does not seem to exert a significant effect, stands in contrast to Canadian and English experiences(Lester,1984). However, even in this country there is evidence that the lethality of the weapon used plays a significant role in the seriousness of the injury inflicted in an assault(Zimring,1968,1972; Sarvesvaran & Jayewardene,1985; Babapulle & Gammanpilla,1988). Clearly, however, the unavailability of a gun would not prevent a homicide by the offender who operates with the single-minded intention to kill, since homicides are committed using weapons other than guns.

Medical intervention has been considered as a new treatment modality. Used infrequently to date, medical intervention may offer hope in cases where the cause of homicidal behaviour can be traced to hormonal anomalies. In these cases, medical intervention may regulate the defect and prevent the manifestation of homicidal behaviour. Psychosurgery and brain implants are not promising despite claims that they have been successfully used; furthermore, their use may constitute a violation of human rights. Unless diagnostic facilities are improved and become readily available, implementation of the medical modality is problematic.

This review of methods to prevent criminal homicide reveals that none, taken individually or collectively, has met with criteria to demonstrate a capacity for success in preventing criminal homicide.

Prevention of criminal homicide, like the prevention of most crime, takes two forms. The first is to prevent an offender from repeating an act; the second is to prevent a non-offender from committing a first act. There are two different types of strategies that can therefore be adopted - one directed toward an offender after the act, the other directed toward potential offenders. With respect to current strategies, the death penalty can only be inflicted on an offender after the act. However, because general deterrence is supposed, capital punishment is thought to affect potential offenders as well. There is, here, an assumption that all persons are similar and that the threat of the death penalty has the same effect on each individual. This,

however, is not the case. Those who do not commit homicide may not necessarily have been deterred by the threat of this penalty. There are segments in every population of persons who are physically, psychologically, and environmentally incapable of committing homicide; the size of this segment of the population is not known(Jayewardene,1972).

Gun control legislation is directed at the general population and aims at preventing the commission of a violent act. Here, again, there is the assumption that all persons are similar and that the non-availability of firearms prevents homicide. This, again, is not the case. Many homicides committed with weapons other than guns would not have been prevented by gun control legislation. Persons who proceed with the single-minded intention to kill will find a suitably lethal weapon if guns are not readily available(Cook,1982).

Medical intervention has been utilized for offenders as well as for non-offenders. In both cases, however, diagnosis of an anomaly must be first made. In the case of non-offenders, to be successful this would require the investigation of entire populations -- a project too costly and too time consuming. What is more, the knowledge necessary to identify a potential offender in an early stage of his or her career is, as yet, not available(Jayewardene,1992).

A question that remains to be answered, in connection with the strategies that could possibly be adopted, is whether the same forces are operative in the repetition of a crime as were operative

in its first commission. Explanations of criminal behaviour, including criminal homicide, are legion. Some of these explanations consider crime a voluntary conduct by person driven by selfish desires. Theories concerning the causation of crime tend to emphasize an individual's responsibility to follow the rules of society. In addition, they focus on factors within the control of the individual: his or her immediate situation, available opportunities and choices. They focus on the individual and contend that criminal behaviour can be controlled by external forces, such as the threat of punishments (Holman & Quinn, 1992).

Other explanations view crime as a consequence of the individual's circumstances. In other words, people are the products of the social and economic systems in which they live. These theories presume that human beings are basically malleable creatures who are too often corrupted by their environments. Such socioeconomic crime causation theories always consider factors in individual circumstances and personal backgrounds that are clearly beyond individual control. These explanations, when assigning responsibility for human actions, give little weight to the role of conscious choice. Relevant to the prevention of crime, they propose social reform policies including educational and vocational training, welfare assistance, improved employment opportunities, etc. (Holman & Quinn, 1992; Conklin, 1992).

Whatever the explanation of crime, criminological theories emphasize the individual offender, his or her psychological characteristics, the social environment in which criminal behaviour

develops, and the social, economic, and cultural environment in which he or she lives and operates (Steinmetz, 1982). All preventive strategies are consequently directed toward the offender, rather than toward the prevention of the offence.

An alternative strategy that might be pursued is victim-directed. Crime control programs adopting victim-oriented approaches have been developed with the aim of increasing personal security (Fairley, Liechenstein & Westin, 1971). These programs are not concerned with exerting a psychological influence on the offender with a view of deterring the commission of an offence; they are concerned with manipulating situational components to create or implement physical obstacles to the commission of crime.

This study has examined available data and evaluated three strategies commonly used to prevent criminal homicide in many countries: the death penalty, gun control legislation, and medical intervention. As mentioned in the introduction, the study was undertaken with the aim of ascertaining which of these strategies might be best suited for the control of homicide in China. Studies indicate however that, as has been the situation in every other country, it cannot be proved that the adoption of either one or all of these strategies would have a significant influence on the incidence of homicide.

In this connection it may be pertinent to consider a view expressed by Talbot and Jayewardene (1980), who point out that the criminal justice focus on crime and the criminal was originally intended as a means by which to achieve the greater goal of

criminal justice: to ensure a population the quiet enjoyment of their lives. They claim that with the passage of time, the means adopted became elevated to a goal, and that the greater goal of criminal justice system became obscured. They point out that not only does harm result from criminal acts by others, but harm also results from damage caused by natural disasters to impinge on the well-being of a population. Since controlling the latter appears to have been more successful than controlling the harm done by crime, they suggest abandoning the criminal justice approach and adopting the natural disaster approach. This entails a three-pronged strategy: first, it seeks to prevent the event from occurring. Secondly, if this is not possible, it seeks to minimize the harm that an individual suffers. Finally, if an individual is harmed, it seeks to restore them to near normal conditions as soon as possible by assisting the victim with his or her rehabilitation and recuperation.

The development of new strategies is beyond the scope of this thesis. It constitutes a study in itself which I hope to explore in the course of my doctoral studies.

### References

- Avio, K. (1979) "Capital Punishment in Canada: A Time Series Analysis of the Deterrent Hypothesis" in Canadian Journal of Economics; Vol.9 (P.647-676)
- Babapulle, C.J. and V. Gammanpilla (1988) "Dangerous Weapons" in Crimcare Journal; Vol.4.No.2. (P.132-141)
- Conklin, J.E. (1992) Criminology 4th Edition; Toronto:Maxwell Macmillan Canada.
- Ehrlich, I. (1975) "The Deterrent Effect of Capital Punishment: A Question of Life and Death" in American Economic Review; Vol.65. (P.397-417)
- Fairley, W., M.I. Liechenstein and A.F. Westin (1971) Improving Public Safety in Urban Apartment Dwellings: Security Concepts and Experimental Design for New York City Housing Authority Buildings; New York:The New York City Rand Institute.
- Fattah, E.A. (1972) A Study of the Deterrent Effect of Capital Punishment with Special Reference to the Canadian Situation; Ottawa:Information Canada.
- Graves, W.F. (1964) "The Deterrent Effect of Capital Punishment in California" in The Death Penalty in America (Hugo Adam Bedau, Eds); Garden City:Anchor-Doubleday. (P.322-332)
- Hart, H.L.A. and A.M. Honore (1962) Causation in the Law; Oxford:Clarendon Press.
- Holman, J.E. and J.F.Quinn (1992) Criminology: Applying Theory; USA:West Publishing Company.
- Jayewardene, C.H.S. (1972) Crime and Society in Churchill; Ottawa:Centre of Criminology, University of Ottawa.
- Jayewardene, C.H.S. (1992) Criminology Theory: Biological and Psychological Aspects; Ottawa:University of Ottawa Department of Criminology.
- Layson, S. (1983) "Homicide and Deterrence: Another View of the Canadian Times Series Evidence" in Canadian Journal of Economics; Vol.2. (P.52-73)
- Lester, D (1984) Gun Control: Issues and Answer; USA:Charles C. Thomas.
- McDonald, L. (1969) "Crime and Punishment in Canada: A Statistics Test of the Conventional Wisdom" in Canadian Journal of Economics; Vol.2(1983). (P.52-77)
- McDonald, L. (1971) "Is the Crime Rate Increasing?" in Critical Issues in Canadian Society (C.L.Boybell, G.F.Grindstaff & P.C.Whitehead, Eds.); Toronto:Holt, Rinehart & Winston. (P.467-478)
- Newton, G.D. F.E. Zimring (1969) Firearms and Violence in American Life; Washington:Government Printing Office.
- Samuelson, G.W. (1969) "Why was Capital Punishment Restored in Delaware" in Journal of Criminal Law and Criminology; Vol.60. (P.148-151)
- Sarvesvaran, R. & C.H.S. Jayewardene (1985) "The Role of the Weapon in the Homicide Draw" in Medicine and Law; Vol.4. (P.315-326)
- Savitz, L.D. (1958) "A Study of Capital Punishment" in Journal of Criminal Law and Criminology; Vol.48. (P.338-341)
- Scarff, E. (1983) Evaluation of the Canadian Gun Control Legislation: Final Report; Ottawa:Canadian Government Publishing Centre, Supply and Services Canada.

- Schuessler, K.F. (1952) "The Deterrence Influence of the Death Penalty" in The Annals of the American Academy of Political and Social Sciences; Vol.284. (P.54-62)
- Sellin, T. (1967) Capital Punishment; New York:Harper and Row.
- Steinmetz, C.H.D. (1982) "A First Step Toward Victimological Risk Analysis: A Conceptual Model for the Prevention of Petty Crime" in Crime Prevention (E.Kuhlhorn & B.Svensson, Eds.); Sweden:The National Swedish Council for Crime Prevention.
- Talbot, C.K. & C.H.S. Jayewardene (1980) "Victim Prevention: An Alternate Strategy for the Police" in Canadian Police College Journal; Vol.4.No.4. (P.277-283)
- United Kingdom (1930) Report from the Select Committee On Capital Punishment; London:HMSO.
- United Kingdom (1954) Report of the Royal Commission On Capital Punishment; London:HMSO.
- Zimring, F. (1968) "Is Gun Control Likely to Reduce Violent Crime?" in University of Chicago Law Review; Vol.35.No.4. (P.721-737)
- Zimring, F. (1972) "The Medium is the Message: Firearm Calibre as a Determinant of Death from Assault" in The Journal of Legal Studies; Vol.1.No.1. (P.97)