

Criminal Investigation: A Selective Review Of The Literature

By
Antony E. Simpson

Submitted to the
South Central Criminal Justice Supervisory Board

CRIMINAL JUSTICE CENTER
John Jay College of Criminal Justice
444 West 56th Street
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and FORENSIC SCIENCES FOUNDATION
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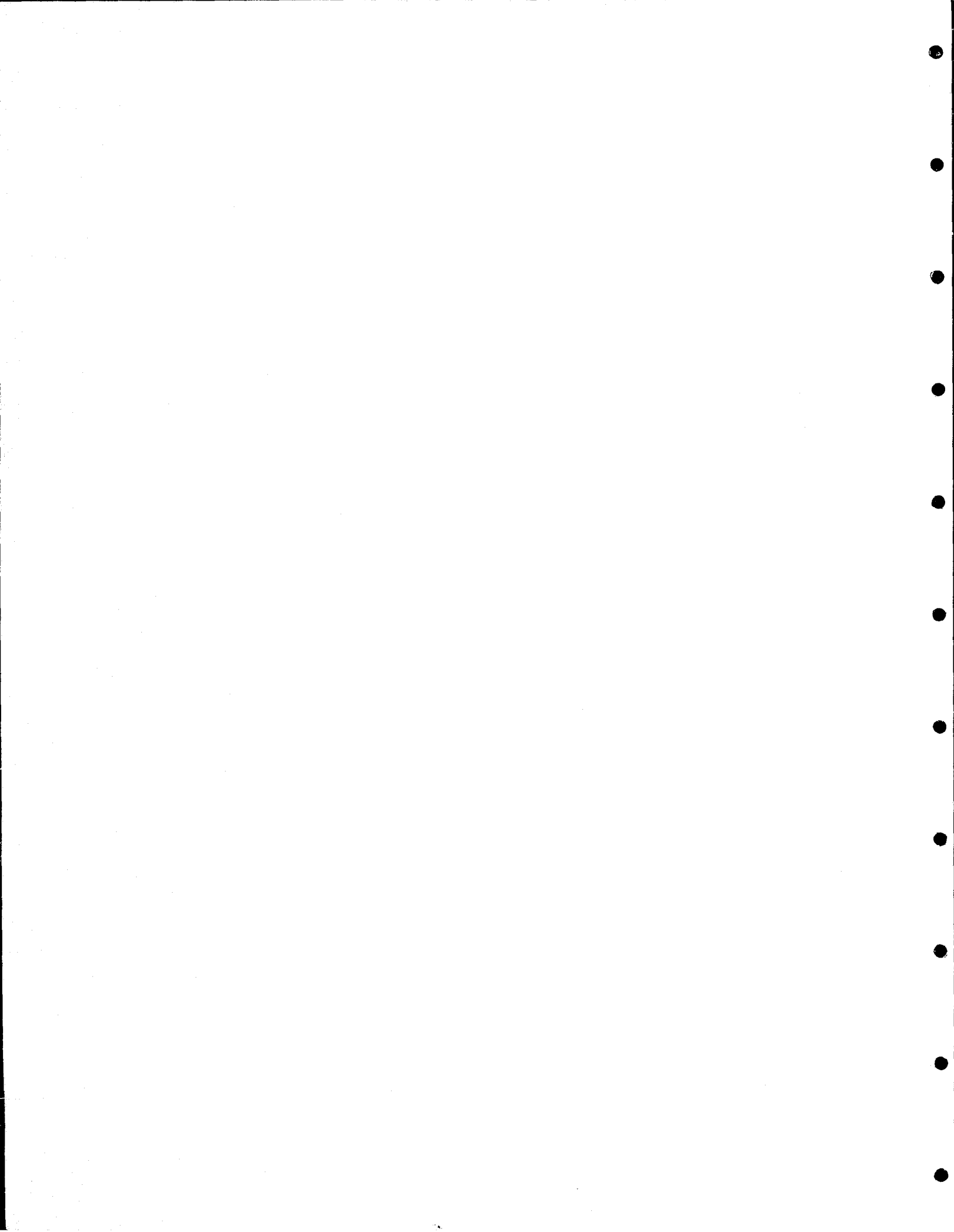
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INTRODUCTION

The object of this essay is to review the outstanding published works dealing with the subject of crime investigation. The brief descriptions of each of these works which are given here are intended to provide indications of their importance to the development of the field. No attempt is made to discuss all of the findings and conclusions reached in each study.

Most of the published accounts of concern to the field are cited at some point in this essay. In those sections covering the sociology and management of the detective function (Sections 3, 4 and 5), an effort has been made to include reference to every relevant source identified in the literature search conducted as a preliminary to the preparation of this paper.

The first two sections of the account are more limited in scope and present only selective overviews of the historical development of the investigative function and of the major scientific and technological advances relevant to the field. No attempt has been made at any point to cover the many developments in the field of constitutional law which have had a major impact on policies and techniques applied in all areas of policing, but particularly to those applied by officers involved in the investigative function. There are a number of standard works which discuss these developments and provide practical guidelines to the legal restrictions on, and responsibilities of, officers conducting investigations of suspected breaches of the criminal law. Noteworthy among these is the work by Markle (1974) which has the advantage of discussing points of law in the context of actual cases. However, use of this or any other text of this kind should be supplemented by one or other of the standard legal encyclopedias dealing with the law of criminal evidence. The primary value of these encyclopedias to the investigator lies in the fact that they are updated regularly by

supplements and replacement volumes and can therefore be relied upon to include very recent court decisions of concern to the field; (see, for example, Jones and Gard 1972 and Wharton and Torcia 1972).

The bibliography included in the final section of this account is not comprehensive. For additional material relating to the various aspects of criminal investigation, the reader is referred to the excellent bibliography included in the third volume of the Rand Institute's 1975 study of the investigative process.

I. THE HISTORICAL PERSPECTIVE

The modern detective function in the Anglo-American system of justice can be traced to its origins in medieval England. Until well into the nineteenth century, crime investigations were not considered as a function appropriate to the police but were the responsibility of private citizens.

This does not mean that in the past no crimes were investigated or that no one was interrogated, but investigation was not a function of the police. There have always been police of one sort or another, but they were charged with guarding against crime and arresting known offenders and not with the ferreting out of offenders" (Scully 1964:1034).

In standard histories of the development of criminal law in Britain between the fourteenth and eighteenth centuries, responsibilities for the detection and investigation of crime, and the interrogation of suspects, devolved at various times upon private citizens and the courts.

One source describes the increasing involvement of the state in the investigation of crime as stemming from the emergence of three institutions between the thirteenth and sixteenth centuries: the coroner's jury, the Privy Council and the office of the magistrate. Hearings at the coroner's inquest, instituted to investigate death under suspicious circumstances, required a coroner's jury to hear evidence and to reach a verdict. Inquests were apparently instituted from the belief that murder was too important a crime to be left to investigation at private hands. Interrogations were, however, rarely conducted at coroner's inquests. Moreover, all hearings were public. For these reasons, inquests are not regarded as having contributed significantly to the development of the investigative process (Scully 1964).

Investigations by the Privy Council began as a means of enquiring into allegations of criminal behavior in cases which involved important personages or which were otherwise of national consequence. Hearings

before the Council are reported as involving secret questioning of witnesses under oath, and without benefit of counsel or knowledge of what crimes, if any, they were being charged with. Abuses by the Privy Council of its investigative powers brought about suppression by Parliament of the Council's right to interrogate in 1350. It is suggested, however, that interrogation of witnesses by the Council may have continued for many years after this time (Stephen 1883 I:166-84). The Privy Council's Court of Star Chamber in fact continued to function as an investigative body until its abolition in 1640. Like its predecessor, this court was primarily concerned with the investigation of political crimes or with allegations involving powerful individuals. However, the investigative techniques used were often just as dubious as those used by the Council in its earlier years and public dissatisfaction with these is considered to have brought about the Court of Star Chamber's downfall.

The history of the court shows that when the power to interrogate is placed in the hands of the state it may be abused by the noblest of judicial bodies. It became the most hated instrument of arbitrary sovereign power and was a principal cause of the Cromwellian Revolution (Scully 1964:1037; see also Plucknett, 1956).

The investigative bodies discussed above represented institutions for examining extraordinary allegations or those involving extraordinary persons. None of these institutions was designed to investigate non-capital crimes committed by ordinary citizens. An important development of the Tudor period was the formalization of the powers of the magistrate or justice of the peace, and the use of this office as the principal state mechanism for the investigation of crime and the indictment and prosecution of suspected persons. The major discussion of the origins of this office is provided by Holdsworth (1903-1938). In this, the original function of the office is described as being the maintenance of order. The investigative function of the magistrate developed with the responsibility of this

office for securing arrested persons and preparing indictments against them.

Stephen's work is the standard account of the development of the investigative responsibilities of the justice of the peace between the sixteenth and nineteenth centuries (1883). Up to the eighteenth century the powers of magistrates developed to permit them to carry out the kinds of thorough investigations and interrogations which are conducted by the police of today. Samaha, in his detailed account of how this system operated in the county of Essex, in Elizabethan times, describes the several ways in which the judiciary became aware of law-breaking (1974). He suggests, however, that in most instances action by a magistrate was initiated by direct appeal from an injured party. Because of this, the functioning of the magistrate as the agent of criminal investigation is regarded as occurring as a community-based activity. Accused and injured parties were usually known to one another in pre-industrial England and citizens were inhibited from making accusations against their fellows because of a reluctance to initiate their own involvement in the official machinery of justice. Samaha's main point is that, regardless of how the process of judicial investigation was initiated:

...the whole process of law enforcement in preindustrial Essex was intensely personal, even if it seemed dangerously partial...And it is significant that as population grew; as the nexus of the relationship between the rich and the poor changed from a personal one to one of cash; as economic conditions worsened, even though the community was still small enough for the J.P. to know many people personally, the growing numbers of landless laborers were sure to be much less known and much more the object of the justices' suspicions. (1974:81).

The failure of the office of the magistrate to cope with crime in the rapidly industrializing Britain of the eighteenth century is documented by Radzinowicz (1956), Maitland (1885), Stephen (1883), Armitage (1932),

Rumbelow (1971) and Pringle (1955). One consequence of this failure was the emergence of private institutions for the investigation of crime. Radzinowicz discusses in some detail the elaborate network of rewards used to involve private organizations and individuals, including those with criminal backgrounds, in the investigative process (1956:1-167). Discussion of the creation of an extensive system of informers and how this was used to assist the judiciary in investigating crime is included in Howson (1970), Stephen (1883), Lyons (1936) and McAdoo (1927).

In spite of the failures of the magistrate system of criminal investigation and of the fragmentary and disorganized police forces of the eighteenth century, the detective function, as a specialized responsibility of the police, can be said to have begun in this period. The Bow Street Runners were never a large force and were accountable to the judiciary. Nevertheless, their function was primarily the detection of crime. In this capacity, they undertook the activities of investigating crime and interrogating witnesses and suspects which were assumed by the detective divisions of police agencies in later years (Armitage 1932; Pringle 1955; Hibbert 1963).

There have been various interpretations of the factors underlying the institution of systems of bureaucratized police forces in Great Britain and the U.S. during the nineteenth century; (for traditional views, see Reith, 1938 and Critchley, 1967; for a non-traditional view, see Miller, 1975). However, a number of consequences arose from the creation of police agencies which were efficient enough to carry out their responsibilities for law enforcement and order maintenance. Important among these was increasing recognition of the fact that the investigation of crimes and the prosecution of alleged offenders could no longer be regarded as a private function. The existence of effective agencies charged

specifically with the enforcement of the law meant that, in both Britain and the U.S., the involvement of the individual in the criminal justice system began when he or she was first questioned by the police and not at the point when the individual became involved in the judicial process (Scully, 1964; Stephen, 1883). Establishment of bureaucratized police forces therefore marked an important step in the development of the form of criminal investigation and its nature and function as part of the criminal process.

In Great Britain, the development of the investigative function in this way is well-documented. From the time of the appointment of the first Director of Public Prosecutions in 1879, the myth that prosecutions were largely private affairs, as they had been in earlier centuries, could no longer be maintained. From this point, the development of criminal investigation as a specialized police function in Britain was largely influenced by the institution and subsequent refinement of procedural rules governing police activities in this regard. Apart from the standard sources, such as Radzinowicz and Stephen, accounts tracing this development include Williams (1960), Devlin (1958) and Critchley (1967). The social development of criminal investigation in Britain during the middle decades of the twentieth century has been determined by further refinement of procedural rules which has been brought about by concern both for the civil liberties of the individual and the responsibility of the police to society (Rolph, 1962; Laurie, 1970). Williams (1961) includes a valuable summary of restrictions on police practices under the revised version of the Judges' Rules, which were originally formulated in 1912 as an official statement of the limitations on the power of the police to interrogate suspects.

There are strong parallels, not surprising from a historical point

of view, between the development of criminal investigation in Britain and the U.S. Unfortunately, as has been pointed out: "...there is no Radzinowicz for the history of criminal investigation in the United States, just as there is no Stephen for the history of its criminal law" (Scully, 1964: 1041). The account provided by Scully is an important discussion, and source of bibliography, of developments in both countries, but is primarily concerned with the accused's right to counsel during interrogation as this was formulated in early English legal history.

Legal histories generally support the view that in matters of criminal law and procedure, colonial America followed the British pattern. This conclusion is presented by Goebel and Naughton (1944) and Greenbert (1974). Works which qualify this as a general conclusion and emphasize the way in which the British system in America was modified by local situations and local values include Haskins (1960) and Erikson (1966). Erikson's work is an important sociological account of how criminal law in early Puritan settlements functioned to interpret the boundaries of prescribed group behavior. Included in this discussion is an account of how the process of criminal investigation, then a private responsibility, was manipulated by powerful interest groups in the colony.

The theoretical and historical works cited above do not analyze the development of criminal investigation in the United States in any great detail. On the other hand, the establishment of detective units in both British and American police agencies and the subsequent histories of these units are topics which are covered quite well in the literature. Earlier in this section, reference was made to the Bow Street Runners of London as the first detective force in the English-speaking world. (Historical development in countries other than Great Britain and the United States are not considered in this essay). It should, however, be noted that the

Runners were responsible to the authority of the courts and did not therefore constitute a police agency. The question of what constitutes the first detective unit does, of course, depend on how the detective function is defined. To all intents and purposes, the first police agency to create a separate detective force was the London Metropolitan Police which took this step in 1842 (Hibbert, 1963:292). An account of the early years of Scotland Yard, and its struggle to combat resentment from the general public and the uniformed force, is included in Rhodes (1933). Radzinowicz notes that this resentment stemmed from distaste from anything approaching a "spy system" and also from the scandals in which detectives were involved in the early years of their history (1968:188-9). A good account of the origins and precursors of the London detective force is included in Mather (1967). The works of Browne (1956) and Thomson (1936) represent the standard accounts of this force during the first hundred years of its history. General discussion of some of the more sensational aspects of detective work throughout the world is included in Hibbert (1963) and Thorwald (1965 and 1967).

There is no single source covering the establishment and early history of detective units in the U.S. Ward's dissertation includes a section tracing the development of detective units in agencies throughout the U.S. as this is documented in the literature (1971:28-36). Officers began to be assigned to detective duties in major American cities from the 1840's on, although detective divisions did not become a standard feature of state police agencies until the years following World War I. (Torres' 1971 thesis includes a section on the early development of the investigative function at the state level).

During the latter part of the nineteenth century, the detective units of large city police forces expanded rapidly in size and in the scope of

their operations. Like their British counterparts, American detectives of this period demonstrated a disturbing tendency to become involved in corrupt activity. Richardson describes some of the major scandals in which New York City detectives were involved at this time (1970). He suggests that a predilection toward corruption has always been more likely to exist among detectives than among uniformed officers because of detective's working reliance on the informer system and an intimate relationship with the criminal subculture (Richardson, 1970; see also Ward, 1971). Prassel discusses corruption among police detectives in Denver around the turn of the century (1972).

Lane notes the prevalence of corruption in the detective force of nineteenth century Boston and describes a decision of the city's Board of Aldermen to abolish the detective bureau as being brought about by revelations of dishonesty (1967). The early development of the detective function in this country has been characterized by the important influence of private agencies (see Prassel, 1972; Bopp and Schultz, 1971; Weston and Wells, 1974). Allan Pinkerton who, prior to establishing his private agency, was the first detective appointed by the city of Chicago, is usually regarded as the most successful detective of this period (Horan and Swiggett, 1951; Flinn, 1887; Broehl, 1964; Pinkerton, 1878 and 1881). A widely-quoted achievement of the Pinkerton Agency was its destruction of the "Molly Maguires", a gang of industrial saboteurs which operated in the Pennsylvania coalfields between 1861 and 1871 (Dewes, 1877; Morn, 1975).

The standard account of the growth of organized law enforcement in the West includes a section dealing with the considerable expansion in the activities of private agencies which took place on the frontier. Use of private detective agencies to protect livestock, railroads, stagecoach lines and even to maintain public law and order grew at the same rapid pace as the westward movement of population (Prassel, 1972; see also Collier

and Westrate, 1936; Cook, 1958). As the century advanced, large corporations made increasing use of private detective forces to counter problems arising from labor disputes. Restrictions in the use of company police and other private agencies began to be enacted by state legislatures as official law enforcement structures began to develop (Prassel, 1972).

Many of the sources cited in this section include references to other works dealing with the development of the investigative function in this country. A few of the many published memoirs and reminiscences of former detectives and police administrators are noted in this essay. Others are cited in the standard bibliographies covering the history of the criminal justice system in this country (see Culver, 1934; Cumming, 1935; Kuhlman, 1929; Tompkins, 1949 and 1956).

II. SCIENTIFIC AND TECHNOLOGICAL ADVANCES

Keith Simpson discusses the development of scientific techniques of importance to criminal investigation as occurring in three overlapping stages (1969). The first stage, the "Medico-Legal Era", is considered to have been characterized by increasing use of expert medical evidence to determine cause of death or injury in criminal cases. This period saw the progressive development of forensic medicine as a field of study which assisted the courts in determining the facts in a case, but provided limited assistance to the criminal investigator concerned with non-medical aspects of detection. Simpson's account includes a discussion of the major published works documenting the development of legal medicine in this early period. In this and other accounts of the beginnings of scientific criminal investigation the work of Alfred Swaine Taylor is cited as constituting the major body of published material produced in this era (Taylor 1836, 1844 and 1865).

The second stage in the development of criminal investigative techniques is termed the "Criminological Era" by Simpson and characterized by the evolution of series of scales for the identification and description of evidence. The major accomplishments of this era lay in the development of techniques which could be used to classify and identify items of physical evidence. Anthropometry, as the use of physical measurements to identify persons, was suggested in the work of Quetelet and Lombroso and first undertaken on a systematic basis by Alphonse Bertillon in Paris in the early 1880's. The Bertillon systems, using physical measurement and the more qualitative parole parlée, achieved considerable popularity and some success. Bertillonage, the identification of criminals by recording measurements of eleven separate physical characteristics, survived until fin-

gerprinting became recognized as a more accurate technique. The portrait parlé is still used in some police agencies as a shorthand form of describing suspects. Bertillon's own works remain the classic account of this system (Bertillon, 1889 and 1896). Other works providing discussion of the Bertillon system as it was developed in the nineteenth century and in the modified form in which it has been used in more recent times include Wilder and Wentworth (1918) and Rhodes (1956).

Although some controversy exists over when the finger-print technique for individual identification was introduced, there is general agreement that fingerprinting as a system for the identification of criminals was pioneered in the work of Sir Francis Galton (1892 and 1908). Systems of fingerprinting were formally adopted by police agencies in London and Buenos Aires in 1894. Official recognition of the system in Britain was primarily due to the prestige of Galton, as well as to the obvious merits of the concept. Developments in the Argentine were, as in Europe, strongly influenced by the efforts of one man, in this case Juan Vucetich, a Croatian immigrant and head of the Statistical Bureau of the La Plata police. Vucetich's work paralleled that of Galton and earlier workers to a large extent. However, this Argentinian police officer made a significant original contribution to the science of fingerprinting in developing and refining schema for the classification of prints (see Vucetich 1904 and 1929; Perich 1913).

General acceptance of fingerprinting as the major technique for the unique identification of criminals occurred in the last decade of the nineteenth century and the first decade of the twentieth. The initial weakness in Galton's system concerned the lack of an efficient means by which fingerprinting records could be classified and accessed. Acceptance of the concept by police forces throughout the world was heavily influenced by the

further development of classificatory techniques which facilitated the use of fingerprinting as a practical tool for law enforcement.

Vucetich's efforts represented an important step in this direction. Galton's later work also contributed a great deal toward the resolution of this problem (1895). Of the many researchers who experimented with fingerprint systems in these early years, the name of Edward Henry is outstanding. The classificatory techniques used by Henry while a senior officer in the Indian police were of major importance in developing fingerprinting as a practical system. Henry's ideas were officially adopted by the governments of Great Britain and India and Henry himself exerted considerable personal influence on the development of techniques of criminal investigation in his later capacity as head of Scotland Yard.

By 1914, fingerprinting had become widely adopted. The period since then has seen further refinement of systems of classification. However, the Vucetich and Galton-Henry schemes of classification still represent the bases upon which modern systems are based. Of the many works on this topic, Herschel's early account is still the most detailed discussion of the origins of fingerprinting (Herschel, 1916). An important recent discussion of the history of fingerprinting is included in Thorwald (1965:13-114) and Block (1969). There are a number of standard manuals dealing with the practical applications of fingerprinting techniques. Outstanding among these is Henry's own work, published in eight editions between 1900 and 1937. Other well-known sources of this type include Bridges (1963), Cherrill (1954), Kuhne (1941), U.S. Federal Bureau of Investigation (1973) and Moenssens (1971). Most of these sources include some discussion of detection of fingerprint forgery. The standard work on this topic is, however, Chapel (1941). An excellent, and up-to-date survey of the present technology, and future potential of automated fingerprinting systems is pro-

vided by Foote (1974). Stroh's article outlines the features of MIRACODE, a computerized fingerprint identification system. The automated fingerprint access system presently being developed by the Federal Bureau of Investigation is described in two articles recently published in the F.B.I. Law Enforcement Bulletin (Banner and Stock, 1975a and b).

Palmprints and footprints have also been used as means for the unique identification of individuals. Techniques for the classification of palmprints have long since been developed (see Cummins and Midlo 1961:84-119). However, the application of palmar classification schema to the systematic collection of prints has not been popular among police agencies. A notable exception to this statement is the Merseyside Criminal Record Office at Liverpool, Great Britain, which developed such a system in 1965 in response to the increasing number of palmprints received by this agency for examination. The literature of this subject is very sparse. Two of the most important works relating to palmprinting are the book by Cummins and Midlo, cited above, and Alexander (1973). This last includes a detailed description of the system instituted by the Merseyside agency.

The use of evidence from footprints has long been recognized. Criminal Investigation, written by Hans Gross and published in various editions between 1907 and 1962 includes a chapter on footprints and their use both as identifying characteristics in themselves and as indicators of the height, weight and other features of people. Gross's work remains the major published discussion relating to footprinting in particular, as well as to criminal investigative techniques in general. A review of the developments in, and the bibliography of, this field is included in Pomarico (1962).

A major development of twentieth century forensic science has been the use of increasingly sophisticated techniques to identify individuals

by analysis of bloodstains or other body secretions. Earlier in this essay, reference was made to Keith Simpson's short history of scientific criminal investigation which outlines three phases of historical development. The last of these, the "Scientific Era" is characterized by the development of practical techniques for the identification of evidence which are a consequence of the increasing availability of sophisticated equipment. Simpson cites a text written by Orfila in 1813 as a watershed in the application of analytical chemistry to crime investigation and cites an 1840 court case as the first occasion upon which this application bore fruit (1969:57). If advances such as fingerprinting and other anthropometric measurements can be seen as major achievements of the "Criminological Era", the tremendous increase in the ability of forensic scientists to apply modern techniques of measurement and analysis to physical evidence is the characteristic of the third stage of development, the "Scientific Era" (Simpson, 1969).

Analysis of body secretions as physical evidence used to assist in the identification of individuals relies, like most applications of forensic science, on the findings of original research and on the increasing availability of sophisticated techniques of instrumentation. The phenomenon of iso-agglutination and the existence of the ABO blood-group system was discovered by Karl Landsteiner in 1900 (see Landsteiner, 1901). A theory accounting for the genetic determination of ABO blood group types was suggested by Bernstein in 1924 and a mass of subsequent population studies have served to support the explanation of ABO inheritance in terms of Mendelian laws of heredity and to document the distribution of types in populations throughout the world (Sussman, 1968). Research in this field over the last half-century has focussed on the identification of other genetically determined systems relating to blood and other body secretions.

Major achievements in research on blood groups have been the discovery of the MN system (Landsteiner and Levine, 1927), and the identification of the Rh factor and its influence on the consequences of blood transfusions between people of different groups (Landsteiner and Wiener, 1940). Subsequent progress has resulted in the isolation of subgroups of known systems and of systems which were hitherto unknown. "Closer and closer has this science come to fulfilling Landsteiner's prophesy that the individuality of blood will someday be comparable to the individuality of fingerprints" (Sussman, 1968:5). Apart from the works cited above, major publications dealing with blood group systems and the identification of blood group types include Stern (1973), Wiener (1961 and 1965), Boorman and Dodd (1970) and Zmijewski and Fletcher (1972).

It is important to note that not all of the known blood group systems can be identified through the analysis of bloodstains. Such analysis requires the application of specialized techniques and the development of techniques and methodologies appropriate to the testing of blood specimens in the forms in which they are commonly encountered by forensic scientists has been a major achievement in the application of science to criminal investigation. Outstanding works dealing with the problems, accomplishments and methodologies applied in this field include Culliford (1971), Sussman (1968) and Wilber (1974). This last is particularly valuable for its inclusion of bibliography relating to particular tests used to identify specific blood groups. Wilber's work provides an excellent overview of the advances made by forensic science in the identification of blood group types by the analysis of specimens of bone, seminal stains, fingernails and hair.

The above account represents an overview of only some of the major themes and developments in the history of the applications of science to

crime investigation. A number of sources provide reviews of the present "state of the art" of forensic science in a variety of specialist areas not discussed here. Again, Wilber's account is particularly valuable for its coverage of ballistics and firearms and of the identification of human skeletal material. The applications of recent findings, and particularly developments in instrumentation, from other areas of scientific endeavor are of major importance to the continuing development of the forensic sciences. Such applications are discussed in some detail in a number of the textbooks in this field. Of these, O'Hara's book is particularly valuable for its discussion of the application of biological techniques (1974). Kirk's account concentrates on the recent application of physical and chemical techniques such as chromatography and spectroscopy (1974). Grant (1974) provides a useful short discussion, presented from the point of view of the forensic scientist, of evidence-gathering techniques. Of the many works dealing with accomplishments and trends in criminal investigation, Thorwald's accounts remain the most comprehensive and the most widely-quoted (1965 and 1967). The collection of essays edited by Peterson includes some thirty articles, originally published between 1930 and 1974, documenting advances made in the application of the forensic sciences to the criminal justice system (1975). This work constitutes an excellent overview of recent accomplishments made in this field.

There is no source which periodically reviews advances made in forensic science and its related fields. The major bibliographic tool in the field is Forensic Abstracts which indexes and abstracts relevant journal articles as these are published throughout the world. Additional materials are cited and summarized in Abstracts on Police Science.

Two topics are of great current concern in the field today because of the problems they raise regarding the collection and presentation of

physical evidence. Voiceprinting, the identification of a speaker by comparing a spectrogram from the voice of an identified speaker with those prepared from recordings of the voices of unidentified persons, is a technique developed in the early 1960's by Lawrence Kersta (Kersta, 1962). Since they were first presented as evidence in a criminal case in 1966, voiceprints have created substantial controversy. Criticism of the technique has been based on either doubts as to its reliability as a tool for identification, on the questionable methods by which voiceprints have been obtained or on the various constitutional issues raised by the introduction of prints as evidence ("Voiceprint Identification," 1973). In the last few years, particularly since 1971, the courts have become somewhat more willing to accept voiceprints as evidence. This has generally been ascribed to the success of a number of recent research projects designed to test the reliability of the process (Michigan State Police, 1972; Tosi et al., 1972).

Bibliographies of works dealing with voiceprinting are included in Hennessy and Romig (1971), "Voiceprint Identification" (1973) and Michigan State Police (1972). The controversy is, however, an ongoing one and the principle of voiceprinting has not yet been universally accepted in the courts. The topic is mentioned here because it is one of current concern to the field of criminal investigation and because it provides an illustration of the difficulties raised by the two concepts of legal proof and scientific proof. To qualify as an acceptable tool of scientific crime investigation, a technique must qualify on both counts.

Use of evidence obtained from lie detection tests has been debated by experts for more than five decades. Some discussion of this debate is useful here as a further illustration of the particular problems faced by those attempting to develop more precise techniques of crime investigation.

An essential problem raised by the use of the polygraph concerns the extent to which the results of a lie detection test are influenced by the way in which the operator conducts the testing process. Opponents of the admissibility of the results of polygraph examinations in court suggest that the polygraph is basically a subjective device. An operator administering such a test is considered to apply questions predicated upon an initial assumption of the guilt or innocence of the subject tested (Radek, 1972). A further objection raised by opponents of the polygraph concerns the frequent impossibility of verifying the results achieved. Acquittal or conviction on criminal charge cannot be used as a criterion for substantiating or negating the validity of such tests. It has, moreover, been pointed out that, however accurate the polygraph may be when its results are examined on a statistical basis, the presence of self-eliminating random error is a feature of tests results. The existence of such random errors is considered sufficient to invalidate the test as a reliable piece of court-room evidence (Skolnick, 1961).

The bibliography dealing with lie detectors and lie detection is extensive. Important recent works dealing with the use and reliability of polygraph testing include Inbau and Reid (1976), Wicklander and Hunter (1975) and Edel and Jacoby (1975). Sources discussing the admissibility of lie detection tests in court include Ansley (1975), Ferguson and Miller (1974 and 1975) and Rifas (1975a and b). Torlow (1975) provides a review essay on polygraphy and Ansley and Horvath present a bibliography of works dealing with one application of polygraph testing (1975).

The subject is discussed in this essay as a further way of demonstrating advances in scientific criminal investigation and the difficulties of assessing the usefulness of a particular technique which are peculiar to this field.

III. TECHNIQUES AND METHODOLOGY

There are a number of texts which deal exclusively with the subject of criminal investigation and which are primarily designed for use in college courses or in police training programs. Without exception, these texts concentrate almost exclusively on the technicalities of routine investigative practice. They provide little or no discussion of the overall objectives of an investigative unit, the relationships between the objectives of the detective division and other specialized units, the methodology employed by investigators in gathering, selecting and analyzing facts and the decisions made by investigators in determining their roles within their organizations and within society.

Excluding works which are review texts, and those dealing with the scientific aspects of crime investigation or with specialized aspects of the field, there are about fifteen texts on the subject currently in print. These include Dienststein (1974), Horgan (1974), I.A.C.P. (1975), Inbau et al. (1972), Kirk (1974), Leonard (1970 and 1971), Mulhearn (1975), O'Hara (1974), Söderman and O'Connell (1962), Svensson (1965), Tiffany et al. (1967), Ward (1975) and Weston and Wells (1971 and 1974).

All these works share a common basic form. Some discussion is provided of the history of criminal investigation and its significance as a police function. Separate chapters or sections are given to legal constraints and obligations, crime scene procedure and case preparation. Additional discussions of report writing and scientific evaluation of evidence are usually included. The bulk of each of these texts is, however, devoted to separate chapters dealing with each of the various types of criminal activity commonly investigated and to specific investigative techniques, (such as interviewing, interrogation, surveillance and arrest).

A number of texts have special characteristics of one kind or another. Dienststein's book is notable for its extensive treatment of undercover work and sources of information. It is also valuable as a source of additional bibliography on each topic covered. Horgan's is one of the few works to include a section dealing with explosives and bombs. Leonard (1971) includes good discussion of automated techniques in law enforcement and of other general topics bearing upon the relationship between detective divisions and other units of police agencies. Ward's book (1975) provides one of the rare analyses of the principles of theory building and information handling. Also included in this source are valuable overviews of the history of criminal investigation and the nature of the investigative function. The oldest of the works cited here, (Soderman and O'Connell, 1962), is still valuable - particularly because it appears to be the only text which includes a section dealing with the placing of detective divisions in the organizational structures of police forces in various parts of the world.

The very extensive survey of investigative practices published by the Rand Institute in 1975 includes an appendix entitled "The General Literature of Criminal Investigation" (1975 III:147-50). This provides an overview of the most popular textbooks and training publications in this field and should be used to supplement the information given in this section.

There are four texts which have now been published in several editions and which can therefore be considered as standard works on the subject (Gross, 1962; Kirk, 1974; O'Hara, 1974 and Weston and Well, 1974). Hans Gross's work, the first edition of which was published in 1906, is the classic in its field. As with the other texts cited here, Gross's book is

concerned with the tactics of crime investigation. Gross was the first author to advocate the importance of method to crime investigation and this basic thesis: "...has proved to be the cornerstone of criminal investigation" (Weston and Wells, 1974:23). Of the other texts in this group, that of Weston and Wells is exceptional for its lengthy and informative chapter on the history of criminal investigation. The bibliography included in this work is one of the most comprehensive in this field. O'Hara's book includes the most comprehensive discussion of the sources of information available to the investigator.

Discussion of the investigative process in the literature of police administration centers on the relative involvement of uniformed officers and detectives in the process and the organization and administration of detective units. Recognition of the importance of the uniformed patrolman to the investigative function is widespread in the literature. Preliminary investigation is, generally speaking, a patrol function. The importance of police patrol operations to the effectiveness of crime investigation activity is put into proper perspective by Leonard and More:

"Since the work of the patrol force includes all police functions, the more effective the patrol division, the less need there is for the more specialized operating divisions and units. It has been shown that, although it is impossible for the patrol services alone to be one hundred per cent effective in the discharge of all police functions, the other operating line divisions are necessary only to the extent that the patrol division falls short of this objective. It follows, as a corollary, that all other line divisions or units in police organization, including detective, traffic, crime prevention, and vice, are to be regarded fundamentally as supporting elements of patrol power, although not subordinate to it in the organization structure. Consolidation of all line operations, including the patrol division, under a single, unified command provides the necessary coordination and proper distribution of emphasis." (1974:407).

Further:

All other line units in a police organization move in orbit about the patrol force and are secondary to it. Since the work of the patrol force includes all major police functions, the more effective patrol service is, the less need there will be for more specialized operating units, including the detective function." (1974: 409).

The few published studies on how detective operations are managed on a day-to-day basis are reported elsewhere in this essay. No studies explicitly designed to reveal the extent to which the patrol force is involved in investigative activity have yet been carried out. However, the survey of published findings of sociologists which is included in Section 4 indicates that, in practice, the amount of time patrolmen spend on investigative activity is not substantial.

Publications dealing with the organization and control of criminal investigation have tended to concentrate on the question of what constitutes an optimal level of specialization in an agency. Fosdick, in his comprehensive discussion of the organization of detective bureaus in America, paid particular attention to the question of centralized or decentralized command (1920:333-8). The modern trend toward less specialization in many detective units has been viewed as a response to changing patterns of criminal behavior:

In recent years...there has been a tendency toward grouping the functional specialists--partly on the grounds that criminals tend to be less specialized themselves. A substantial percentage of crime today is committed by narcotics addicts to sustain their habits, or by youths. (Wilson and McLaren, 1972:371).

A report of the U.S. National Advisory Commission on Criminal Justice Standards and Goals included a similar policy statement: "As a result of the mobility and sophistication of modern criminal techniques, police agencies have tended to over-specialize, particularly in criminal

investigation....Each agency should establish only as many specialized criminal investigation units as truly necessary, staffed with as few personnel as practicable." (1973:235). In this source, as in many other recent discussions, emphasis is placed on the involvement of the patrol force in the investigative function and on the importance of the patrol function as the focal point of police operations.

Some discussion of the problems arising from the management of the investigative function and the assessment of the productivity of detective units is included in Section 5. However, the most influential discussion of the detective function in recent years has been in the context of debate over the team policing model of law enforcement. Varying forms of team policing have been discussed and occasionally instituted in this country and in Great Britain, where the concept originated. In the form in which it has most generally been applied in the United States, the idea results in a technique of police patrol which incorporates:

1. Geographic stability of patrol: i.e., permanent assignment of teams of police to small neighborhoods...
2. Maximum interaction among team members, including close internal communication among all officers assigned to an area during a 24-hour period, seven days a week...
3. Maximum communication among team members and the community." (Sherman et al., 1975:294).

Assignment of a team to one neighborhood, on a permanent basis, has been the most general feature of the concept as it has been used in this country. This "neighborhood team policing" is rather different from the idea as it was originally developed in Scotland just after World War II, and as it is still used in some parts of the world.

Team policing in this country has developed primarily in response to an awareness of the failure of traditional forms of policing. Some of the consequences of this failure are outlined in the discussion of the "police problem" included in Section 4. A recent experiment designed to

shed some light on the effectiveness of police patrol in preventing crime produced startling results. The findings of this study are still a subject of much debate. (For a review of the literature dealing with the Kansas City Patrol Experiment, see Hurni, 1976). However, the net result of this debate has been to throw traditional views of the nature and objectives of police patrol further into doubt.

Since the team police model was first recommended for adoption by the Presidential Commission on Law Enforcement and the Administration of Justice, (see U.S. Task Force on the Police, 1967), it has been applied in a wide variety of jurisdictions. An essential feature of the model is acceptance of a democratic form of organization. Specialization still, of course, exists within departments which subscribe to the concept, but responsibility for both patrol and investigative activities is borne by the generalist officer. Each team consists:

"...entirely of police generalists, who would have equal rank and would have no formally assigned supervisor. The leadership is expected to develop situationally as the circumstances dictate. In other words, team members can determine who will lead them, and the person who occupies the leadership role may change as the situation changes."
(Angell, 1971:195-6).

Successful applications of the concept in the U.S. share a number of common features in addition to those cited above. These include:

"...unity of supervision, lower-level flexibility in policy-making, unified delivery of services, and combined investigative and patrol functions."
(Sherman et al., 1975:295). From the point of view of this paper it is, of course, the last of these characteristics which is the most significant.

The original recommendation, made by the Presidential commission cited earlier, that team policing be used in this country, suggested combining patrol and investigative duties under a single command as the most productive form of organization of the investigative function (1967:53). This

view implies recognition of a major feature of investigative work which is brought out in that section of this paper dealing with sociological studies of police activities. This is that most crimes are solved on the basis of information supplied to the officer on the scene by either witnesses or the complainant. Responsibility for crime investigation under team policing is assigned to the team as a whole. This represents one aspect of the pragmatic approach to policing which is inherent in this concept.

In their survey of the experience of American agencies with the idea, Sherman et al. note the significance of the increased involvement of patrol officers in the investigative function:

The authority to handle investigations was for many team members the most significant part of team policing. Detectives, who traditionally conducted all follow-up investigations were viewed as an élite group who got the 'hot' cases. The team policy, giving considerable follow-up investigation responsibility to team members, was accepted as a challenge. (1975:307).

However, the authors also observe that not all agencies gave the teams this kind of responsibility:

In New York City, patrol officers throughout the department had been given responsibility for preliminary investigations. No changes in the handling of follow-up investigations, however, were made for team officers. Some felt this was because New York traditionally maintained a sharp distinction between patrol officers and detectives. Patrol officers resented the stereotype of an arrogant detective who arrived at the scene and immediately dismissed them, but they accepted it as an inevitable part of the system. Detectives were ultimately assigned to teams, rather increasing the investigative responsibilities of team patrol officers. (1975: 308).

Inclusion of detectives on the teams has been a popular development. Suggestions that teams include specialist officers of this type are made by Pepinsky (1975), Polls (1976) and Brown (1976). This last author describes

a system whereby detectives are assigned to teams, but are assigned as generalists, rather than specialist officers. This development is a very important one and its effects on the nature of the investigative function are likely to be profound. If the trend continues, then the traditional distinctive feature of detective units, i.e., as the only units which only respond to specific complaints, will have been eroded.

The literature dealing with police operations now includes a considerable volume of material dealing with team policing and its effects on the investigative function. Recent developments are covered well in the three sections dealing with the field in a report of the U.S. National Advisory Commission on Criminal Justice Standards and Goals (1973:154-61). Additional bibliography on the subject is also included in this source.

Social theorists have not generally paid a great deal of attention to criminal investigation. Articles on the subject in professional and academic journals still focus upon various of its technical and scientific aspects. The concern demonstrated in the literature continues to emphasize the tactics rather than the strategy of crime investigation. Attempts to take a broader view range from the frivolous to the productive. One article in the latter category presents an overview of the limited theory of the subject to suggest that an outstanding gap now exists between the sophistication of the modern crime laboratory, capable of undertaking very detailed analysis of physical evidence, and the rule-of-thumb methods employed by the investigator in the field (Souryal, 1974).

This author attributes the lack of methodology and the "...state of limbo (in which) the field of criminal investigation has remained...for the last two or three decades" (1974:447) to the refusal of "intellectualists" to recognize that such a methodology can be formulated on a scientific basis. Souryal's contribution to the methodology of crime investigation is to present this methodology as a SCART (a combination of science and art).

In formulating his approach Souryal elucidates a methodological framework for crime investigation which recognizes the functional context of the methodology and the perceptions and biases of the investigator.

Souryal's account does not represent the only methodological approach to the field. The most interesting sources dealing with the application of this approach to crime investigation are included in two collections of essays (Winks, 1968 and Sanders, 1974b). The first of these, edited by Robin Winks, contains some twenty-six essays each dealing with a particular problem raised by the interpretation of the historical record. Individual topics covered include difficulties bearing upon evaluation of testimony (Collingwood, 1968b), eyewitness accounts (Jerome, 1968), self-reported injuries (Donald, 1968) and forgery of documents (Nevins, 1968 and Angle, 1968) as these are raised in the analysis of specific historical situations. Additional essays of interest to the crime investigator include several concerned with the case method of investigation and focussing the reconstruction of events and the interpretation of motives (see, for example, Beaglehole, 1968; Erikson, 1968 and Collingwood, 1968a).

These essays are intended for the academic historian concerned with the analysis and interpretation of archival material. They are cited here because they are presented in the context of a framework through which answers to specific questions regarding a particular case or event can be obtained. Questions which relate to the nature and interpretation of evidence are considered within a methodological framework common to the social sciences. The methodology applied in these essays is that which should be used in the scientific explanation of any social phenomenon--including criminal acts. A review of the discussions included in this collection serves to emphasize the point that methodological approaches to crime investigation should be integrated with those developed in the social sciences

for the universal study of social phenomena.

The collection edited by William Sanders is of even greater potential value to the construction of a methodological approach to criminal investigation. Four of the essays are of particular relevance to this discussion. That contributed by Sanders himself attempts to compare the methodology of the sociologist and the detective (1974a). Although sophisticated evidence-gathering techniques are somewhat naively assumed to be used routinely in the detective's work, this essay has some value. It serves to point out the importance of strategy and method in both the social sciences and the field of criminal investigation. It also serves to demonstrate that similar strategies should, ideally, be used by both scholar and detective.

Webb et al. discuss the evaluation of clothing, body movements and other factors as indicators of mental and emotional states of individuals. Harvey Sacks's essay discusses the way in which the officers on patrol perceive and evaluate unusual behavior. In this, attention is drawn to the problems raised in attempting to formulate the rules used by police officers engaged in this activity. The discussions of Sacks and Webb are important in illustrating the need for a methodological approach to investigative operations. The need for a methodology of this kind is recognized in the literature of criminal investigation. Souryal, in recognizing just this need, illustrates the problem with an example taken from his own experience as a senior police administrator and trainer:

"Among the most frustrating situations which confronted both the trainer and the trainees, in the wake of conducting a complicated investigation, was the inability of the former to identify the principal concepts utilized in the investigation and to relate them to scientific ingredients. Somehow, it seemed too difficult to distinguish one's personal impressions, assumptions, inferences, and bias from a constructive model for reaching conclusions. In almost every case, the trainees, though expressing confidence in the truthfulness of the resultant conclusion, seemed unable to perceive consistent criteria by which such conclusions

were arrived at. As a result, procedures of criminal investigation remained more like favorite "recipes" handed down from prominent predecessors to aspiring successors, bereft of clear methodological reasoning." (1974:445).

The essay in this collection which has greatest significance for the study of crime investigation is that by Sanders and Daudistel. This includes the report of one of the few sociological studies which appears to have been carried out for the sole purposes of examining the nature of investigative work and the approaches taken to it by detectives. Although this study is limited in scope, a number of interesting findings emerge from it. Two types of "citizen response" detective units were studied, a burglary detail and a major-crimes detail. In deciding which cases to "work", or investigate, supervisors in each of these details made their decisions according to quite different criteria. For both details, only those crimes which were considered solvable were chosen to be worked. Unless they were likely to attract publicity or they involved an aggressive complainant, remaining cases were inactivated. Sanders describes the very different approaches taken by detectives in each of these details. The major crimes unit, in deciding which cases would benefit from their time and efforts, selected: "...transgressions that are seen as 'righteous' (i.e., actual, unequivocal) crimes, and in which the victim (wanted or needed) action to be taken by the detectives." (1974:177). Selection of cases investigated by the burglary unit depended on the extent of the loss, as well as the likelihood of clearing the case (Sanders and Daudistel, 1974).

With the exception of some of the works cited at various points in this essay, most of the accounts dealing with criminal investigation concentrate heavily on the techniques applied by the investigator. Little attention is generally paid to the strategy or the methodology of the investigative process. Osterburg's discussion, for example, is intended

to provide an overview of the entire field but actually concentrates on describing various aspects of the field (1967). No discussion of methodological considerations is included.

The study reported by Wildman et al. is an interesting example of the examination of a standard investigative technique by applying modern statistical tests. The authors present a system by which similarities in modus operandi can be measured by the calculation of association coefficients. Advantages of this system are stated as including the application of an objective, quantifiable scheme of measurement which can quickly and easily be applied to the data at hand (Wildman et al., 1975).

Of the few strategic approaches to crime investigation, the work of M. A. P. Willmer is of great importance. Willmer's general approach is to concentrate on interactions between the police and criminals as interactions between two opposing systems. In discussing the characteristics of each system emphasis is laid on the importance of information to the system's smooth functioning. All of the several models used by Willmer are designed to provide the basis for a strategy of crime control which emphasizes efficiency of police information systems and disruption of those of the criminal. Crime prevention is achieved through these models by focussing on the information needs of the criminal and by determining ways in which these needs can be frustrated.

Willmer's book includes a chapter dealing with the applications of his theory of information flow to criminal investigation (1970:13-34). Emphasis in this is on the use of statistical means to evaluate the potential usefulness of items of information. This problem is further explored by the author in two journal articles. In the first of these, a statement is given of the basic theory that detective work is essentially a process by which information concerning crimes and criminals is assessed and tested

for accuracy (1966). The later article analyzes how this process is applied in populations of varying sizes. In discussing the particular difficulties of crime detection in large urban areas, the author concludes that "unit beat policing" (a British variant of team policing) is the form of police patrol most likely to maximize the amount of meaningful information available to the criminal investigation (1968).

Willmer's work has attracted some attention in the literature. This author's publications represent the only significant attempts yet made to state a strategy which is unique to the field of criminal investigation.

IV. SOCIOLOGY AND THE INVESTIGATIVE FUNCTION

Theoretical approaches taken over the last three decades to the study of the police as an institution have focused on the difficulties created by the unique role of the police in society. Sociological theorists have emphasized that, as agents of social control, the police are charged with undertaking a variety of roles which are disparate and sometimes contradictory. Analyses of field studies carried out between the early 1940's and the present have generally sought to identify the contradictions inherent in the mandate given to the police by society. These analyses have also attempted to assess the effects of these contradictions on the police as a subculture group and on the way in which the police function in attempting to meet the obligations of their assigned roles.

The primary role conflict experienced by the officer lies in his three-fold obligation to keep the peace, to maintain order and to protect the civil rights of individual citizens. Peace-keeping and service functions are known to represent the major activities of the uniformed officer on patrol. This was first pointed out in the literature of sociology by Whyte (1943) and has been supported in the literature ever since (see, for example, U.S. Task Force on the Police, 1967; Pepinsky, 1975). Other sources which emphasize the importance of duties unrelated to law enforcement in the patrol officer's day-to-day work include Lohman and Misner (1967) and Pfiffner (1967). Banton notes the apparent disfavor with which police regard many of their service functions (1964). Others have described the variety and importance of these functions as distinguishing the police as front-line counselors and deliverers of social services (Cumming *et al.*, 1965).

The classic discussion of the disparity of goals pursued by the police

officer, is, however, that of Bittner (1967). In discussing patrol operations in the Skid Row section of an American city, Bittner documents the point that law enforcement and peace-keeping are activities which are frequently incompatible as goals. Exercise of the latter function frequently requires that the law be selectively enforced or that an individual's civil rights be violated. Rigorous and uniform enforcement of all statutory laws is seen by Bittner as a goal which is impossible because of the multiplicity of situations faced by the officer in which some statute or regulation is violated.

On top of this basic difficulty of coping with the contradictory objectives of their role, police officers are described in the literature as being faced with an additional problem in the exercise of their very considerable powers of discretion. The crux of the problem of police discretion lies in the factors which influence the police in deciding which laws to enforce and whom to prosecute under these laws (Skolnick, 1966). In reaching such decisions, findings in the literature suggest that officers in particular circumstances are strongly influenced by the predispositions of the officer and citizens involved in the transaction, (Bayley and Mendelsohn, 1969), the social framework and values of the community (Banton, 1964; La Fave, 1965), the extent to which an arrest decision is likely to be challenged (La Fave, 1965), and police reluctance to do their duty (Goldstein, 1963).

As Manning, amongst others, has pointed out, the difficulties the police have in balancing three contradictory functions in their day-to-day work are exacerbated by their fundamental involvement in the political systems in which they are located. Apart from the fact that police systems in the U.S. are largely decentralized and under the direct control of local political authorities, there are other reasons which sustain the relationship between the police and the political process: Law enforcement agencies

administer a body of law which results from a social process which is essentially political. Moreover, they must administer this law in a fashion which has the support and approval of those sectors of society which have political power (Manning, 1971). In a society where power was evenly distributed and where there was general consensus on what the law should be, and how it should be enforced, the inescapable involvement of the police in the political system would not, presumably, create undue difficulty. In a fragmented society such as America of today, the unenviable situation of the police is to be the focus of social and political discontent which they are powerless to combat (Manning, 1971; Chambliss and Seidman, 1971).

The above discussion provides the background against which the "police problem" has been widely discussed. First coined by Bruce Smith and popularized by James Q. Wilson (1963), the term has come to represent the sum of difficulties caused by the ambiguity of the police role in society and the effects of this ambiguity on police bureaucracies, on the police subculture and its members and on society itself.

Interactions between the activities and attitudes of officers, the police bureaucracy and the outside world are generally considered to have brought about a number of dysfunctional consequences on the organizational structure of law enforcement agencies. These are described in the literature as including the substitution of bureaucratic for social goals (Manning and Redlinger, 1975), inability to respond to pressures for change and toward meeting local community needs (Bordua and Reiss, 1966; Angell, 1971 and 1975) and extreme defensiveness on the part of leadership in reaction to allegations of police misconduct and corruption (Goldstein, 1975). J. Q. Wilson, in analyzing the "styles" of police patrol observed in eight law enforcement agencies makes an important distinction between police agencies organized round the function of order maintenance and those designed

to fulfill the strict legalistic function of law enforcement (1968). Implicit in this discussion is the belief that the centralized, paramilitary type of classic bureaucracy is organizationally incapable of demonstrating a significant response to the needs of the citizens it serves. In this view, police dysfunction is, to a greater or lesser extent, an organizational problem. Organizational solutions are presented in this context through policies likely to increase the ability of police to meet the demands of their social role, rather than to provide resolution of the broader social issues reflected in the "police problem".

The above represents the broad thrust of sociological approaches taken to the study of the police in recent years. Of the few reviews and bibliographic essays dealing with this general subject, those of Gabor and Low (1973), Jayewardene (1974 and 1975) and Sherman (1974) warrant particular attention. Sherman's brief essay on this subject is probably the best concise overview of sociological findings dealing with the police which has been published to date.

Some attention has been paid to these findings in this essay. This has been done for two reasons: In the first place, an understanding of the general role of the police in society and the organizational and social frameworks within which the police operate is vital to any assessment of how law enforcement agencies endeavor to carry out specific functions. Secondly, as responsibility for crime investigation is borne by detective units and officers on uniformed patrol, it is of some consequence that the various problems, characteristics and functions of routine police patrol be recognized.

Sociological studies carried out so far have concentrated heavily on examining the nature of police patrol and the characteristics of uniformed officers. Few yield much information on the detective function. One author,

writing in 1975, notes that: "Regrettably, empirical studies of detectives are nowhere to be found. As with most of the specialized units, hypotheses about decision-making are made...but with very little evidence in the literature as foundation" (Pepinsky, 1975:27). As the discussion in the following section of this essay indicates, some data is now available on how detective units function. The remainder of this section will consist of a summary of the evidence from the general literature of the sociology of the police dealing firstly, with detectives and detective units, and secondly, with how officers on uniformed patrol handle their responsibility for preliminary crime investigation. (Other specialized units, such as narcotics and vice squads, are beyond the scope of this essay).

Although not commercially published until 1970, Westley's work was originally submitted as a Ph.D. dissertation to the University of Chicago in 1951. The book reports a detailed analysis of the police department of Gary Indiana, carried out in 1950 and was the first such analysis of an American police agency ever conducted. Like other studies cited in this section, this account does not pay particular attention to the investigative function of the police. Its concern was rather: "...to articulate the ways in which the occupation and technology of policing gave rise to a set of shared human responses - in the form of attitudes and values" (1970:xii). Some information relating to the investigative activities of patrolmen and detectives is, however, included.

In discussing the operations of the detective bureau, Westley observes that although detective officers supposedly specialized in particular areas, assignment of cases to them was strongly influenced by the preferences of supervisors. A preferred detective was more likely to be assigned to cases which were easy to solve, or likely to bring him publicity or prestige, regardless of whether these cases fell into his area of specializa-

tion (1970:36-7).

The major conclusions reached by Westley on detective operations concern the feelings of jealousy and competition which are considered to operate in the bureau. Detectives are described as being strongly motivated by a desire for prestige. This motivation is seen as an impediment to exchange of information and other forms of cooperation between officers and an obstacle to the efficient working of the bureau (36-43). Perception of detective work as a prestigious occupation is reported as the basis for antagonism between detectives and uniformed officers. The patrol officer resents both the more rewarding job of the detective and the latter's ability to take credit for arrests resulting from investigative work by the uniformed branch. This resentment is described as being strong enough to impede the smooth functioning of the department:

"The only relationship of prominence and significance in the operations of Police Department X was that between the patrol and detective divisions. All other units seemed to work together harmoniously...The great differences in the nature of the detectives and the patrolmen's job tend to increase the gulf between them. The detective's job is clearly more important according to the values of the police, and is very much an individual matter; the patrolman does what can be considered the dull routine work and has to work in a set pattern. Communication between them thus tends to break down except as the formal structure dictates" (43).

Some support for Westley's view of the detective as a more individualistic type than the uniformed officer is provided by a study carried out by Leonard Savitz. In this, detectives are described as being much more committed to individual, rather than group goals and values. They are seen as being much less susceptible to the police socialization process and conform less to the rules of the police 'code' (Savitz, 1971).

No details of the involvement of the uniformed officer in investiga-

tive work are included in Westley's study. The implication is, however, that the officer tends to respond reactively to the demands of patrol work and that this attitude is influenced by his perceptions of his role vis-à-vis the detective bureau and above all by his perceptions of his fundamental relationship with the public he serves. These perceptions are not considered as lending themselves to any degree of involvement in the investigative process.

Banton's comparison of techniques of policing in Scotland and various parts of the United States emphasized differences in community standards in explaining differences in the two situations studied (1964). The major point made by Banton in this cross-cultural analysis was, however, to demonstrate the importance of the social role played by the police in a particular society as an influence on the style of policing and the way in which police power is exercised. Emphasis is also placed on degree of police involvement with their occupation as a determinant of the way they function: "If policemen are too detached, too much identified with criminal proceedings, relations with the public deteriorate. If they are insufficiently detached, they cannot do their work properly." (1964:267).

Detailed descriptions of patrol operations in each agency examined are included in this study. Although Banton's descriptions, like those included in other sociological works dealing with the police, focus on policing as a peace-keeping, or order maintenance, function, activities involving extensive preliminary investigation of crimes are discussed. However, particularly in the American agencies, patrol officers are seen as being primarily concerned with peace-keeping, and secondarily concerned with law enforcement. Investigative activities do not have high priority.

Little discussion of detective operations is included in this account. This work deals with police patrol and the minimal discussion of the detec-

tive function which is provided serves only to make the general point that their work makes different types of demand on detective and patrol officers. One important point relative to detective work is, however, made. Banton observes that the nature of police operations carried out by patrolmen and detectives is intrinsically different. The former are primarily "peace officers" and are above all concerned with maintaining order in their communities. Detectives are essentially "law officers" and their contacts with the public are generally connected with strictly criminal matters. A marked distinction can therefore be made between the work of patrol officers and that of detective and other specialized units. Other sources drawing attention to this distinction include Skolnick (1966) and Stinchcombe (1963).

Skolnick's comparative study of two police agencies, ("Eastville" and Westville"), was initiated in 1962 and reported in 1966. The major finding reached concerned the conflict between bureaucratic objectives of police agencies and their responsibility for operating under the rule of law: "...tension between the operational consequences of ideas of order, efficiency, and initiative, on the one hand, and legality, on the other, constitutes the principle (sic) problem of police as a democratic legal organization" (1966:6). Administrative pressures and emphasis on attainment of bureaucratic, rather than legalistic, goals are viewed as the major, but not the only, causes of the weakening of the policeman's commitment to the rule of law. Other causes and influences include the occupational climate ("social psychology") of police work, the officer's need to maintain a position of authority, the impact of the police socialization process and the considerable opportunity the officer has for operating outside the legal structure (1966:230-45).

This account includes a considerable amount of discussion stemming from Skolnick's observation of police patrol activities in the two agencies studied. For the purposes of this essay, however, its major characteristic is that it includes more analysis of detective operations and the detective function than any other sociological study of the police published to date. As such, it is widely quoted in literature published since 1966.

One of Skolnick's major concerns in this part of his discussion is to criticize the use of the clearance rate as a measure of detective performance and to analyze how detectives respond to this measure in investigating cases (1966:164-81). The basis of this criticism is an underlying belief that the detective is constrained to work toward case clearance as an organizational goal, rather than toward his stated goal of solving crimes.

In the course of the study, the author spent periods of time observing the activities and behavior of both detectives and members of vice squads. The observations made in the account, however, concentrate almost exclusively on the activities of vice squads. As the crucial difference between detective units and other specialized details lies in the fact that detectives usually operate only in response to specific complaints, and are therefore essentially reactive units, this section of Skolnick's account is of limited value to this essay.

One chapter is devoted to the use of the informer by law enforcement (112-38). Although most of the discussion concerns narcotics law enforcement, some points are raised which are relevant to the investigation of other types of crime. The importance of the informer to those engaged in criminal investigation is paramount and it is suggested that the informer system is the basis of most investigative work. (This point is also suggested

in the classic account of the informer in law enforcement--Harney and Cross, 1968). A further major observation made by Skolnick in this chapter describes the level of illegality on the part of informers which is tolerated by detectives:

The detective generally turns his back on criminality only when the crime occurs in another detective's area of organizational jurisdiction. Thus, narcotics police typically ignore burglaries when questioning informants. Likewise, burglary detectives overlook the use of narcotics by their informants and pay their informants money which, they realistically assume, will be used to purchase narcotics. (1966:137).

This observation seems to support the author's general thesis that all types of police behavior are strongly influenced by the bureaucratic goals to which officers are forced to subscribe.

This point is reinforced in discussion included in a separate chapter dealing with patterns of narcotics law enforcement. Competing demands on officers to make "good pinches," while at the same time adhering to strictly legal procedures, are seen as complicating an already difficult law enforcement situation (1966:139-63). The significance of these competing, and frequently contradictory, demands on officers engaged in enforcing narcotics laws is brought out much more strongly in the work of Manning and Redlinger (1975). After examining the operations of six narcotics bureaus in police agencies in various parts of the country, these authors concluded that emphasis on the bureaucratic goal of "making cases," i.e., making arrests which could be successfully prosecuted in court, was inconsistent with the requirements of due process. This emphasis was seen as a major factor influencing narcotics officers to fabricate evidence, lie in court and to otherwise subvert the rule of law.

The contribution made by Skolnick's account to the study of the

investigative process lies in the descriptions given of the relationship between detective and informer and the competing pressures on detectives which influence their approach to criminal investigation. Although this discussion includes more information relating to the investigative process than any other sociological study, its findings do not provide us with enough data to permit general conclusions on how detective units operate to be drawn.

Niederhoffer's study of the consequences of the police role on the individual officer was begun in 1963 and published in 1967. The main point raised in this work is that one consequence of the exacting demands now made on the policeman is the creation of a subculture of cynicism. As officers perceive the contradictions inherent in the demands made upon them by society and the lack of realism of the instructions and guidelines given to them by their superiors, they become particularly vulnerable to cynicism. A cynical policeman is viewed as one likely to tolerate misconduct and subversion of the rule of law within the police agency:

Cynicism is an ideological plank deeply entrenched in the ethos of the police world, and it serves equally well for attack or defense... When (police officers) succumb, they lose faith in people, society, and eventually in themselves. In their Hobbesian view the world becomes a jungle in which crime, corruption and brutality are normal features of the terrain. (1967:9).

Although Niederhoffer's study tells us little about the nature of investigative work, it does provide information on some of the characteristics of the detective. Niederhoffer provides further confirmation for the finding, widespread in sociological studies of the police, that detectives are objects of envy from their fellow officers, that they enjoy high prestige and are aware of the strength of this prestige. In this study, this finding was indicated by the lower levels of cynicism exper-

enced by detectives (1967:77-81, 236).

An interesting point raised by Niederhoffer concerns the relationship between the level of cynicism and an officer's competence as an investigator. In discussing the activities of the patrolman in preliminary investigation of crime, this author suggests that the more cynical officer is likely to be the more capable investigator (59-60).

This account, important as it is as a sociological study of the police, is of marginal importance to a discussion of the investigative function. It is valuable, however, in documenting the prestige in which the detective is typically held and the greater job-satisfaction experienced by those involved in crime investigation.

A study of policing in eight communities was initiated by James Q. Wilson in 1965 and the results published in 1968. A major feature of this study was its characterization of police departments according to the styles of their operations. The "watchman style", defined in terms of an emphasis on order maintenance was found to be characteristic of policing in three of the agencies studied (Albany, Amsterdam and Newburgh). The "legalistic style", demonstrated by an emphasis on the law enforcement aspect of his role, prevailed in Oakland, Highland Park and Syracuse. In communities: "...which are not deeply divided along class or racial lines, the police can act as if their task were to estimate the 'market' for police services and to produce a 'product' that meets the demand" (1968:200). Such communities as Brighton and Nassau County are characterized by the "service style" of policing. An important conclusion reached by Wilson on the basis of this study concerns the effects of control mechanisms on the styles of police patrol operations. In this discussion, it is suggested that community control of police in urban areas would, in itself, only serve to politicize police agencies. Changes in styles of

policing brought about under community control would primarily occur as a consequence of this politicization (1968:278-99).

The notion of different styles of policing has important consequences for the involvement of patrolmen in the investigative process. It seems likely that the patrolman would involve himself more in investigative work, the service style, rather than under other styles of policing. No discussion of this point is, however, included in this account.

As in most other sociological studies of the police, little specific discussion of detective bureaus is included. Reference is made to the apparently universal prestige of detectives and desire of patrolmen to attain detective status (1968:52-3). In a further section, the quite different job functions of detective and patrol officer are discussed. Other than this, minimal attention is paid to the investigative function in this account.

The most recent major study of police patrol was carried out by Albert J. Reiss and reported in 1971. In selecting the agencies to be investigated, three which corresponded to different "ideal types" of police bureaucracies were chosen (Chicago, Boston and Washington, D.C.). The three agencies were investigated over a period of almost a decade. Two significant findings emerge from this account. The first of these concerns the extent to which situational factors were found to influence the outcomes of police-citizen transactions. Reiss's major finding, however, lies in his categorization of police agencies according to whether they take a proactive or a reactive approach in patrol activities. From Reiss's observations, the nature of policing is essentially reactive, with the police functioning in response to citizen complaints and information received. For some, non-routine, police functions, a proactive approach is called for:

In the absence of massive police manpower, proactive policing is a feasible method for discovery only when crime is routine and organized, and therefore predictable. From a sociological point of view, the patterned activity of vice, traffic and organized groups such as gangs, lend themselves to proactive forms of policing, and therefore to specialized units of police organization and tactics (1971:101-2).

Reiss's notion of reactive police patrol clearly does not envisage that much investigative work will be done by patrol officers. Findings on the very small proportion of the patrolman's time spent on non-criminal matters support similar findings in numerous other studies. The relatively small amount of time patrolmen are shown to spend on each criminal matter which engages their attention appears to indicate a low degree of involvement in the investigative process. This contention is supported by Reiss's brief accounts of the observed activities of officers on patrol and by his conclusion on the general focus of patrol work: "Crime prevention is a general goal for most police departments and they are organized to deal with the problem from different angles. (1971:90).

These conclusions are supported by Reiss's discussion of the operations of detective units. In this, the usual situation in which detectives have jurisdiction over all phases of the investigation is described as a limitation on the autonomy of the line officer (131). One point raised in this account concerns the observed fact that the great majority of felony arrests are made by patrol officers, rather than detectives or other specialized units. According to Reiss, arrest statistics simply indicate the reality of police work.

Citizens contribute most substantially to the arrest of other citizens as violators for several reasons. The police solve many crimes by arrest simply because they have been mobilized by citizens to the location of an incident; the suspect is present and can be easily arrested. The citizen identifies the violator for the patrolman who then takes charge and is officially

credited with the arrest. Moreover, the capacity of the police to solve any crime is severely limited by citizens, partly owing to the fact that there is no feasible way to solve most crimes except by securing the cooperation of citizens to link a person to the crime. Finally, the investigation of crimes to locate a violator is expensive. Even if most crimes were solvable, in the sense of finding the persons who committed them (which they are not), the average cost of solving a crime would be beyond the capacity of the citizenry to afford it." (1971:105).

Detectives are reported by Reiss as dominating in arrests for crimes requiring extensive investigation. However, the detective is seen as functioning more in the location of known suspects than in his traditional investigative role:

"The media view of the detective, epitomized by Sherlock Holmes, James Bond, or Joe Friday, hardly squares with the reality of most detective work that leads to an arrest. This is not to say that detectives don't follow the ideal model, investigating many crimes that do not lead to arrest, but rather, their role in producing arrests is far more restricted than the ideal model implies." (1971:109).

Reiss's entire discussion tends to play down the importance of investigative activities in police operations. Arrests are usually made on the basis of information given to the police (the patrolman in most cases) by citizens and little investigation of the crime is undertaken. Detectives are viewed as functioning effectively in situations where the identity of the offender is known or suspected. The main consequence of this is the creation of:

"...a paradoxical relationship between the way in which detective work is organized to solve crimes and how crimes are actually solved by arrest. Police departments ideally organize detective divisions to solve those crimes that require intensive investigation. Yet, we maintain that most of the knowledge that contributes to solution through investigation is based on citizen information on the identity of the suspects. Detective investigation more often depends upon locating a known offender than in following leads to deduce the identity of an offender." (1971:108-9).

Reilley's (1970) master's thesis deals with the general topic of

police interrogation and is not specifically concerned with the problems of detective units. It does, however, include one section which reports the results of a series of interviews with twenty-four detectives employed in some branch of the military, or in federal or local police agencies. This section is valuable in providing a good deal of information on the attitudes of detectives toward their jobs and toward external limitations on their ability to fulfill their assigned role.

Most of the questions asked in the interviews concerned detective attitudes and practices in the face of recent Supreme Court decisions restricting the activities of the police when undertaking interrogations. Answers received generally expressed disapproval of the limitations on police powers resulting from these decisions and an awareness that the rules stemming from the decisions were frequently circumvented by detectives. One interesting series of answers presented the view that interrogation was becoming much less important in the investigative process. Respondents commonly stated a belief that the long-term effect of court rulings would be to increase reliance on the detective's investigative powers, rather than his ability to produce incriminating evidence in interrogation. Many of those questioned felt that this trend was in keeping with the ongoing professionalization of the investigative function.

Some support for this view that interrogation is becoming an investigative tool of decreasing importance can be found in later studies. Greenberg et al. found interrogation to be an increasingly less productive source of evidence:

It was stated categorically (by police) that a confession by the defendant was by far the most unreliable type of evidence on which to proceed. Such evidence is always open to a motion to suppress, and most deputies wish to avoid the vagaries of judicial opinion interpreting the self-incrimination clause of the Fifth Amendment. (1973 III:59).

A later study found that confessions produced from interrogation were of minimal importance in solving cases (Feeney et al., 1973). This same study did, however, indicate that interrogations were made of over half the suspects taken into custody, in the cases examined.

There are a number of recent journalistic accounts and memoirs of present or former officers which are of value in providing descriptions of routine detective operations and the relationships between detective and patrol divisions. Many of the published accounts of this sort have some relevance to a discussion of the investigative function. A few are of particular significance. Williams' (1973) book deals primarily with vice squads and does not therefore qualify as a discussion of detective work as this is defined for the purposes of this paper. It is, however, valuable in providing further evidence for the susceptibility of plain-clothesmen in general to corruption. The account dealing with the exploits of ex-Detective Frank Serpico also provides evidence of this kind (Maas, 1973). Seedman and Hellman's book represents the memoirs of a former New York City Chief of Detectives and is probably the most valuable of the current reminiscences because of its discussion of the day-to-day operations of detective bureaus (1974).

Rubinstein's detailed account of police patrol operations in Philadelphia does not include discussion of detective operations. Its value to this discussion lies in its inclusion of a lengthy chapter dealing with the proactive, investigative activities of the police officers on patrol (1973:218-66). Other journalistic accounts which include some information bearing on the investigative process as this is carried out by either detectives or patrol officers include Cook (1966), Droge (1973), and Smith (1965).

Sociological studies of the police have not provided us with much information on the investigative function. The limited data which are available support the existence of major differences between detective

work and other areas of policing (Banton, 1964; Reiss, 1971; Skolnick, 1966; Westley, 1970; Wilson, 1968), the greater prestige of detectives (Niederhoffer, 1967; Westley, 1970; Wilson, 1968), greater job satisfaction among detectives (Niederhoffer, 1967) and the existence of unique conflicts within detective bureaus (Westley, 1970).

Some authors have drawn attention to the particular vulnerability of detectives to involvement in corruption (Manning and Redlinger, 1975; Rubinstein, 1973; Skolnick and Woodworth, 1967). Involvement of British detectives in corrupt activity is discussed in Judge (1972). Cohen's analysis of the system of internal discipline of the New York City Police Department suggests that a disproportionately high number of detectives are guilty of misconduct (1970 and 1972).

One extensive sociological analysis relevant to the characteristics and activities of detectives is included in the work of Allan Kornblum. This presents a detailed account of the administrative policies used by the New York City Police Department over the last twenty-five years to control corruption among plainclothesmen responsible for enforcing the gambling laws. Although discussion is therefore limited to units entrusted with the proactive enforcement of anti-vice laws, this account provides weight into the effects of poor management of plainclothes operations. Kornblum's analysis is highly critical of the approaches taken by police managers to control detective operations. He suggests that the demonstrated inability of this department to eliminate police corruption:

...is not exclusively a function of resistant subordinates and organizational bottlenecks. All too often administrators lack the managerial knowledge and skills needed to achieve their goals. Police executives fall short of implementing their policies because they fail to understand the structure of incentives and other dynamics of behavior in organizations. (1976:5-6).

In describing and analyzing these policies, and the counterstrategies devised by members of the department to circumvent controls, Kornblum presents a very detailed picture of the working life of detectives

assigned to enforcement of the gambling laws in this department.

Earlier in this section, reference was made to the frequently-observed fact that criminal matters do not occupy a large proportion of the patrol officer's time or energies. An important contribution of the sociological studies cited here to our knowledge of the investigative function lies in their documentation of the little time spent by patrol officers on crime investigation. Most of these studies state or imply this conclusion. Other studies are more specific in this regard and suggest that less than twenty per cent of the patrolman's time is spent in investigative activity (Schrag, 1971; Pepinsky, 1975; U.S. Task Force on the Police, 1967; Wilson, 1968). It seems clear that, however one regards the theoretical view of the patrolman's contribution to the investigative process, and in spite of the support recently given to the idea that the patrol officer be closely involved in this process (U.S. National Advisory Commission on Criminal Justice Standards and Goals, 1973), in practice the patrolman's contribution is limited in this regard.

V. MANAGING THE INVESTIGATIVE FUNCTION

Ever since Fosdick's highly critical descriptions of the organization of detective function, (1920), the management of crime investigation has attracted some attention in the literature of police administration. The recent concern with this topic which has emerged in the last three or four years has been prompted by an awareness of the low level of effectiveness of many crime investigation units.

The results of current efforts to analyze the weaknesses and problems of detective units are reported below. Most of these findings are tentative and have not been fully substantiated. A few positive results of this research have, however, been produced. The Investigation, Control and Management System suggested by Crabtree (1973) presents one standardized means by which the effectiveness of a unit can be evaluated. Two investigative manuals have been published. These provide checklists of investigative processes which should be carried out if the investigation is to be considered thorough; (Volume IV of the report authored by Greenberg et al., 1973 is entitled Burglary Investigative Checklist Handbook. The Police Robbery Control Manual, by Ward and Ward, was published in 1975).

Two studies, published in 1966 and 1971, represent early results of federal government concern with the management of investigative operations. Volume V of Gourley's (1966) study is entitled The Investigative, Custodial and Crime Prevention Functions. This provides an overview of arguments dealing with controversies such as the relative merits of specialist and generalist detectives. An interesting feature of this account is its inclusion of information on methods of selecting detectives used in agencies throughout the country.

Kenney's report was intended to analyze the procedural steps taken in crime investigations and to estimate the time spent by the investiga-

tor on each step (1971). The major achievement of this study was, however, to identify existing practices commonly used in American agencies and isolate those areas of the investigative process which would be most productive for future research.

The first reported study to examine crime investigation as a managerial problem within police agencies was undertaken in Los Angeles in 1966 (Issacs, 1967). For a period of one month, all reported crimes in two sections of this city were examined from the point at which they were observed or reported to their clearance by the police department. The focus of the study was to evaluate the effectiveness of resource allocation by the department as this effectiveness was demonstrated by the speed of officer response and level of cooperation and ease of communication between units. Police response and efficiency were therefore considered as problems of manpower allocation and management.

In this situation, the overwhelming proportion of arrests were made by patrol officers. Detectives were primarily used in follow-up investigations and it is noted that the success of these follow-ups undoubtedly increased the number of arrests made by officers on patrol: "...about 25 percent of patrol arrests are of individuals previously named in detective follow-ups." (1967:95). The relative importance of patrol work in law enforcement is clearly emphasized in this study.

Two findings emerged from the author's observations of the factors which influenced detectives in deciding which cases to select for follow-up. Cases with greatest potential for positive results were strongly preferred and most of the cases selected for follow-up involved a suspect named in the report of the preliminary investigation. The second finding was that: "Detectives also appear to allocate their efforts according to the value of the case...It can be seen that the average value in cleared

cases is significantly higher in the uncleared ones." (p. 98). An obvious check on this last finding would have been to evaluate follow-ups on crimes against the person. This was not done in this study. However, one general conclusion is presented which is, presumably, applicable to all types of crime: "...very little follow-up is undertaken by the detective force when there is little information about a given crime." (p. 100).

Data on the methods used by detectives to identify suspects are also included. Use by detectives of seven different means of identification are noted and tabulated and it was found that multiple techniques were normally used by detectives for this purpose. Burglaries and thefts were found to be crimes which were particularly difficult to solve through follow-up investigations. Most of the crimes of this variety which were solved were usually those cleared by arrests, made by patrolmen, at the crime scene. One criticism of the use of detective manpower by the Los Angeles Police Department concerned the high priority given to clearance of these crimes by follow-up investigation:

"Follow-up investigation is rarely successful in burglaries and thefts; yet, because of the volume of these cases, detective resources are heavily allocated to such...investigation. Detective forces should thus consider employing more field resources for dealing with that type of investigation." (p. 100).

The potential value of the patrol force in preliminary investigation was emphasized in this study, although it was recognized that: "... the lack of patrol manpower prohibits the use of a field officer for that additional 30 or 40 minutes required at the scene of the crime" (p. 100). Issacs' tentative solution to the problem is to recommend the employment of a "civilian investigative force" which would take over the function of preliminary investigation. The third, and final, recommendation made in this report is that the limited ability of the department to search and identify latent fingerprints represented an important restriction on the

productivity of investigative units.

Brief as it is, this study is a valuable one. It identifies investigative problems as problems of the entire agency and suggests solutions which are intended to affect units of the department other than the detective division. In addition, the study is an important one in demonstrating patterns of detective behavior which were hitherto only suspected.

The earliest of the detailed studies addressing the question of how detective units function as investigative agencies was carried out by Ward and the findings reported in 1971. Using a systems analysis, this study examined investigative operations by means of two types of approach. On the basis of the results of a questionnaire mailed to over two hundred departments throughout the country, an assessment was made of the way in which investigative activities are generally organized, managed and carried out. Two departments were made the subject of more intensive study through detailed observation and interviews.

The particular focus of Ward's study was to test the theory that those agencies which organize their detectives into specialist squads are more effective than those employing the generalist approach. To this end, comparisons were made between the investigative activities of the police departments of San Francisco (representing the specialist approach) and New York (generalist), and between certain of the agencies which responded to the questionnaire. Two types of crime investigation, robbery and burglary, were compared. These types were selected because both were considered to require the exercise of considerable investigative skill and to be less vulnerable to statistical manipulation in the calculation of clearance figures. Both were, however, considered to represent crime types which were dissimilar in nature: "Although both are seen as crimes against property, in robbery the victim is present and in burglary

the victim rarely sees the perpetrator." (1971:10).

Ward's findings were not sufficient to enable a clear assessment of the relative merits of using specialist or generalist detectives to be made. In the larger category of agencies: "...generalist or specialist detectives have no impact upon robbery arrests...but those departments using generalists had greater success in the burglary arrest category than those using burglary specialists." (p. 231). When clearance rates were used as the criterion for judging investigative effectiveness, no significant differences were found.

In the comparison between the two major cities under study, little difference between the ability of agencies to handle robberies was observed, no matter whether clearances or arrests were used as the standard of judgment. However, for burglaries, a different finding was obtained: "New York, which uses generalists, has a significantly lower clearance and arrest rate in the burglary category than does San Francisco." (p. 232).

Ward's major achievement in this study, however, is to provide valuable data on the routine activities of investigators and on the methods commonly used to evaluate their performance. One general conclusion presented draws attention to the broad range of approaches, styles and levels of effectiveness found in the study. In the matter of detective selection, for example, a variety of procedures were found to be used. Although use of written tests appeared to have become more popular as tools of selection, criteria such as evaluation of uniformed performance, which were at least potentially subjective, remained the forms most commonly applied. Ward notes the widespread dissatisfaction with which uniformed officers appear to regard selection processes.

Detective training programs seem to be remarkably limited. The results of the questionnaire indicated that only half the departments surveyed offered investigative training (p. 68). Of the two major depart-

ments examined, San Francisco was found to offer no formal training for beginning detectives and in New York, such training was limited to one three-week course (p. 74).

In the section dealing with case-loads (pp. 89-102), Ward observes that the overwhelming quantity of work with which detectives are commonly faced is a serious and ongoing problem. Ward calculates the average case-load in departments reflected by the study as follows:

"On the basis of a 40 hour week...one finds that the average detective handles approximately one case every three hours. However, when external variables...are subtracted from investigative time, one finds that detectives handle an average of one case every two 'working' hours." (pp. 94-6).

A major finding of the study concerns the relatively little use made of physical evidence by detectives conducting investigations in the field. A description is given of a characteristic situation in which laboratory facilities were almost exclusively reserved for the processing of evidence taken in narcotics arrests. This was done for the very practical reason that laboratory tests were required in such cases in order that the presence of narcotics could be effectively demonstrated in court. In Section II of this essay, some of the remarkable advances in forensic science were discussed. It seems ironic that the sophisticated techniques now available to criminal investigators should be under-utilized because detectives do not have the time, and in some cases lack the knowledge, to search for and collect physical evidence at crime scenes (see Ward, 1971: 124-51).

Criteria used to evaluate detectives appeared to vary widely among the agencies studied. Ward notes that in New York, a detective's promotion possibilities are closely related to the quantity of arrests he makes. This correlation exists regardless of the quality of the arrests or their outcomes. However: "...in San Francisco promotions are usually

based upon a quota system of available positions. Thus as an opening appears, the detective with the most seniority is promoted." (p. 106).

Probably the most significant result produced in this account is included in the discussion of measures of detective effectiveness. In the analysis of the use of arrest statistics as measures, some attention is paid to the unreliability of these as true measures of effectiveness (pp. 102-10). Clearance rates are the principal measure used by Ward in this study primarily because they constitute the only measure of effectiveness which is universally accepted. The limitations of using clearance rates are explored at various points in the account (pp. 110-17 and 210-20). The most important single conclusion reached relates to the way in which clearance rates are apparently used by departments to combat the extreme demands placed upon them. These rates bore no significant relationship to arrest rates, but were found to be correlated with the rates of reported crime. This conclusion serves to provide additional fuel for critics of clearance rates and to illustrate the extent to which departmental policies can be manipulated to meet the immediate concerns of the agency.

Fleming's comparative study of administrative arrangements in the detective divisions of the New York City Police Department and the Los Angeles Police Department provides an interesting parallel to Ward's study. Like the San Francisco Police Department, the Los Angeles Police Department also used the specialized detective, hence Fleming's account provides another basis for examining the relative merits of the generalist and specialist forms of detective assignment (1969).

The emphasis of this study is, however, on organizational patterns in the two agencies. Little attempt is made to evaluate specialization and generalization as universal concepts in investigative work. One con-

clusion bearing upon this debate is however presented:

"Which method of administration (of detective units) is superior? While no hard and fast decision can be given, statistics of crime rates and clearance rates indicate New York has a better record in solving crimes, on a per capita basis than Los Angeles. Whether this is due to detective work alone or to other factors, as well, is difficult to say. However, detective work always plays a large part in the combat and solution of crime. A further point which supports this view is that, on a per capita basis, New York has approximately one detective for every four in Los Angeles. This would indicate that the New York detective is utilized more extensively, if not more effectively, than his counterpart in Los Angeles." (1969:111-12).

Little information on the routine operations of detectives is included in Fleming's account. However, the value of the discussion is in its analysis of the consequences of different administrative approaches to the investigative function.

A number of studies have dealt with the specific question of what effective use is made by detectives of crime laboratory facilities. These studies have drawn attention to a general pattern of underutilization of physical evidence by investigators. Several accounts have documented the fact that crime laboratory resources are used in only a small proportion of criminal cases. Parker's study indicated this proportion to be less than two percent (1963). Other studies have found the figure to be somewhere between one and six percent (Rosenthal, 1969; Parker and Peterson, 1972; Zuniga, 1969). Greenwood's study of burglary and robbery investigations in New York City found that in only five percent or less of the cases was physical evidence used in investigations (1970). Later studies of burglary (Greenberg et al., 1973) and robbery (Feeney et al., 1973) have reached similar conclusions. One of the most recent discussions of this topic suggests that use of the crime laboratory in criminal cases not related to narcotics offenses is steadily declining (Parker, 1974).

A possible explanation of this situation is that physical evidence suitable for laboratory analysis is simply not usually available at crime scenes. However, a study carried out in 1969 determined that such evidence was usually present at crime scenes but was only collected for examination in a minority of cases. The authors suggested that detectives tended to dismiss much available physical evidence on the grounds that it was not likely to yield useful information (Parker and Peterson, 1972).

Other reasons have been advanced to explain why so little physical evidence is processed by the crime laboratory. It is suggested that in recent years crime laboratories have been geared to the function of analyzing evidence received in narcotics cases. The importance of forensic evidence in cases involving drugs has been noted by Ward (1971), Parker and Gurgin (1972) and Peterson (1974) and suggested as a likely reason for the low priority assigned by laboratories to the analysis of other types of evidence. It is also said that investigators lack the time to make effective searches of crime scenes (Benson et al., 1970; Ward, 1971).

The most detailed account of the process by which evidence is selected for examination is presented by Peterson (1974). On the basis of field observations of more than seven hundred cases, eighty-eight percent of which involved the existence of some evidence at the crime scene, Peterson formulates an "evidence screening model". This is intended to present successive decisions regarding the evaluation of physical evidence which are taken at various stages in the investigative process. These decisions are described within the framework of a screening process which occurs at different points in the investigation. Seven stages between the initial involvement of the police in a criminal matter and the submission of evidence to the laboratory are outlined. At each stage decisions are

reached which determine whether the evidence is to be retained or discarded.

In his conclusion, Peterson stresses the extent to which evidence is collected, not because of its intrinsic value, but: "... so as not to alienate the public." (1974:35; see also Ward, 1971; Parker and Gurgin, 1972). The police are seen as coping with the dilemma of wishing to use all available evidence but: "...because of limited scientific resources and a tremendously high volume of crime...(they) are forced to develop ways to eliminate...potential information." (1974:35).

The solutions suggested are managerial in nature. Greater control over the decision-making process and greater participation of trained specialists in evidence-gathering are the major recommendations presented.

Greenberg et al. (1973), after analyzing the procedures used in the investigation of burglary in six police agencies in California, concluded that inadequacies in the handling of information and physical evidence were primarily responsible for the low success rates achieved by police. The recommendations made in this study exhibited a strong concern for improvement of information systems in general. Included among the several recommendations were the suggestions that better systems for handling and testing physical evidence be developed and that the patrolman become both more involved in the investigative process and be better-equipped to handle the demands of this role.

The most detailed study of criminal investigation process yet to have been undertaken was carried out by the Rand Institute over a two-year period and the results published late in 1975 (Rand, 1975). Research was conducted for the purpose of achieving four principal objectives:

"To describe, on a national scale, current investigative organization and practices. To assess the contribution that police investigation makes to the achievement of criminal justice goals. To ascertain the effectiveness of new technology and systems being adopted to enhance inves-

tigative performance. To reveal how investigative effectiveness is related to differences in organizational form, staffing, procedures, etc." (1975 I:iii).

Information for the study was obtained from responses to a questionnaire distributed to all local law enforcement agencies with one hundred fifty or more employees or which served jurisdictions with populations in excess of one hundred thousand. On the basis of these responses, twenty-five agencies were selected for more detailed study. Investigative procedures in these agencies were examined through participation in routine operations, direct observation and interviews with officers at various levels of responsibility.

Twelve major findings of general application were made. Routine patrol activities were found to be the major determinant of the proportion of cases solved. Information supplied to the patrol officer responding to the incident was the most important factor determining whether an arrest would be made. If the perpetrator was not identified at this stage, it was found to be unlikely that the crime would be solved. Of those crimes which were ultimately cleared through follow-up investigations, almost all were cleared through the identification of suspects by investigative procedures which were strictly routine; (fingerprint searches, recovery of stolen property, etc.) Special forms of investigative action were not seen to be generally productive in the solution of crimes. Special investigative units or strike forces, did tend to produce higher arrest rates in certain key areas (for example, robbery and burglary). However, the authors of the study note that the effectiveness of such units is frequently diluted by the tendency of police departments to divert them from their original roles.

Four findings concern the ways in which detectives collect, use and present evidence. The volume of physical evidence collected tends

to exceed the ability of crime labs to process it. This finding provides an interesting commentary on the conclusions, noted above, of earlier studies on the apparent reluctance of officers to assign much importance to search of crime scenes. A consequence of this finding is the major recommendation that the evidence-processing capabilities of agencies be strengthened. The evidence which was collected was found to be of limited value. Fingerprint identification was often attempted in cases, but rarely did fingerprints provide the basis for the initial identification of the suspect.

Agencies generally demonstrated a failure to document the results of their investigations properly and to supply prosecutors with sufficient evidence to support the cases made in court. It is suggested that this failure may well produce an unnecessarily high dismissal rates.

A further series of conclusions relate to the organization of investigative work and the allocation of the investigator's time. Interestingly enough, factors such as the use of team policing and patrolman-investigators and assignment of detectives as specialists or generalists had little effect on levels of reported crime or on arrest and clearance rates. Similarly, no correlation appeared to exist between these rates and differences in the levels of training, procedural rules and workloads of investigators. The universal situation seemed to be that a minority of reported felonies are subjected to serious investigation. The nature of the offense was observed to be an important influence on whether a crime be the object of intensive investigation and major crimes against the person, (rape, homicide, suicide), were invariably investigated in this way.

The twelfth finding reflected the study's concern for victim

reactions to police investigations. Victims were found to exhibit a strong desire to be informed of the outcomes of investigations of crimes committed against them.

A number of policy recommendations followed from these observations and conclusions. Because many of the observations demonstrated the inordinate amount of time spent by detectives in activities which were not related to the investigations of crimes which seemed likely to be solved, many of the recommendations concern the organization and allocation of investigative work. Assignment of cases to investigate teams, rather than individuals is considered as a way of minimizing the personal factor in determining how a case is to be handled. The reduction of follow-ups and the assignment of particular types of cases to special units are suggested ways in which investigative resources might be applied most effectively. Improvement of information systems and evidence processing capabilities are presented as ways in which means of identifying suspects can be improved. The importance of information supplied by witnesses in the solving of crimes is stressed in the suggestion that programs be developed to make citizens aware of the importance of their contributions to the investigative process. Recognition of the importance of information supplied by the citizenry and the investigative activities of the patrol force is given in the suggestion that generalist detectives be assigned to patrol duties. The sense of this recommendation is that these investigators should undertake both patrol and investigative duties, the relative amount of time spent on each depending on the needs of the particular situation.

This report was published in three volumes. In the first, the findings of the study are summarized and the various conclusions and

recommendations presented. The second includes individual evaluations of those agencies which responded to the questionnaire and the twenty-five which were studied in detail. The final volume includes a detailed analysis of the observed processes used by detectives in the investigation of crime.

The importance of this report as a source of information on the management and operation of investigative practices must be emphasized. It is the most comprehensive report on this subject yet to have been published. For the purposes of this essay, the Rand report serves the interests of those concerned with this subject in one further way. One chapter of the account is devoted to a survey of some of the outstanding works on criminal investigation which have been published in the last few years. The following evaluation of those reports which have not been discussed elsewhere in this essay relies heavily on the survey included in the Rand account (1975 III:41-5).

Greenwood examined the techniques used to investigate felonies in the New York City Police Department and found that probabilities of arrest were much higher for crimes against the person than for crimes against property (1970). His analysis included discussion of how the existence of various kinds could be used to predict the likelihood of a case being solved.

Folk's research in Boston focussed on isolating the factors which influenced detectives in deciding which cases should be pursued by further investigation. In assessing the relative importance of different types of evidence to the solution of cases, Folk emphasized the value of information supplied by victims and witnesses in providing a basis for successful investigation (1971).

A number of studies concentrated on the investigative practices used to solve burglaries and/or robberies (Greenberg et al., 1973; Conklin, 1972; Conklin and Bittner, 1973). In Feeney's study of robbery investigation in Oakland, California, information supplied by citizens was found to be the most important factor in determining whether an arrest would be made. However, a feature of this analysis is its emphasis on the finding that relatively few robberies are solved (1973).

Conklin's study of robbery (1972) also showed that few robberies are solved, and in those which are solved, arrests are made very shortly after the incident has been reported to the police.

In examining methods used in burglary investigation in several police departments in California, Greenberg and associates found that the clearance of crimes generally depended on the operation of five factors: estimated range of time of occurrence, witness reporting of offense, on-view report of offense, useable fingerprints and description or naming of a suspect. These could be used as predictors of investigative success in eighty percent of the cases examined (1973).

Four important preliminary conclusions are reached in the Rand report on the basis of the findings included in these studies. Greenwood's identification of wide variations in clearance rates between precincts in New York City, and Greenberg's similar documentation of variations in clearance rates between Californian agencies, are used to suggest that: "Clearance statistics are generally unreliable" (III:42). A similar conclusion was reached by Ward (1971). Other conclusions recognized, and subsequently substantiated, in this study related to the low arrest rates for burglary and robbery, the insensitivity of solution rates to size of detectives' case-loads and the minimal use made by investigators

of physical evidence.

The literature review included in this Rand report can, together with the references included in this essay, be taken to represent a comprehensive survey of the published materials relating to the management of the investigative function up to 1975. A few very recent publications have produced more data adding to our knowledge of this field. Bloch and Weidman's discussion includes an analysis of the investigative procedures in six departments (1975). This account also includes a number of suggested ways in which improvements in the management of the investigative function can be made. Pate et al. discuss the success achieved by the Kansas City Police Department in an experiment in which increased efforts were made to disseminate information concerning identified suspects to members of the patrol force (1976).

Finally, an experiment in Rochester, New York provides valuable additional information on the merits of using patrolmen as investigators and detectives on routine patrol. The report of this experiment suggests that the use of detectives on patrol teams is likely to have a beneficial effect on the investigative process (Bloch and Bell 1976).

One of the first in-depth studies of criminal investigation as a function of police departments, published in 1971, commented on the dearth of scholarly material in this field (Ward, 1971). The statement was an accurate observation then, but the increase in the number of projects and publications dealing with the subject as a management, as well as a law enforcement, problem has made the statement obsolete.

Many administrative remedies to improve the productivity of the investigative function are now being suggested. It must be pointed out, however, that as yet few of these recommendations have been subjected to adequate testing.

CONCLUSION

The findings outlined in this review indicate that research into the investigative function does not have a long history. The earliest of the major studies was reported in 1971 and the most extensive studies are those which have been published within the last three years.

It is significant that many of the recent accounts approach the detective function as a managerial or administrative problem. Their overriding concern has been to assess how detective operations are carried out and suggest how they should be carried out. Very few of these studies have demonstrated concern with the social role of the detective with the law enforcement agency. The most valuable of the sociological approaches relating to the detective focus on specialized units. Skolnick's (1966) work deals with vice squad operations and Kornblum's (1976) account deals with plainclothesmen responsible for the enforcement of gambling laws. No detailed sociological studies of what Sanders and Daudistel call the "citizen response detective," (1974), have yet been carried out.

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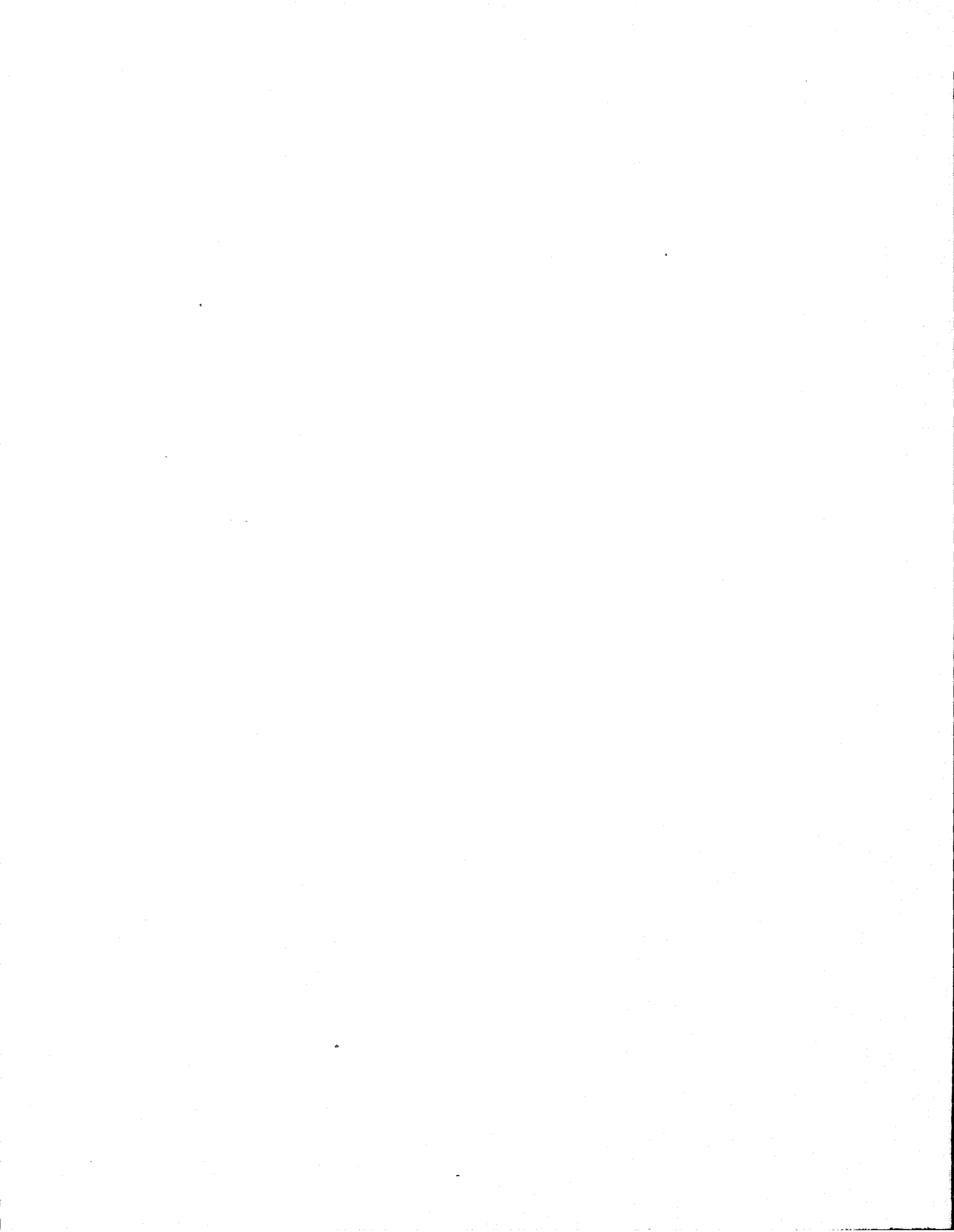
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