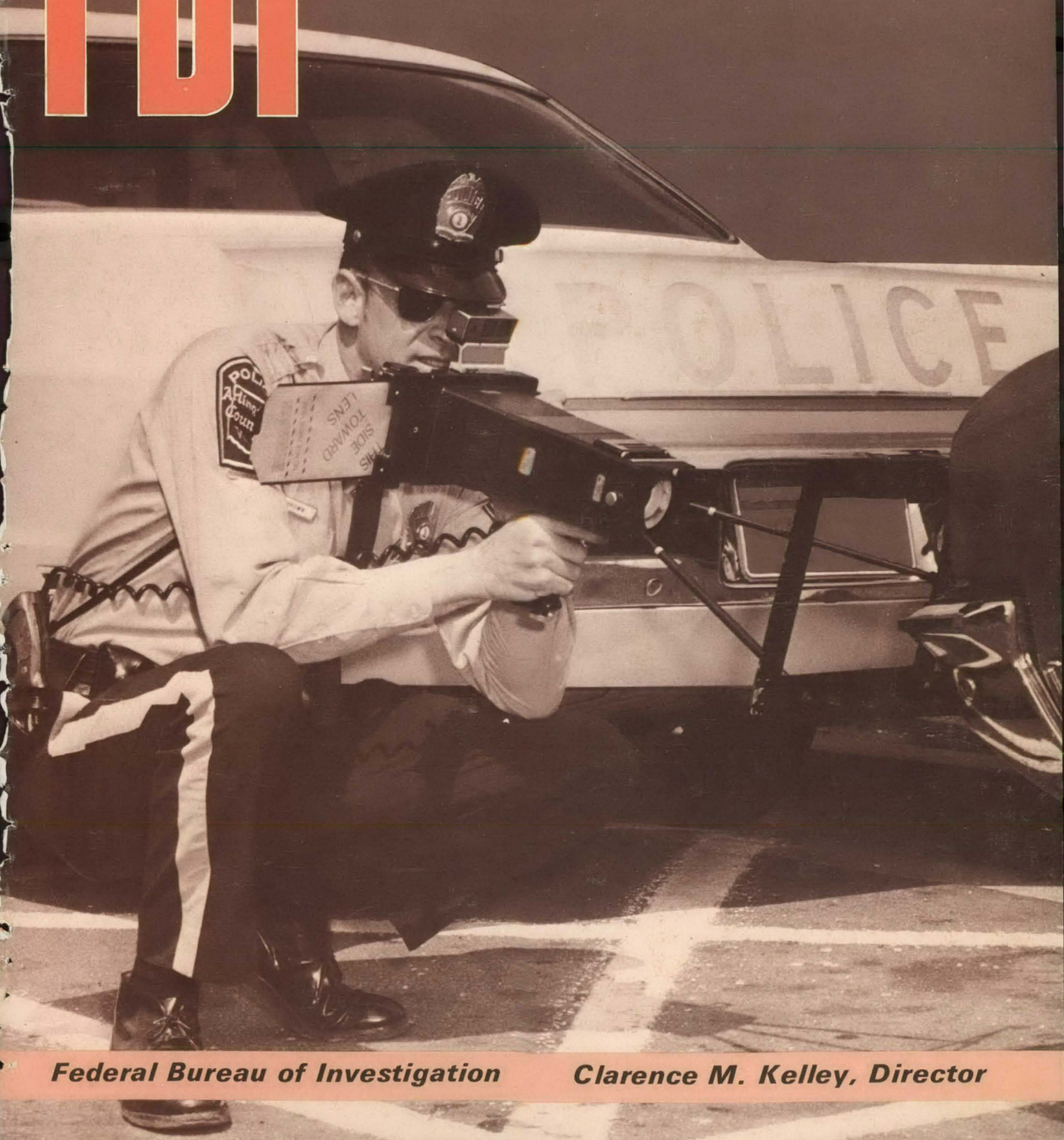


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Law Enforcement Bulletin

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Clarence M. Kelley, Director

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The Cover

A police agent of the Arlington County, Va., Police Department uses a close-up camera to photograph evidence on a suspect hit-and-run vehicle. See article beginning on page 2.



Message from the Director . . .



THERE IS A COMMON BOND between the police and the press which is often overlooked. The press has an obligation to get to the source of information and thereby sort out the facts in contentious public issues. The law enforcement profession has the same responsibility in matters involving an alleged violation of law. Both the police and the press have an overriding public duty to establish the integrity of their performance by the thoroughness and impartiality of their inquiries.

Despite this mutual concern, it is disappointing that both the police and the press have too often viewed each other with suspicion. This is, I have no doubt, due to honestly held misconceptions of each other's role and responsibilities.

While I would not presume to define the role of the press, it is obvious that in a democratic society it must be free to pursue the truth. Without widespread recognition of this duty of the press, the public need to be informed would suffer and the democratic processes would be seriously impaired.

Law enforcement investigations are closely akin to the news-gathering process. They are, however, bound by compelling requirements that must often inhibit our response to the media's efforts in developing a news story.

The police cannot deny due process of the law to those implicated in a crime by premature disclosure of the facts any more than they can by the utilization of improper techniques in obtaining evidence. As countless court deliberations have shown down through the years, what con-

stitutes due process of the law is often elusive and frequently definable only in the circumstances of a particular case. This determination can only be made by the courts which, in a sense, have on trial both the accused and the process which led to the charges against him. Law enforcement personnel are therefore properly cautious in discussions with the press concerning matters that are under investigation or pending prosecution.

There are many areas of law enforcement activities about which the police should have no hesitancy in being forthright with the press. For example, during the past decade the law enforcement profession has undergone revolutionary changes. New technology and novel approaches have been applied to our performance in an effort to improve crime deterrence and detection. Some of these new developments have stirred public controversy as to their need and impact. They are, as a result, natural objects of press inquiry.

As public servants in the largest sense of that term, law enforcement officials must be prepared to justify to the community the need for their department's programs. An objective press can substantially assist the profession in this effort. Gaining public acceptance of our goals, as well as properly testing their validity in the marketplace of public opinion, should be invited, not shunned.

A vigorous press is an ally to law enforcement efforts. Police performance is only as strong as the support it receives from the community, and that support is molded to a great extent by the facts the public has available through the press.


CLARENCE M. KELLEY
Director

*"... investigations of
crime scenes are far more
meticulous than before..."*

The Police Agent

By
CAPT. WILLIAM A. ALLEN
Commander,
Operations Division,
Arlington County Police
Department,
Arlington, Va.



Over the past few years, former Chief of Police William G. Fawver (retired May 27, 1973), other officials of the Arlington County Police Department, and I have placed renewed emphasis on improving our department. Our objective was twofold. Primary, of course, was the improvement in the efficiency and effectiveness of the department, and second, to make more attractive and improve the morale and prestige of the patrol function. Our basic assumption has been that the patrol function is the very heart of an effective police department.

As is true in many departments, advancement within our patrol operation was slow and many very capable officers who would have preferred patrol work sought other assignments because of the better possibilities for advancement in both rank and pay.

One of our answers to that problem has been the creation of the police agent (field evidence technician) position. This development has proven very effective over the past 2 years.

Under our old system the identification section was responsible for the operation of the identification work at headquarters as well as the collection of evidence in the field. This section was composed of a supervising sergeant and four officers who worked the daylight and evening shifts, Monday through Saturday on a rotating basis, and were subject to call during other periods. With this type of organization there were periodic conflicts in priorities, in job functions, and frequent frustration on the part of the individuals involved. They frequently had to leave one job in the identification section to go out into the field to process a crime scene, and of course,

*"... the patrol function is the very heart of an
effective police department."*

they were often faced with the unhappy prospect of being called out at odd hours after their regular daily tour of duty.

Training and New Positions

In the spring of 1971, a training program was developed by consultation with the director of the Northern Virginia Police Academy and with the Alexandria Division of the Federal Bureau of Investigation (FBI). A 5-day course of instruction entitled "Basic Criminalistics" was decided upon. The topics to be covered included all the basic requirements of crime scene procedures from protection and search through crime scene photography, collection and preservation of evidence, crime scene sketching, location and lifting of latent fingerprints, and other fundamental procedures. That spring, 52 of our officers were trained in that 40-hour course by Special Agents of the FBI.

In July of 1971, 20 new positions with the title of police agent were created for the purpose of performing as field evidence technicians. The officers chosen to be appointed as police agents were selected by their platoon supervisors on the basis of their performance as police officers, as well as their work in the basic criminalistics course. The police academy made available to us for evaluation various items produced by the trainees during this course. These items included photographs, crime scene sketches, plaster casts, and latent fingerprint lifts.

The police agents were then equipped with their personally assigned patrol vehicle, a Crown Graphic four by five camera with a Polaroid Adaptor, an instamatic camera, and a complete evidence collecting kit. Thus, each watch (platoon) had available four police agents for the evidence collection function.

A plaster cast of a footprint is prepared by a police agent.



"The officers chosen to be appointed as police agents were selected by their platoon supervisors on the basis of their performance as police officers, as well as their work in the basic criminalistics course."

The police agent position is classified at the police officer II level with bilevel pay steps above the police officer I classification. This put the police agent at the same pay level as the detective and other specialists.

The headquarters identification section was then reduced to one police officer and two civilian identification technicians. The individuals employed in each of these positions were trained by the FBI in classification and identification of fingerprints. The senior identification technician, a retired identification bureau veteran from a large neighboring department, came to us with a wealth of background in identification procedures. These three individuals now have the prime responsibility for the identification function at headquarters and courtroom

testimony as expert witnesses. The police agents have the sole responsibility for evidence collection in the field.

In the spring of 1972, approximately 8 months after implementation of the police agent program, a second training school was inaugurated. The course was developed after consultation with the police agents who had been functioning in the field, as they identified the areas in which they felt they needed more training or experience. As it developed, the police agents felt they needed more work in locating, photographing, and lifting latent fingerprints, as well as crime scene photography in general.

In the 2-year period since the implementation of the police agent program, the structured criminalistics



Chief Roy Clinton McLaren.

courses, the many working sessions within the identification section, and the months of on-the-job training have produced well-qualified evidence collection officers. It should be noted that basic to both courses of instruction was the endeavor to pique the natural curiosity of the officer and encourage his continued study and the development of effective crime scene procedures.

The training in criminalistics provided by the Northern Virginia Police Academy and the FBI has been continued by necessity. Many of the officers who received that training and became police agents have advanced through promotion or other assignment changes within the department. This has created a continuing need for training for new officers to fill the police agent position. Also, because of the popularity of the criminalistics program, both the basic and advanced courses are now being provided by the academy as a continuing inservice program for all participating departments in northern Virginia.

After the first 8 months experience with this program, it was noted that many of the field supervisors functioning at that time were not schooled in the procedures and needs of the evidence collection technician. To meet the need of supervisory understanding, a selected number of field sergeants audited the advanced criminalistics program and were enthusiastic about training of this type.

As another device to develop the well-rounded career officer, a second new position has been created within our department. This position is titled district supervisor and is classified as a police officer III, which places him in the salary range between the police agent and the sergeant position. Many of the individuals selected for this position were those who had previously been performing in the police agent function. Several of these supervisors have now been promoted to positions of sergeant. The result of this has been that nearly all of our first-line supervisors and commanders have been exposed to the criminalistics courses, as well as working in the evidence collection function in the field, and are therefore better able to supervise and assist the police agent in his function. It is our feeling that this has developed a rich source of well-rounded and broadly experienced supervisory staff from which future executive positions can be filled.

Advantages

Any program has its advantages and disadvantages. Categorically the advantages to the police agent program include the following:

"In the 2-year period since the implementation of the police agent program, the structured criminalistics courses, the many working sessions within the identification section, and the months of on-the-job training have produced well-qualified evidence collection officers."

Police agents serve primarily as patrol officers in a prescribed beat on each working shift and are always immediately available for technical work. Four agents working at a given time also provide the luxury of absenteeism of one or two agents without detriment to the program. In exceptional cases, off-duty agents can be called in. In a recent double homicide, in which a police officer was killed in the fall of 1972, a total of eight police agents were involved in evidence collecting during that investigation. Five of our police agents working hand in glove with our investigators and the FBI Laboratory worked a straight 14-hour period in the collection, preservation, and transportation of a great quantity of evidence.

The definition of job functions has proved an advantage by prescribing specifically the duties of the identification technician and the field evidence technician (agent). Previously the identification section was under our administrative services division. In the reorganization of this function, the identification process, both the laboratory and the field have been placed under the patrol command, thus giving the supervisor direct control at any incident.

The upgrading of 20 police officer positions to a police officer II rank provided advancement opportunity that was not previously available. All individuals, police and otherwise, want to advance and the additional positions provide another vehicle for individual motivation.

In the redevelopment of the status of patrol operations, the addition of the police agent (or field technician) concept has added another area of diversification to the patrol assignment. Twenty patrol officers, who still have responsibility for patrol functions, now have the additional assignments at crime or incident scenes.

Police efficiency is always a key note in any new program and this one

is no exception. The proper selection of experienced, intelligent, and logical police officers, coupled with expert training and the issuance of good and functional equipment, has produced an overwhelming increase in efficiency.

The desire of an individual to accept a challenging job plus the additional duties has produced a great deal of enthusiasm on the part of the officer/agent. This enthusiasm has produced evidence that heretofore might have been overlooked. Identification was made in three case closures when an agent processed lug nuts found on the scene of an auto parts larceny of tires and wheels from a sports car. The latent prints found and preserved by the agent were later identified with one individual by the identification technician.

In another incident, a brick was used to break a window to gain entrance to a wealthy residence. The brick was processed by the agent using dusting powder to produce latent fingerprints. The resulting impressions were photographed by the CU-5

(closeup) camera. Subsequent magnified photographs were forwarded to the identification section for reference checks. These cases and many others point out the enthusiasm to collect and preserve all types of evidence that cursory examinations would have left behind.

A better understanding of the total operation of the police department has been developed by the field officers. Police agents can readily see the value of evidentiary material collected by them and take great pride in case closures resulting from a nondescript item of evidence. The police agent position has also proved invaluable for on-the-job training for new officers.



The closeup camera is used to photograph raised latent fingerprints.

EDITOR'S NOTE: *Material and articles published in the FBI Law Enforcement Bulletin are solely for the information and assistance of law enforcement members. While brand names and companies may be mentioned from time to time, this is done in a strictly objective manner to help present stories in their entirety from authoritative sources. In such instances, publication of the article in the Bulletin should not, under any circumstances, be construed as an endorsement or approval by the FBI.*

This training enhances the overview by the new officer of the police service.

As indicated, many of the original officers designated as police agents have moved on to investigative assignments. Their technical background has proved invaluable to them as investigators. This has proven to be another aspect of career development for officers within the department.

The community has responded favorably to the agent activity. In many incidents, even the minor ones, the victims feel they are indeed getting extra service by the agents' interest and endeavors. The education of the complainant, by the agent, of the process and problems in this type activity has also brought favorable comments concerning the professional approach by our officers. As in any police program, public relations is an essential item.

One final advantage is that the police agent position fits well within the team policing concept. The belonging to a productive group, such as the district team, stimulates the competitive effort, generates esprit de corps, and continues to enhance the department's overall efficiency.

Disadvantages

Some of the disadvantages have resulted not because of the concept but because of the system. The establishment of a productive evidence technician requires a great deal of intensive training and on-the-job exposure;

"The proper selection of experienced, intelligent, and logical police officers, coupled with expert training and the issuance of good and functional equipment, has produced an overwhelming increase in efficiency."

an experienced police officer with a year's specialized training is the minimum requirement.

The higher degree of turnover in change of assignment or promotion of the police agent has produced a loss of this expertise. His loss at the functional level is great even though the total department benefits by the sophistication of his training.

Because four agents are available in each shift, not enough involvement in crime scene evidence collection is available to the striving agent. He needs practical experience to develop fully his technical proficiency.

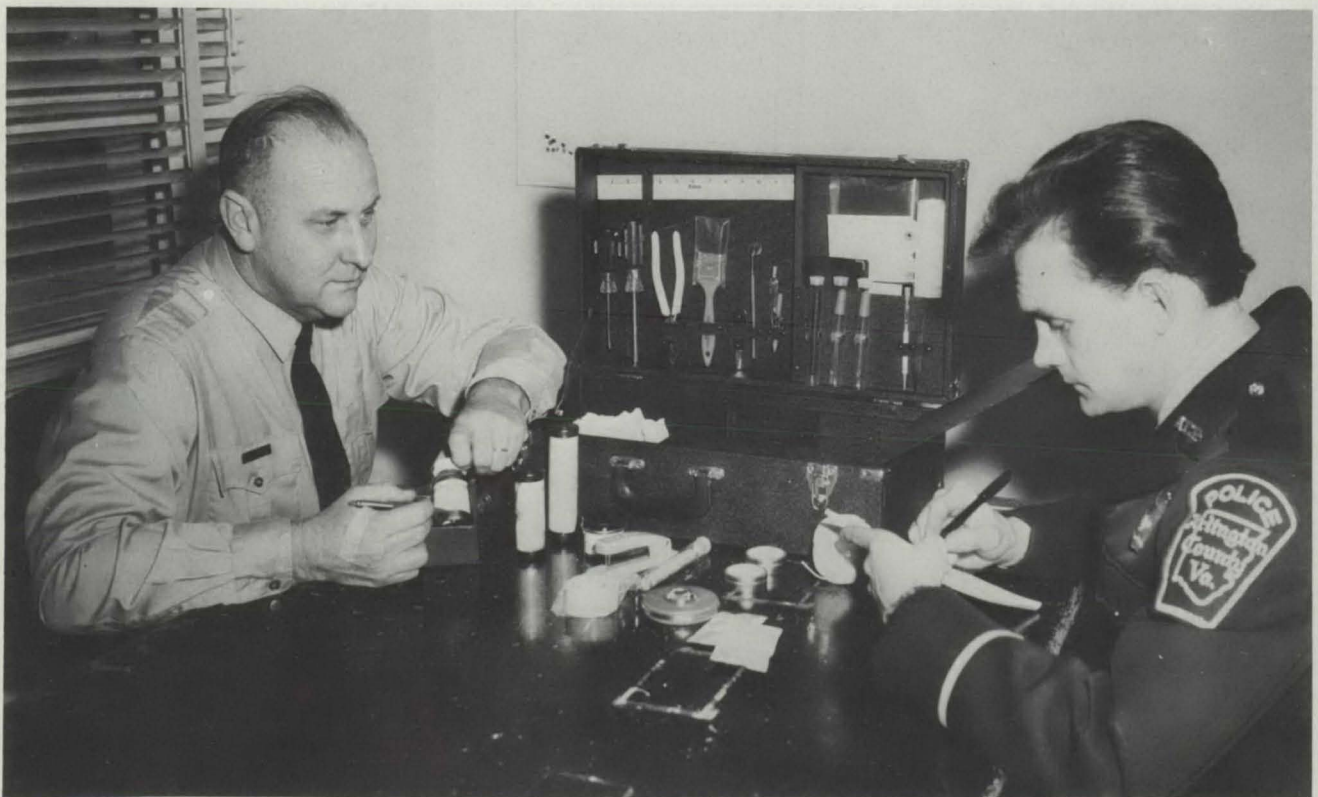
If cost is a disadvantage, then this must be included in the agent concept.

The original program was developed through a Law Enforcement Assistance Administration (LEAA) funded grant which provided nearly \$10,000 for the purchase of cameras and evidence collecting equipment. The training program and salary involved provided the necessary money match. The additional salary differential required for the 20 new agents also has some impact on the continuing budget. The cost of maintaining the inventory of supplies is extremely high when 20 individuals are active in continuing training programs and in actual crime scenes investigations.

We believe, however, the advantages far outweigh the disadvantages

under our program. Our investigations of crime scenes are far more meticulous than before, and the resulting product has provided substantial information for followup investigation by detectives. Our history indicates that 55 percent of all assignments to which police agents respond have produced identifiable latent fingerprints. Our closure rate based on identifiable latent fingerprints runs at a fairly constant rate of 15 to 20 percent. The volume of latent fingerprints received by the identification section as compared to 1970 has increased well over 300 percent. The addition of more advancement opportunities for career development has indeed made this a worthwhile project. (FBI)

An identification technician checks inventory of evidence kit with a police agent.



INTERNATIONAL ASSOCIATION FOR IDENTIFICATION

Standardization Committee Report

The possibility of establishing a minimum number of ridge characteristics on which to base a fingerprint identification has inspired much research and serious thought on the part of many fingerprint technicians. The International Association for Identification (IAI), in 1970, created a Standardization Committee to probe this possibility. A report covering 3 years of study by this committee was presented at the IAI conference at Jackson, Wyo., July 29 to August 2, 1973. Their conclusion that no valid basis exists for requiring a predetermined minimum number of ridge characteristics, in order to establish identity, was unanimously adopted by the conference. The FBI is in full accord with the finding of the committee.

The Standardization Committee suggested that its report be published in the FBI Law Enforcement Bulletin, and it is accordingly presented below in its entirety.

In 1970, at the 55th Annual Conference of the International Association for Identification, a resolution was adopted which resulted in the creation of a Standardization Committee. Subsequent to the conference, a committee of 11 members was appointed, consisting of individuals whose aggregate experience in the identification field amounted to roughly 250 years.

The assignment given to the committee covered two specific areas:

1. To determine the minimum number of friction ridge characteristics which must be present in two impressions in order to establish positive identification; and
2. To recommend the minimum requirements of training and experience which a person must possess in order to be considered qualified to give testimony on friction ridge impressions before a grand jury or court of law.

Each of the foregoing constituted a task of considerable significance, since any recommendations made by the committee and accepted by the IAI would undoubtedly attract wide attention from identification personnel, as well as from legal and judicial authorities throughout the world.

Members of the committee were in agreement that their attention would first be given to the question of determining the feasibility of recommending a minimum number of ridge characteristics as a requirement for positive identification. The committee likewise agreed that the study would require a substantial amount of time and warranted a careful and deliberate approach, rather than one of expediency, in order to meet a predetermined deadline.

Interim reports were presented to the delegates at the 1971 annual conference in Louisville, Ky., and at the 1972 annual conference in Milwaukee, Wis. The reports analyzed at some length the responses which the committee received to a ques-

tionnaire sent to identification officials throughout the world in March 1971, inquiring as to existing legal requirements, agency policies, and operational procedures in the areas of friction ridge identification and court presentation. The responses confirmed the fact that existing national or State laws do not mandate any minimum number of matching characteristics before permitting friction ridge evidence to be admitted in court. The responding agencies further indicated that they adhere to a policy which permits their qualified technicians to testify as to positive identification based upon a varying number of matching characteristics, dependent upon a variety of factors, including clarity of the impressions, types of characteristics, location of the characteristics in relation to the core or delta, absence of unexplainable differences, conditions under which the latent or "unknown" impression may have been found, and so forth. In short, the responses emphasized the fact that each identification represents a unique set of circumstances, and the mandating of a minimum number of matching characteristics would, therefore, be impractical.

In submitting interim reports in 1971 and 1972, the Standardization Committee strongly recommended that a federally funded indepth study should be conducted, in order to establish comprehensive statistics concerning the frequency, type, and location of ridge characteristics in a significantly large data base of fingerprint impressions. In the opinion of the committee, such a study, in addition to having potential sociological and medical values, might well provide the basis upon which a determination could be made as to the practicality of utilizing weighted values when comparing friction ridge characteristics for purposes of establishing positive identification, with additional weight being given to the more unique types of characteristics. General guidelines to be followed in the study, including standardization of terminology with respect to the different types of ridge characteristics, were included in the interim reports.

During June of 1972, a proposal was submitted to Project SEARCH for the funding of such a study through the Law Enforcement Assistance Administration (LEAA). Although the proposal


has been accepted by Project SEARCH, a formal request for LEAA support has not yet been submitted.

Limited studies of friction ridge characteristic distribution by type, frequency, and location have, of course, been conducted by various agencies. The members of the Standardization Committee have reviewed the results of all such studies brought to their attention.

Based upon a review of all available technical data, upon the experience of the personnel in those agencies throughout the world who responded to the questionnaire referred to earlier in this report, upon the results of ridge characteristic studies conducted to date, and upon the personal expertise of the individual members of this association, the Standardization Committee proposes that the following statement be officially endorsed as representing the unanimous opinion of the delegates assembled here today at our 58th Annual Conference:

The International Association for Identification assembled in its 58th Annual Conference at Jackson, Wyo., this first day of August 1973, based upon a 3-year study by its Standardization Committee, hereby states that no valid basis exists for requiring a predetermined minimum number of friction ridge characteristics which must be present in two impressions in order to establish positive identification. The foregoing reference to friction ridge characteristics applies equally to fingerprints, palm prints, toe prints, and sole prints of the human body.

Finally, the committee recommends that the incoming president extend the life of the committee for an additional year, in order that it may give consideration to the feasibility of recommending minimum requirements of training and experience which a person should possess in order to be considered qualified to give testimony on friction ridge impressions before a grand jury or court of law.

The members of the committee wish to extend their appreciation to the many identification officials and technical personnel throughout the world who have cooperated in the work of the committee during the past 3 years. 

CRIMESCOPE

FBI BOOKLET

The FBI has available a booklet entitled "How Banks Can Help The FBI" which provides helpful information concerning the measures financial institutions can take to prevent robberies, burglaries, larcenies, extortions, and defalcations, as well as what should be done in the event of these crimes.

Mail requests to the Director, Federal Bureau of Investigation, Washington, D.C. 20535.

Per routing slip from Engelmeier

8/22/73

DANGER

The Miami, Fla., Police Department recently issued a bulletin warning its officers regarding the danger of loose revolver ammunition coming in contact with some portable radios. Many of these radios have lifetime batteries, as well as exposed or slightly recessed recharging studs. Should the ammunition come in contact with these recharging studs in a manner which would create electrical continuity with the battery, an explosion could result. This fact is of obvious concern to patrol officers equipped with battery-operated, two-way radios which are often small enough to be carried in pockets—with ammunition!

SAC, Miami 5/18/73

BOMBING INCIDENTS

During July 1973, 165 actual and attempted bombing incidents were reported. Eighty-four of these bombing incidents involved explosive types of bombs and 81 involved the use of incendiary devices. A total of 208 devices were used, and 94 of the devices were explosive in nature and 114 were incendiary.

The leading targets were commercial operations and office buildings with 49 attacks. Forty-three attacks were made against residences; 21 against vehicles; 9 against law enforcement personnel, buildings, and/or equipment; 7 against telephone facilities; and 5 against schools. The remaining attacks involved other miscellaneous targets. One death was reported, and 15 persons were injured.

During the first 7 months of 1973, a total of 1,093 bombing incidents were reported throughout the Nation, Puerto Rico, and the Virgin Islands. Of these incidents, 528 involved the use of explosive bombs while the other 565 were incendiary attacks. Seven deaths were reported in connection with these attacks, and 93 were injured.

Geographically, the Western States led the Nation with a reported 444 bombing incidents during the first 7 months of 1973.

Press Release 8/16/73

CRAFTY CRYPTANALYSTS CRACK CRIME CODE

Officers of a police department in a southern State arrested an armed robbery and burglary suspect who had previously been identified as a principal in a major criminal organization which specialized in setting up burglaries and robberies and in fencing stolen goods. At the time of his arrest, the suspect had in his possession numerous index cards, each containing encrypted notations consisting of letters, figures, and miscellaneous symbols.

Copies of the index cards were submitted to the FBI Laboratory where, minutes after receipt, members of the Laboratory's Cryptanalysis Unit broke the relatively simple code revealing information which would be valuable to a person who intended to rob or burglarize. Each of the cards represented a capsule "intelligence summary" on an individual or business establishment of apparent interest to the suspect. Included in the coded summaries were such diverse details as: the full names, addresses, and telephone numbers of the individuals and businesses; the habits of the persons working or residing at these crime targets; whether or not the homes of the intended victims and business establishments were protected by watchdogs or alarm systems; locations on the premises where money and jewels were maintained; and whether or not a safe or vault was used for storage of valuables.

Herndon to White memo

7/23/73

The Law Enforcement Officer and the Determination of the Time of Death

By

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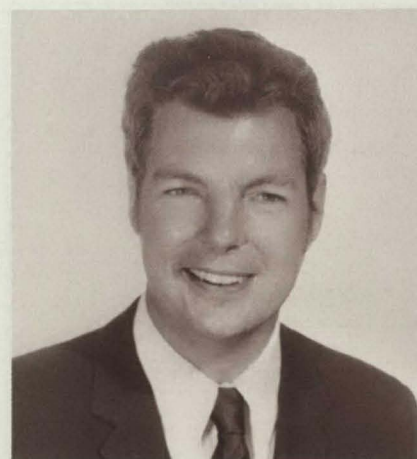
If the circumstances surrounding a death are unknown, an estimation of the time of death may represent a valuable contribution to the reconstruction of events surrounding the death of the person. This pertains especially to deaths from homicide, in which rapid accrual of accurate data is vital to expediting the investigation.

Throughout the years, forensic scientists have actively pursued the search for a definitive and quantitative method of determining the post-mortem interval, that is, the time interval from death till discovery of the body. Nevertheless, at present there is no single independent, reliable method for the determination of the post-mortem interval. Rather, this determination consists of an estimate by a skilled person based upon a complex of observations, each of which is subject to much variability. The estimated post-mortem interval is a composite value derived from multiple

observations centered upon the body, the scene of death, and the environmental conditions. Contrary to what many persons believe, an exact determination of the time of death is not possible. Please do not be misled, however; this estimate represents more than just an educated guess. It is a scientifically derived opinion that is fraught with variability induced by the complexity of the factors involved.

The Process of Post-mortem Decomposition

During life, the systems of the human body possess the capacity to maintain the body tissues at a state of maximally efficient, effective functioning of the individual. Of prime importance is the delivery of food-stuff (including oxygen) to all body tissues and the removal of waste products that result from tissue function. The body tissues are composed of trillions of cells, each cell representing a



*Dr. Sopher also holds an associate professorial lecturer position in The George Washington University Department of Forensic Science. Formerly Chief of the Accident Pathology Section of the Forensic Sciences Division of the Armed Forces Institute of Pathology, Washington, D.C., he obtained his D.D.S. and M.D. degrees from the University of Maryland Dental School and School of Medicine, respectively, and general pathology training at the University of Maryland Hospital, Baltimore, Md. He is Board-certified in the fields of anatomic and forensic pathology. An article by Dr. Sopher appeared in the September 1972 issue of the Bulletin.

"As is applicable to many areas in the field of forensic pathology, complete cooperation between the pathologist and the law enforcement officers is a vital component."

"Throughout the years, forensic scientists have actively pursued the search for a definitive and quantitative method of determining the . . . interval from death till discovery of the body."

microscopic-size factory. In order for these factories to operate, raw materials (food and oxygen) must be provided and byproducts (waste) must be eliminated. With death, these basic elements (availability of food and elimination of waste) necessary for the well-being of these factories fail to be satisfied. Shortly thereafter the factory or cell is recognized as being in a state of death.

Concomitant with death, just as organs such as the heart, liver, and kidneys cease to function, the body's ability to defend itself against the onslaught of the bacterial world (germs) also ceases. With death, these bacteria grow at will and feast upon the dead tissue. The resultant change in the morphologic structure of the human body is recognized as post-mortem decomposition. The change in human tissue seen after death represents the same process we have all observed in the case of unrefrigerated animal meat; namely, a "rotting" process.

The body begins to decompose from the time of death, with the degree and rapidity of destruction dependent upon many factors. The eventual result is total dissolution of all body tissues.

Several forces act upon the body after death (fig. 1). In addition to bacterial elements that affect the body from without as well as within, the death of tissue liberates tissue juices called *enzymes* that tend to dissolve the internal body components. Externally, insect and animal life may ravage the exposed tissues so as to further disfigure the remains. Such disfigurement may make personal identification problematic as well as

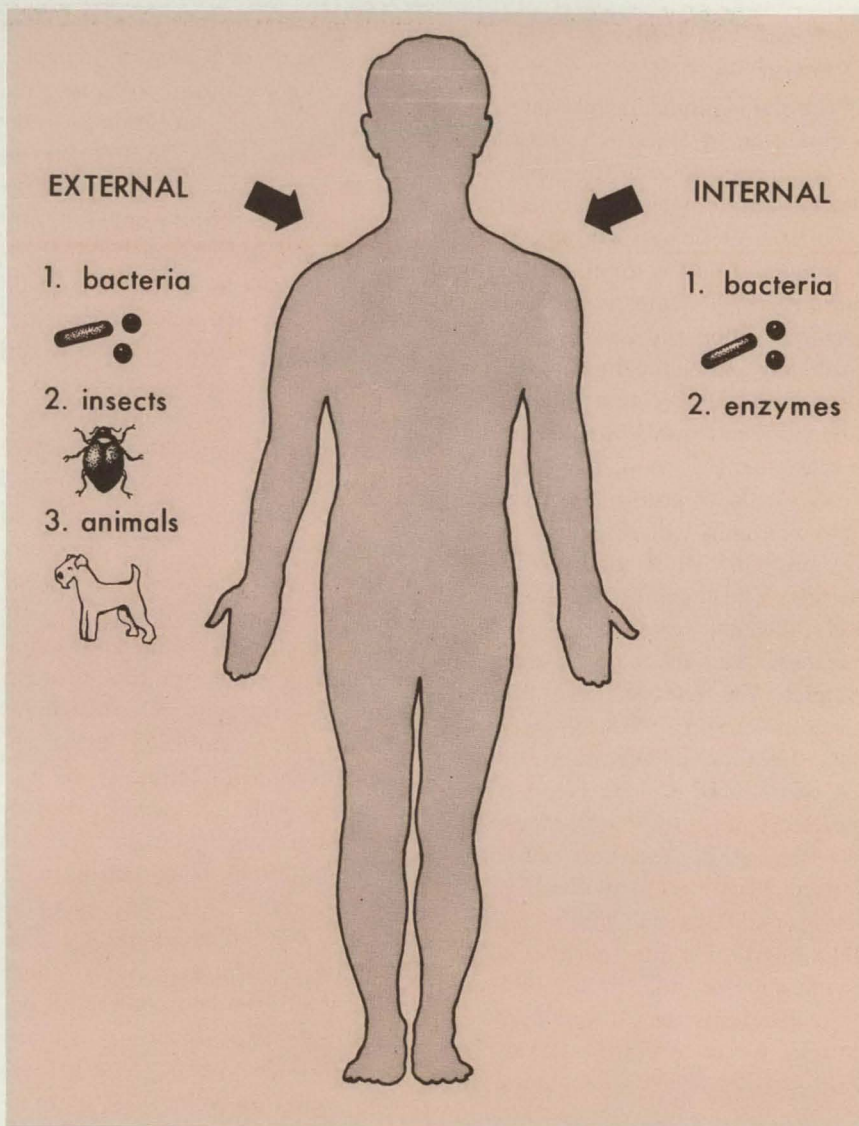


Figure 1. Post-mortem forces acting upon the body.

create difficulties in the interpretation of the autopsy findings.

These principal forces acting on the body post mortem, while operative in any death, are modified considerably in their action by the following environmental factors:

1. Temperature of the environment.
2. Time.
3. Location of the body.
4. Humidity and air currents.
5. Habitus of the body and clothing.

It is such environmental modification that leads to variability in the rates of decomposition observed in individual cases and to the errors of judgment made by persons unfamiliar with these effects. Each of these factors will now be discussed in turn.

Factors That Influence the Post-mortem Forces

The predominant factors that alter post-mortem destructive forces are the environmental temperature and time. Warm environmental temperatures enhance bacterial growth and hasten putrefaction or "spoiling" of the tissues. Cooler temperatures retard bacterial action and body decay. The dead body exposed to the outdoor heat of midsummer may so rapidly decompose within a 24- to 48-hour period as to make visual identification impossible. Early decomposition is characterized by a bloated, discolored body with areas of peeling and blistering of the skin. The abdomen and face especially become swollen. The face blackens, the abdomen assumes a greenish discoloration, and the extremities develop a splotchy, greenish-black "marble" pattern. The disturbing odors that emanate from such bodies are often responsible for their detection within closed rooms. In contrast, the body located in near-freezing winter conditions may still be personally recognizable after an interval of several months.

The factor of time modifies the post-mortem forces operating upon the body in that the greater the post-

mortem interval, the greater the tissue decomposition under any given set of circumstances.

The post-mortem location of the body affects decomposition in that burial in soil or immersion in water tend to retard decomposition as compared to that observed in bodies exposed only to air. It is generally stated that the degree of decomposition noted upon a 1-week exposure to air is equivalent to a 2-week immersion in water or an 8-week burial in soil (unembalmed body). The retardation of the decomposition process noted in immersion or burial is related both to the cooler temperatures of these media and the altered chemical environment provided by water and soil components.

In addition to putrefaction, there are two other changes that may affect human remains in certain circumstances. These conditions are known as *mummification* and *adipocere*. *Mummification* represents a change of the body surface resulting from exposure to a well-ventilated dry environment. In this condition, the skin becomes dry, taut, and "leathery," shrinks, and assumes a brownish-black color much like that of the preserved mummies of ancient Egyptian times. Such a change tends to protect the inner organs from putrefaction. *Mummification* may be complete within a 3- to 6-month period. The condition of *adipocere* occurs upon immersion of the body in a moist environment such as water or very moist soil. The body presents as a greasy, soapy, yellowish-white mass as a result of the interaction of salts in the water and the body fats. The process begins after 3 months' immersion; it also tends to preserve the internal body organs.

Body habitus and clothing influence the rate of decomposition by affecting the post-mortem body-cooling curve. These elements are discussed below.

The Estimation of the Post-mortem Interval

The pathologist's estimate of the post-mortem interval is based upon various physical and chemical changes known to occur within the dead body. Each of these changes possesses much variability; therefore no single method is considered totally reliable alone. The estimation is formulated upon the many measurements and observations described below, and a judgment is only then rendered, based on the composite information derived by the experienced pathologist.

Generally speaking, the shorter the post-mortem interval, the more reliable is the pathologist's estimate. This is to say, for example, that a body dead for 6 hours may be estimated to have a post-mortem interval of 4 to 8 hours. The body dead for 24 hours may be estimated to have a post-mortem interval of 18 to 30 or 36 hours. The best estimate of a person deceased for 1 week may range from 4 days to 2 weeks. These broad limits of the estimate of the post-mortem interval correctly take into account the inherent variability of the numerous factors that prevent more exact determination.

A. Post-mortem Body Cooling. After death, the living body temperature of 98.6° F decreases and finally equates with the cooler environmental temperature (fig. 2). The rate at which the dead body cools is a most important measurement in the estimation of the post-mortem interval. The temperature method is reliable only within wide limits, as many factors alter the rate of body cooling. First, the assumption of a "normal" body temperature of 98.6° F at death may be erroneous, as in a few individuals the normal body temperature may be slightly above or below this accepted standard. In addition, persons dying of infection or during vigorous exercise may have a higher

"The predominant factors that alter post-mortem destructive forces [on the human body] are the environmental temperature and time."

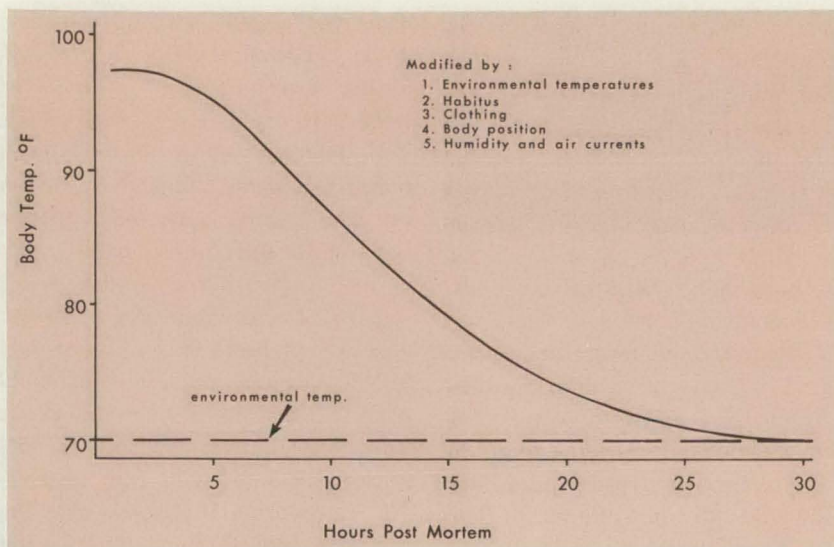


Figure 2. Schematic of post-mortem body cooling.

body temperature at death. For example, a person dying with a fever of 106° F could be dead for 5 hours before the "normal" body temperature is reached.

The problem of rate of cooling of the human body is certainly not a simple one. Theoretically, if we were to suspend a homogeneous, round steel ball with an initial temperature of 100° F from the ceiling of a room containing still air maintained at a constant temperature of 70° F, we could predict with mathematical accuracy the rate of cooling of this steel mass. This is possible, as the laws of physics tell us that heat loss for a specific mass of uniform size, shape, and density in a stable environmental temperature occurs at a known predictable rate that adheres to mathematical equations. Such a determination is fine when dealing with a controlled set of circumstances, but unfortunately, such theoretical conditions do not apply to the human body.

Unlike our steel ball, no two persons and their respective environments are alike. There are fat people and thin people. Fat serves as an excellent insulator; hence, fat persons cool at a slower rate than their thin-

ner brethren. Individuals also vary in amounts of total body surface area per body mass exposed to the environment. This is an important variable, for it is from the exposed surface area only that a mass loses heat. A body bent upon itself will lose heat more slowly than one lying flat upon a surface. The temperature of the surface upon which the body is lying also affects heat loss of the body mass. Different types of clothing on the body affect heat loss, and a nude body cools more rapidly than one that is clothed. Environmental humidity and drafts or wind currents affect heat loss in that a low-ambient humidity encourages the evaporation of moisture from the body and results in more rapid cooling. Drafts, of course, further enhance cooling. By far the greatest factor affecting body cooling, however, is the environmental temperature. The cooler the surroundings, the more rapid will be the rate of cooling of the body. As has been mentioned, the cooler the temperature, the less the amount of decomposition.

The cooling curve shown in figure 2 is actually "reverse-S" shaped and indicates that the body cools slowly

during the first several hours; this is followed by a period of more rapid cooling, and finally, the cooling rate slows as the environmental temperature is approached. The slope of the curve, representative of cooling rate, depends upon environmental temperature. An average value for the rate of body cooling post mortem is 1.5° F (rectal temperature) per hour until environmental temperature is reached, at which time the body remains at or fluctuates with the environmental temperature.

B. Rigor Mortis. The process of rigor mortis is the result of a stiffening or contracture of the body muscles related to chemical changes occurring within the muscle fibers at death. As a general rule, the onset of rigor mortis begins between 1 and 3 hours after death and occurs first within the muscles of the jaws and neck. The process progresses in a head-to-foot direction and is usually complete or full 9 to 12 hours after death. At this point, the jaws, neck, torso, and upper and lower extremities are in a state of marked stiffening and resist any change in position of the body parts. Rigor fixes the body in the position assumed at death, so that a body in rigor seated in a chair and subsequently removed will rest on the floor with the legs flexed at a 90° angle and with the arms bent at the elbows as though positioned on the armrests. This complete rigor begins to disappear at approximately 18 to 36 hours after death and in the average body is completely gone within 48 to 60 hours after death. At this point the body is completely relaxed. The

"... rigor mortis begins between 1 and 3 hours after death and . . . begins to disappear at approximately 18 to 36 hours after death. . . ."

disappearance of rigor proceeds in the same head-to-foot manner as the onset, so that rigor leaves the lower extremities last.

The timing of rigor mortis, like body cooling, is subject to much variation. In a person dying in convulsions or during exertion, the appearance of rigor may be hastened. Infants and emaciated persons rapidly lose rigor after it is established. Environmental heat hastens both the onset and the loss of rigor, while cold temperature hastens the onset and slows its disappearance. Speaking in general terms, if a body is warm to the touch and without rigor, death probably occurred less than 3 hours earlier. Early rigor indicates death 3 to 9 hours previously, and full rigor implies that death occurred at least 9 to 12 hours earlier.

C. Livor Mortis. The finding of livor mortis is due to the post-mortem pooling and settling of blood within the blood vessels from gravity. During life, the pumping action of the heart maintains a constant flow of blood through the numerous vessels of the body. With death and cessation of the heartbeat, however, the nonflowing liquid blood pools within the dependent portions of the body; i.e., gravity influences the post-mortem distribution of blood. Livor is recognized by the deep maroon to purple discoloration of the skin caused by distended, engorged blood vessels of the skin. The location of livor is determined by the position of the body after death. In a body suspended by a rope around the neck, the gravitational effect will pool the blood into the legs, and deep livor will develop in the lower extremities. In a body lying face down, livor will develop within the frontal aspects of the body rather than on the back. Similarly, a body positioned with shoulders and buttocks on a flat surface (lying on the back) will demonstrate livor of

"The onset of livor mortis begins about 30 minutes after death and becomes fixed at about 8 to 10 hours after death."

the back rather than of the chest and abdomen.

In summary, the post-mortem position of the body determines the sites at which livor mortis develops. The onset of livor mortis begins about 30 minutes after death and becomes fixed at about 8 to 10 hours after death. The term "fixed" refers to the fact that after livor has settled in one position for some 8 to 10 hours, it can no longer be significantly shifted by a change in body position. This implies that even though a body lying for 10 hours on its back and developing livor on the back should be shifted so as to lie on its front, the livor will not respond to the gravitational change and will not shift to the front of the body. This is significant in that if a law enforcement officer arrives at a homicide scene and finds the body face up with livor of the chest and the front of the abdomen, he can assume that the body was initially in the face-down position and has been turned post mortem. The persistence or shifting of the livor would then enable an estimation as to whether the post-mortem interval was less or greater than 8 to 10 hours.

In addition to its value as a gauge for estimation of the early post-mortem interval, the usual purple-maroon coloration of livor mortis may be altered by certain physical or chemical changes, which may suggest the cause of death. Pink livor is noted in cases of cyanide poisoning, and a cherry-red coloration reflects ante-mortem exposure to carbon monoxide gas. These two changes are due to physicochemical effects upon the blood by these toxic agents. Bodies exposed to cold temperatures post mortem will

also develop pink livor. A chocolate color imparted to livor is noted in deaths caused by another family of toxic substances, nitrite compounds. The diagnosis of death from such poisonous agents, although suggested by the external appearance of the body, rests upon toxicologic examination. A deep purple, leaden hue is imparted to livor in deaths related to asphyxia or heart failure. Livor may fail to develop, regardless of body position, in some instances of death from extreme loss of blood, as may be seen in gunshot or stab wounds. The explanation for this is that the excessive loss of blood depletes the total blood supply of the body and less blood is available for settling in the vessels of the skin.

D. Decomposition. The experienced forensic pathologist employs his training and expertise so as to estimate the post-mortem interval in light of his overall survey of body decomposition. This estimate is based upon the considerations of environmental temperatures and body location and their effects on post-mortem changes, as mentioned earlier. The decomposed body presents difficulties in many areas of forensic pathology. The putrefactive changes disfigure the facial features, making visual identification by relatives impossible. Depending upon the condition of the body, the process of fingerprint identification may also be rendered ineffectual. Under these circumstances, dental identification is the optimal method of choice for identification of such remains.

Post-mortem changes also alter the appearance of and may camouflage ante-mortem injuries, and a thorough, detailed examination of the body exterior is mandatory in such cases. Even with moderately advanced decomposition, however, internal wound tracts and organ injuries are generally discernible. X-ray examination may be utilized to locate bullets or foreign objects. Decomposition also alters

the naked eye and microscopic appearance of natural disease within the body, changes that may make the decision as to cause of death a difficult one. In cases of poisoning, the toxic agent or drug may also deteriorate after death so as to leave no trace of the real cause of death.

Thus, depending upon the circumstances, the decomposed body often presents a most difficult problem for the forensic pathologist—a problem involving the establishment of identification and of the cause and manner of death.

Figure 3 schematically depicts the chronology of body cooling, rigor and livor mortis, and early decomposition.

E. Gastrointestinal Tract Contents. The presence of food particles within the stomach and upper small intestine provides another source of information for the pathologist regarding the time of death. Various ingested food-stuffs rest within the stomach for variable periods of time depending upon the nature and size of the meal. The recognition of discernible foods may

thus enable one to state, for example, that death occurred 2 to 4 hours after eating. This information may then be correlated with the estimate obtained from the degree of livor and rigor mortis and body cooling so as to further substantiate the estimate of time of death. On the other hand, with definite knowledge that the deceased had eaten dinner and was found dead the following morning, the absence of stomach food contents would imply that death had probably occurred after 11 p.m. the preceding night.

F. Insect Activity. Observation of insect larvae to aid in the estimation of time of death represents an infrequently utilized method of study that may be of help on occasion. Many insects develop from eggs, then progress through varying growth stages before emerging as adult insects. The time interval spent within these various developmental stages is rather constant for any given insect. This information can be applied to forensic pathology and estimation of time of death. For example, the housefly feeds on dead tissue. The adult female fly

deposits eggs upon the remains, and the hatched larvae then progress through the various stages of growth. If only the eggs are found on the body, then death probably occurred, in our hypothetical example, within a 24-hour period. If later growth stages are found, the indication is that death occurred at least 3 to 5 days earlier. For different species of fly or for other insects, the timespan of the different growth stages may vary. The pathologist may desire to collect these infant insect forms and forward them to an entomologist (insect expert), who will then identify the particular insect and the necessary timespan between egg laying and the stage of growth observed.

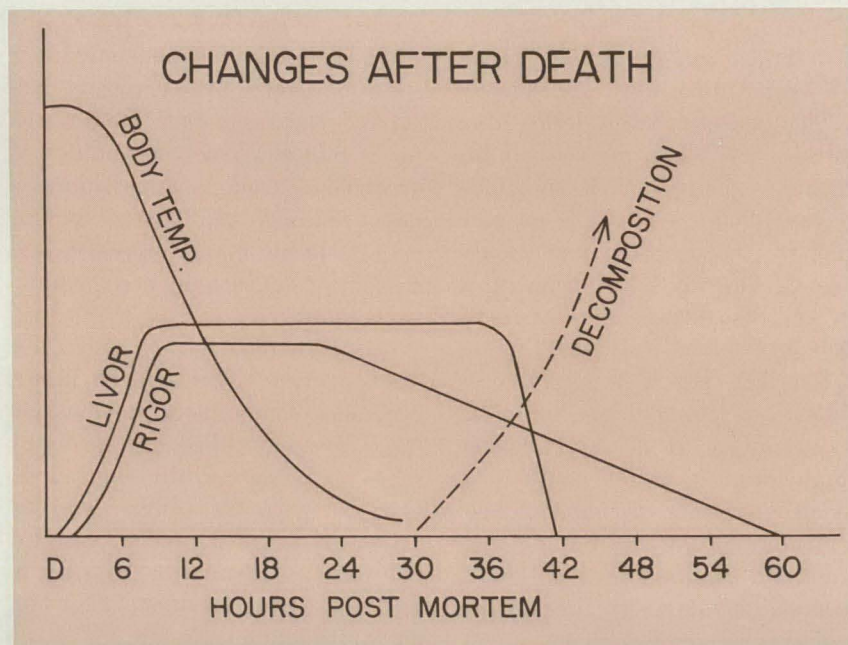
This method can be utilized only when insects have access to the body. The estimate obtained represents a minimum for the post-mortem interval, as the eggs may have been deposited several days after death. The unwary may also be confused if sufficient time has elapsed for more than one complete growth cycle to take place. If the body has been dead for some time, the remains of insects may indicate the season in which death occurred.

G. Changes in Body Chemistry. Many efforts have been made over the years to measure the post-mortem interval by sampling the chemical contents of various body fluids. The idea generally has been to measure a known body substance at a certain time after death and thereby derive an estimate as to the time of death. Such a method would be helpful if a consistent rate of decay or a steady increase in quantity of such substances post mortem could be established. To date, the search for such a reliable method has been almost fruitless.

Post-mortem Animal Activity and Trauma

This topic is not directly related to
(Continued on page 31)

Figure 3. Timing of post-mortem body cooling, livor and rigor mortis, and putrefactive changes.





Aircraft in Fish and Game Enforcement

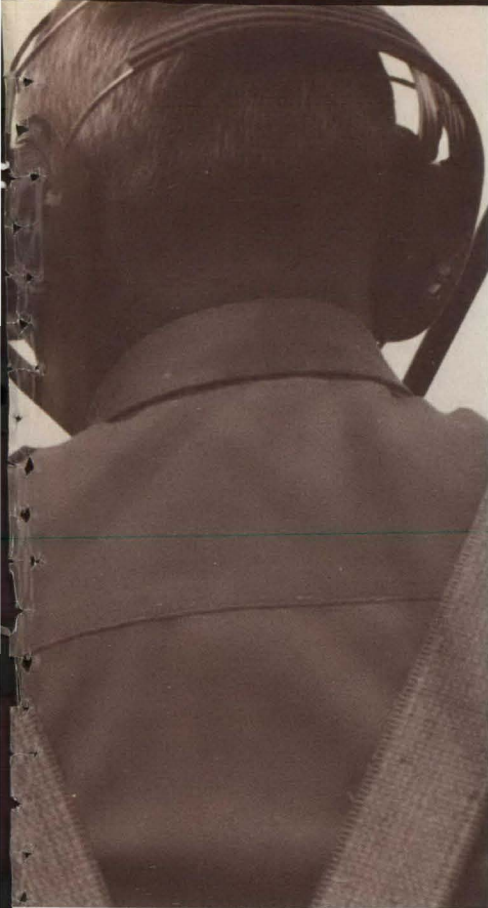
To sportsmen, “jacklighter” has always been a dirty word. And rightly so. This poacher drives slowly from field to field. When the rays of his searching spotlight find and temporarily blind a deer, it is an easy target for the poacher’s rifle. Sometimes the deer is killed; sometimes not. And sometimes something else is killed.

To make matters worse, a deer blinded by a spotlight can’t hide from the jacklighter. If the night hunter doesn’t drop it in its tracks, the wounded deer will probably hobble off into the brush to die. But the jacklighter will continue down the road, searching the darkness for another set of eyes and another shot.

Night hunting is not only poor sportsmanship, but is downright dangerous. The jacklighter doesn’t look for a backstop, and many kinds of eyes shine at night besides those of deer—thoroughbred horses, for example. Even farm buildings and equipment occasionally become unintended targets.

One dark night not long ago, for example, two prized quarter horses were shot. The rancher promptly got the warden out of bed, and mostly by sheer luck, the culprit was apprehended. When the violator was arraigned in court, the judge suggested he pay for the horses (valued at \$2,400) and, in addition, fined him \$500 for night hunting.

“Poachers have learned to fear the air patrol.”



"Several hundred miles of closed streams could be viewed . . . with only one airplane."

Enforcement Tool

One modern tool of fish and game wardens—the airplane—tends to discourage jacklighting poachers. The Montana Department of Fish and Game has been using airplanes for this and many other purposes for more than 30 years. During much of this time, the airplane has been the downfall of many hard-to-catch fish and game law violators. Today, it continues to play a vital role in the department's law enforcement program.

Some of the first flying enforcement patrols were pretty much learn-as-you-do operations. Equipment was not the best, and in the absence of radios, pilots dropped notes to wardens on the ground telling them what they had seen. Although very cumbersome, this method still expedited law enforcement because poaching activities could be located in only a few minutes. Previously, it would often take a warden on the ground several hours to discover it, if he did at all.

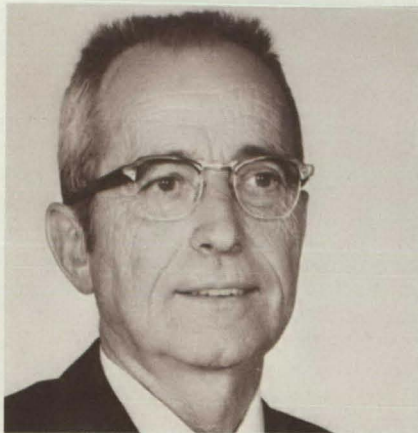
These early patrols often spotted poachers who thought fishing was best during the closed season. For many years, Montana's streams were closed to fishing in early spring to protect spawning trout,* but poachers paid little heed. The area was big, and a warden was seldom seen. Evidence of poaching could be found in out-of-the-way places along streams—spots that couldn't be seen from a road. With airplanes, wardens could see what was going on in these out-of-the-way places.

On one of my early patrols, I spotted a couple of fishermen in such an area. Returning to where the ground unit was on standby, I dropped a note. The warden drove within a mile of the spot, hiked in, and apprehended the poachers. He sacked up their illegal fish and took the violators to see the judge.

*Since these early days, new knowledge from detailed fishery research projects has made it unnecessary to close many of these streams for spawning purposes.

By
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Montana Department of
Fish and Game,
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Mr. Wesley R. Woodgerd, Director, Montana Department of Fish and Game.

Trained Pilots

Department pilots all hold commercial pilot ratings, and some also hold certification for flying their aircraft solely by instruments. But their most valuable asset is their intimate knowledge of the country they patrol.

For the most part, department pilots use light aircraft that can make short landings and takeoffs in reasonably rough terrain. Good visibility from either side of the aircraft for both the pilot and the observer is necessary. It should handle well in slow flight (40 mph), and be fairly quiet when throttled back at high altitudes. This is a distinct advantage on most surveillance flights where attracting as little attention as possible is the name of the game.

When a plane is used only as "eyes" for wardens on the ground, the way-out approach—out of sight and out of hearing—has proven most effective. A light aircraft throttled back at 12,000 feet is not very noticeable but quite effective as "eyes" for ground patrol, especially when the observer uses a pair of good binoculars.

Enforcement Flights Needed

At the end of World War II, hunting and fishing pressure increased at

a much faster rate than the department was able to expand its enforcement division. To cope with this increased pressure, the director of the fish and game department sanctioned the first flights to assist in the enforcement of the fish and game laws.

When I returned from World War II, I was assigned to the Bozeman District, which included most of southwestern Montana. At that time, this area was a sportsman's paradise. But along with the excellent hunting and fishing, there were still poachers who then operated nearly undetected. The district was big, and manpower was small. Poaching reports were common, but the evidence was often detected a few days too late to make apprehension of the violators possible.

In 1948, the department got its first two-way radio units, which were composed of one car unit for the entire district and two hand held transmitters. Although still cumbersome, these first radio operations effectively discouraged many fish and game law violations, especially when the fishing season was closed.

Wardens on foot patrol found considerable evidence of illegal preseason fishing that spring. Fish were taken with pitchforks, shotguns, dynamite, spears, and other illegal methods.

To curb these illegal activities, a Sunday airplane patrol was equipped with a hand held radio transmitter. Several hundred miles of closed

streams could be viewed on a Sunday with only one airplane. With ground units strategically located, many violators had their day in court. The word traveled fast, so some illegal fishing was discouraged before it occurred.

Most enforcement flying is done either on preseason or postseason patrols, because illegal hunting or fishing is easier to detect during closed seasons. Also, as a matter of policy, very few flights are made during the open season because the department does not wish to be blamed for disturbing or frightening game away from the honest sportsman. However, some enforcement flying is necessary to curb illegal hunting during the open season.

How It's Done

To further explain the techniques and results of enforcement flying, it's best to cite some actual cases where violators were apprehended by using airplane patrols.

The unsportsmanlike tactics of some antelope hunters call for airplane patrols. Known as "Romans" because their actions are somewhat similar to chariot racing, they usually work in pairs of two vehicles, driving around until they have the antelope in a favorable position. Then, they speed up, driving very close on the herd of antelope. Sometimes gunners are standing

Pilot discusses patrol plans with wardens manning mobile ground units.



"Sometimes gunners . . . standing in the backs of pickup trucks . . . shoot into the running herd of antelope."

in the backs of pickup trucks and, despite the roughness of the ride, they shoot into the running herd of antelope. Two vehicles working together like this can run antelope back and forth until the animals are completely exhausted.

Today, airplane patrols have put a damper on this illegal practice. While patrolling for this activity, wardens usually fly at reasonably high altitudes. When a violation is spotted, sometimes photographs are taken for evidence. The ground units are then alerted, and in a short while, the embarrassed hunting parties are on their way to see the judge. One fellow was seen chasing antelope with a pickup for well over an hour before the ground unit could arrive. His tactics were to drive up on the antelope then shoot out the open window into the herd. When he was contacted by the ground patrol, he had two antelope tagged, but neither tag belonged to him. He told the wardens he was just helping his friends get their antelope (illegal under Montana law). But his friends were not there helping him nor did they show up when he was arraigned in court.

Sometimes in fairly level terrain, it is possible for the warden who is on airplane patrol to apprehend this type of violator without help from a ground unit. Many times it is impractical or impossible to get ground units to the area in time. In one such case, the pilot spotted a hunter chasing antelope and shooting from a vehicle. After a few unsuccessful shots, the hunter knocked down an antelope. When he got out of his vehicle and walked over to dress out the antelope, the pilot landed between him and his pickup and secured the necessary information to write a citation.

One morning, shortly after 8 a.m., the department office at Great Falls

received an anonymous phone call. The caller reported a lot of shooting in an unpopulated area north of town. After getting the necessary information (except the caller's name), I hurried to the airport. Soon, I was skimming over the area, scanning for some sign of activity. In the moisture-laden grass, I saw the sharp detail of vehicle tracks. Following the tracks for about a mile, I soon located the entrails of what later turned out to be three antelope carcasses. A crippled antelope struggled nearby, slowly dying. I then backtracked to some abandoned farm buildings where two men were hurriedly getting into a pickup truck. They took off in a panic, thus confirming my suspicions that I had found the violators. Shortly, one of

the men threw a cardboard box from the vehicle and then headed in the direction of some nearby hills. I radioed for help, and a ground unit was soon on its way.

I guessed they were heading for the hills because the high ground was still fogged in and they probably hoped to lose me. Fortunately, the clouds were lifting and breaking. When they reached the top, the cloud cover was gone, and they were on a narrow, one-way road. A warden in a 4-wheel drive pickup was behind them and gaining rapidly.

I landed in an alfalfa field alongside the road ahead of them and was waiting when they came around a bend. The ground unit was right behind them. The men, both with bloody hands and clothes, looked quite embarrassed. In the pickup they had a cooler containing three fresh ante-

A ground unit investigates an illegal elk kill located by air.



Antelope are run back and forth until exhausted by unsportsmanlike hunters in vehicles.





Winter airplane patrol over Montana forest.

lope hearts. After taking the men into custody, I returned to the farm buildings and found three antelope carcasses dressed out and hanging in the shed. The crippled antelope had died, and the meat had soured. The cardboard box they had thrown out contained seven dead mallard ducks.

These are only a few cases, but they and others like them have had a definite deterrent effect on illegal hunting activities.

Perhaps the most difficult task for the warden pilot is flying night patrol looking for the jacklighter. Stopping the jacklighter with ground patrols only is very difficult. More often than not, the violator gets a glimpse of the ground patrol, turns out his lights, and disappears.

Night patrols require additional skills. Instruments help the pilot stay oriented, but the pilot must also have a good knowledge of the area. Flying at night looking for jacklighters has its problems, but experienced pilots have found it an effective way to control night hunting.

"... the most difficult task for the warden pilot is flying night patrol looking for the jacklighter."

Mallard ducks in a cardboard box were dumped from a truck by two men fleeing from an airplane patrol and a ground unit.



A typical night patrol starts like this:

The pilot checks the weather, and if the report is favorable, ground units are alerted and departure time is set.

The area to be worked and the general location of all ground units have been previously planned.

The ground units leave before the pilot to be on location when the plane gets there.

On some flights an observer rides along, but where manpower is limited, it is better to have another ground unit instead of a second observer. The amount of experience a pilot has in a certain area also dictates whether or not an observer is necessary. If the pilot is not too familiar with an area, he usually takes along a warden who is. Intimate knowledge of the area is necessary to apprehend a jacklighter after he has been spotted.

Usually, a night patrol begins late in the evening when most traffic has ended. Jacklighters normally start hunting after the ranchers have gone to bed. On this particular flight, take-off time was 11:30 p.m. The ground units left 45 minutes earlier. The plan called for very little radio communi-

Poachers know that game wardens are seldom seen in the forest.

cation, and a predetermined code was established. (Some jacklighters have radio receivers to "listen in.")

Specifically, the night goes like this:

The pilot climbs to 12,000 feet, throttles back, and starts looking for car lights.

Moving over a point where a ground unit is located, he requests a noticeability check using the predetermined code. The warden gets out of the car, looks and listens, and reaffirms his location by blinking his lights.

The first indication of a jacklighter in operation comes when the pilot notices the red flash of brake lights and then the narrowed beam of a spotlight playing across a field.

The pilot immediately pulls away from the area so that he will not be noticed in case the jacklighter gets out of the car.

From a reasonable distance he keeps the jacklighter under surveillance. Suddenly the spotlight goes out, and then the headlights are switched off. Nothing is visible for a few minutes. The headlights come on again, and the vehicle moves slowly along. The spotlight plays on a field again. The brake lights come on, the headlights go out, and the spotlight is turned off again. A few minutes later the headlights snap on and the vehicle proceeds slowly from the river bottom toward a country road. The pilot has to assume that, because the vehicle made some stops and the lights were turned out, by now the hunter has killed and loaded one or more deer.

The ground unit is alerted to intercept by coded message.

The pilot keeps the vehicle under surveillance until the ground unit has stopped the correct vehicle.



Air patrol spots a hunter leaving the scene of an illegal elk kill on snowshoes.

The pilot then proceeds on without any further conversation, searching for more activity.

Summary

The Montana Department of Fish and Game uses the light airplane very effectively in law enforcement. And not just to apprehend poachers. Recent Montana legislation prohibits indiscriminate off-road travel. Activity of this type can easily be spotted from the air and photographed to preserve as evidence for a later date. Air patrols are already helping enforce this new law.

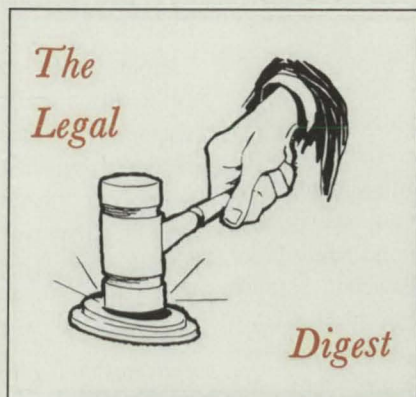
The warden pilot has devised systems which make air-ground patrols efficient. Because of this teamwork, many of the hard-to-catch poachers have had their day in court; some of them, their days in jail.

Boot tracks along closed streams, game drag trails during the closed season, and reports of jacklighting are far less frequent than they were a few years ago. Poachers have learned to fear the air patrol. The number of violations that are prevented make the flying time worthwhile. The Montana Department of Fish and Game has proven the airplane is a very valuable tool in conducting a sound fish and game law enforcement program. (FBI)

ENTRAPMENT

By
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"It is the purpose of police officers to prevent crime and not to instigate it."



A few months ago there appeared on these pages an analysis of the defense of entrapment.¹ The article noted that the case of *Russell v. United States* was then pending before the Supreme Court of the United States. The Court issued its opinion in that case on April 24, 1973,² and it is the purpose of this article to update the material previously published.

Russell marks the third occasion the Supreme Court has considered the entrapment defense, and for the third time the Court was divided 5 to 4. Both the basis for the defense and the method in which the general legal principles relating to it should be implemented have divided the Court: First in *Sorrells v. United States*³ in 1932, again in *Sherman v. United States*⁴ in 1958, and now once again in *Russell* in 1973.

Chief Justice Hughes, who wrote the *Sorrells* opinion, and Chief Justice Warren, author of the *Sherman* opinion, approached the subject in this way: It is the purpose of police officers to prevent crime and not to instigate it. This being true, a defendant cannot be convicted for the commission of a crime which he would not have committed, but for the activity of the police or agents working for the police. If the police do instigate the crime, the defendant is entrapped and can assert that fact as his defense. On the other hand, it is permissible for the police to use traps and decoys to provide the opportunity to commit a crime to one who has already formed the intent to commit the offense.

The basis for the defense, continues the Hughes-Warren approach, is that the Congress does not intend to punish those who are entrapped into violating its statutes.

To apply these principles to a specific case all relevant facts are furnished the jury; i.e., those facts which reveal the words and deeds of the police and the defendant as well as those facts which reveal the defendant's predisposition to commit the offense. Thus, once the defendant offers to prove by cross examination or direct testimony that he was entrapped, the prosecution can respond by showing that it did not induce, but rather offered a ready and willing defendant the opportunity to do that which he was predisposed to do; i.e., commit the crime.

Having heard all these facts, the jury must decide with whom the intent to commit the offense originated, the police or the defendant. In the words of Chief Justice Warren, the jury must

"draw a line between the trap for the unwary innocent and the trap for the unwary criminal."⁵

While the question normally is one for the jury, the general rule of law is that where there is a clear showing of entrapment the trial judge need not submit the issue to the jury, but should dismiss the indictment and discharge the defendant. In *Sorrells*, a Federal prohibition agent working undercover engaged Sorrells in conversation, asked twice for some liquor, was refused both times, asked yet a third time and then was provided the contraband. It was held reversible error for the trial court to refuse to submit the entrapment issue to the jury. In *Sherman*, a narcotics officer's informant met Sherman in a doctor's office where Sherman was being treated for addiction and was able to persuade Sherman to furnish him narcotics only after repeated requests over a period of several weeks. The Court held that entrapment as a matter of law had been established and that the indictment should have been dismissed.

Justices Roberts and Frankfurter, who authored the separate opinions in *Sorrells* and *Sherman* respectively, found this treatment of the entrapment defense unacceptable.

They argued that the reason the courts should allow the defense is not because of some unexpressed statement by the Congress of its intentions regarding the enforcement of its criminal statutes, but rather because public policy forbids allowing the conviction of a man in a case in which the conduct of the police exceeded that which society marks as the outer limit of acceptable behavior by its law enforcement officers. In their view, since

Law enforcement officers of other than Federal jurisdiction who are interested in any legal issue discussed in this article should consult their legal advisor. Some police procedures ruled permissible under Federal constitutional law are of questionable legality under State law, or are not permitted at all.

that is the true basis for allowing the defense, the focus should be on what the police alone did and the defendant's conduct as well as his predisposition—his state of mind—should be irrelevant. Furthermore, under this rationale, since the basis for the rule lies in the supervisory power of the court to preserve the purity of the judicial process, the issue of whether or not the defendant was entrapped is one for the court and not the jury.

Thus, the majority view fashioned a subjective test in which the state of mind of the defendant is to be closely examined, while the Roberts-Frankfurter view proposed an objective test in which the conduct of the police, and police informants, and nothing else is to be considered.

In the past few years the Roberts-Frankfurter view was adopted by a few Federal courts. For example, in *United States v. McGrath*⁶ the defendant and other persons set in motion a scheme to print counterfeit bills. By the time the Secret Service learned of the plan, McGrath had purchased the proper type of paper and ink and had made inquiries about a printer. The Secret Service infiltrated

“. . . where there is a clear showing of entrapment the trial judge need not submit the issue to the jury. . . .”

the conspiracy, took direction of it, and arranged for and supervised the printing of the counterfeit bills. As soon as the bills were delivered by an undercover agent to McGrath, he was arrested. The Court of Appeals sustained the conviction for conspiracy to produce counterfeit bills but reversed the conviction for unlawful possession of the bills because it found the Government's activities "shocking to our sense of justice." Since the court followed the Roberts-Frankfurter approach and examined only the conduct of the Government, the fact that the intent to commit the crime originated with McGrath was regarded as irrelevant.⁷

With a growing division among the courts, the stage was set for the Supreme Court to resolve the matter. Enter *Russell*.

Federal narcotics officers had information that Russell and Patrick and John Connolly were manufacturing methamphetamine (speed) illegally.

An undercover officer, Shapiro, was given the assignment of locating the laboratory in which the drug was being manufactured. Shapiro contacted the subjects and told them he represented an organization that was interested in controlling the manufacture and distribution of methamphetamine. He offered to supply the subjects with the chemical phenyl-2-propanone if they would furnish him with one-half of the drug produced, show him a sample of the drug, and show him the laboratory in which it was being produced. The subjects agreed to this arrangement.

The Connollys furnished Shapiro a quantity of the drug the subjects had made previously. Shapiro returned 2 days later and observed Patrick Connolly manufacture the drug in a laboratory located in Connolly's house. Connolly used the several necessary ingredients including the propanone brought by Shapiro. The next morning Shapiro was given one-half

of the drug and Russell sold Shapiro part of the remainder.

A month later Shapiro returned to Connolly's house, was told by Patrick Connolly that he (Connolly) had recently obtained two additional bottles of propanone, and was provided some additional methamphetamine. Three days later Shapiro returned to the Connolly house with a search warrant and seized several items including an empty bottle of propanone and another bottle, not the one Shapiro had provided, partially filled with propanone.

Russell and Patrick Connolly were tried together. Evidence was introduced to show that propanone was difficult to obtain and that some chemical supply firms had stopped selling it at the request of the Bureau of Narcotics and Dangerous Drugs. Propanone was not illegal to sell or possess.

The trial judge submitted the issue of entrapment to the jury which found Patrick Connolly and Russell guilty of unlawfully manufacturing, processing, selling, and delivering methamphetamine.

Russell appealed his conviction, arguing that the showing of entrapment was so clear that entrapment as a matter of law had been established. The Court of Appeals agreed with Russell, holding that Shapiro's conduct in supplying the difficult to obtain propanone was "an intolerable degree of Governmental participation in the criminal enterprise."

The Government appealed to the Supreme Court which reversed the Court of Appeals, thereby affirming Russell's conviction. In its opinion, the Court affirmed *Sorrells* and *Sherman*.

Russell argued before the Supreme Court that the basis for the entrapment defense lies within the due process clause of the fifth amendment to the U.S. Constitution; that the Government's conduct violated his right to due process; and, therefore, the

Government should be estopped from prosecuting him just as the Government cannot use evidence it obtains in violation of fourth amendment, sixth amendment, or other fifth amendment rights.

Russell argued in the alternative that the Court should overrule *Sorrells* and *Sherman*, adopt the Roberts-Frankfurter approach, and grant him a new trial at which the Roberts-Frankfurter test should be applied.

The Court rejected Russell's claim that there is a constitutional (i.e., due process) basis for the entrapment defense, stating, "The law enforcement conduct here stops far short of violating that 'fundamental fairness, shocking to the universal sense of justice,' mandated by the Due Process Clause of the Fifth Amendment."⁸

Also rejected was Russell's argument that the prior entrapment cases should be reversed. "This Court's opinions in *Sorrells* . . . and *Sherman* . . . held that the principal element in the defense of entrapment was the defendant's predisposition to commit the crime. . . . We decline to overrule these cases."⁹

What does Russell mean to the police officer?

● Officers working in those jurisdictions which followed the *Sorrells* and *Sherman* cases should notice no change in the law as a direct result of *Russell*.

● Officers working in those jurisdictions which adopted the minority view should see their courts begin to apply the majority view. This means that the question of whether or not the defendant has been entrapped will be determined in most cases by the jury which will weigh the conduct of the police and the police informants against the conduct of the defendant and his predisposition to commit the offense, thereafter deciding with whom the intent to commit the crime origi-

**"What is the officer to do [to solve vice crimes] if
he does not assume an undercover role and participate,
at least to some degree, in the violation?"**

nated: the police or the defendant.

For example, Russell was convicted by a jury which received the standard entrapment instruction.

"Where a person has the willingness and the readiness to break the law, the mere fact that the Government Agent provides what appears to be a favorable opportunity is not entrapment.' The District Judge then instructed the jury to acquit (Russell) if it had a 'reasonable doubt whether the defendant had the previous intent or purpose to commit the offense . . . and did so only because he was induced or persuaded by some officer or agent of the Government.'"¹⁰

● *Russell* does not mean that the question will always be one for the jury. In cases in which there is a clear showing of entrapment, the judge will dismiss the indictment and discharge the defendant. In making this determination the judge should consider all relevant facts, including those relating to the defendant's predisposition to commit the offense charged.¹¹

● *Russell* should not in any way be interpreted as allowing a relaxation in the standard of conduct required of the police.

In cases yet to come, juries, trial judges, and appellate courts will examine closely police and informant conduct just as they have in the past.

Having rejected *Russell's* claim that there is a constitutional basis for the entrapment defense, the Court wrote in clear and unmistakable language: ". . . we may someday be presented with a situation in which the conduct of law enforcement agents is so outrageous that due process principles would absolutely bar the Government

from involving judicial process to obtain a conviction. . . ."¹²

● The officer must be alert for legislation.

Since there is no constitutional basis for the entrapment defense, Congress and the various State legislatures are free to do what they will with the defense. Some States already have legislation in this area, others undoubtedly will, and, as the *Russell* case notes, a bill on the subject is before Congress at this time.¹³

Statutes which codified the *Sorrells* and *Sherman* decisions resulted in nothing new for the officer.¹⁴

Four Justices in *Russell* favored adoption of the minority view and one of the dissenting opinions noted that most legal writers also favor its adoption since they have concluded that Justices Roberts and Frankfurter presented a better reasoned argument than did Chief Justices Hughes and Warren.

The facts of *Russell* display the difficulty the officer would face in attempting to solve vice crimes, such as narcotics violations, in which the "victim" never complains. What is the officer to do if he does not assume an undercover role and participate, at least to some degree, in the violation? To participate has been described by one author as "lawless law enforcement" and a "substitute for skillful and scientific investigation."¹⁵ But it is noted that that writer did not reveal exactly what skillful and scientific investigative techniques will be fruitful in solving "victimless crimes" Daniel Rotenberg in *Detection of Crime*, Part III, "Encouragement and Entrapment,"¹⁶ indicated that normal investigative

procedures simply will not work.

One of the dissenting opinions in *Russell* acknowledged that the "victimless crimes" cannot be detected without the use of undercover activity, yet wondered why the officer must do more than purchase the drug from Russell and his confederates?

The majority opinion answered by explaining that an agent will not be taken into the confidence of the illegal entrepreneurs unless he has something of value to offer them.

Beyond that, what would be the result if an officer in a similar case does no more than contact the subjects and offer to buy a drug? The answer is a guess, but it is likely that (1) as a mere buyer rather than a participant he would not be shown the laboratory in which the drug was manufactured, hence there would not be a basis for a search warrant and the resulting recovery of evidence; (2) at trial the agent would testify that he bought the drug from the defendants (perhaps another agent could corroborate his testimony) while it is not beyond mere possibility that some defendants would deny they sold him the contraband. To sustain the burden of proof needed to obtain a conviction under such circumstances would be difficult.

Another difficulty in implementing the Roberts-Frankfurter position is discovered when one attempts to define the standard of permissible police conduct. If one examines only the police conduct without considering the defendant in the individual case, will the line be drawn according to what would lure the hypothetical "reasonable man" into committing a

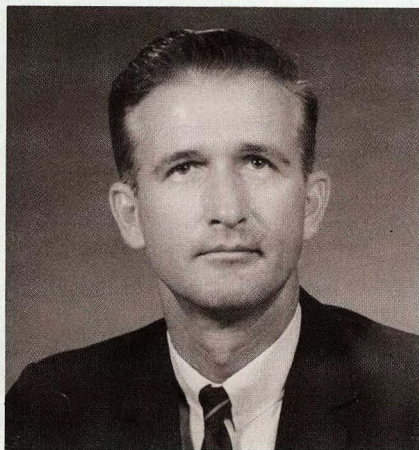
(Continued on page 31)

Aerial Photos . . .

An Aid to Prosecution

Any confusion of the facts during the prosecution of a crime can place the just outcome of the trial in jeopardy.

By
CAPT. CARL E. PEASE
Officer in Charge of the
Detective Bureau,
Police Department,
Vero Beach, Fla.



The photograph has long been recognized as one of the most valuable aids used by law enforcement in the investigation and prosecution of criminal offenses. With the aid of the photograph, the court and the jury are able to understand better the crime scene and its relationship to the evidence found there.

It is understandable that the average juror who, frequently, is unfamiliar with court procedure will, in the course of a trial, possibly become confused during oral testimony concerning the location of the crime, physical evidence, suspects, and witnesses. This confusion can and will be perpetuated by the defense counsel where there are not sufficient visual

aids presented to clarify these points. The confusion thus created can place the just outcome of the trial in jeopardy.

In the majority of criminal cases, the prosecuting attorney must rely solely on investigative reports, statements, physical evidence, and photographs to obtain sufficient knowledge and understanding of the facts with which to present the case, utilizing its total potential.

Need Evident

The need for more comprehensive photographs for prosecution purposes became evident to the police depart-

ment of Vero Beach, Fla., during a 1965 investigation which involved a burglary team of six persons who split into two groups, one of two and the other of three, with the sixth subject operating their getaway vehicle. The group of two persons began a burglary of a doctor's office, while the second group attempted to enter a pharmacy across the street, approximately 150 yards away. The subject with the getaway vehicle parked east of the two locations, approximately 200 yards away, next to a marina.

Uniform patrol units surprised the group of three at the pharmacy while they were in the process of entering. The three suspects fled in the direction of the getaway vehicle, but they split up when they realized the driver of the vehicle had fled without them. In the process of pursuing, the officers stopped and apprehended the driver of the getaway vehicle, while two more of the suspects were arrested a short time later approximately a mile away.

During this time, the first group who had entered the doctor's office,

taking the drugs they wanted, were unaware of the events taking place across the street. As the two subjects left the doctor's office with a quantity of drugs and syringes, they observed the various police units and abandoned the stolen drugs. These two subjects fled, swimming across two narrow waterways during their flight, and were apprehended on a finger of land approximately a quarter of a mile from the scene.

This total crime scene could not be sufficiently covered by the standard ground level photos nor clearly detailed in a written report. When the case was presented to the assistant attorney who was responsible for the prosecution, it was difficult for him to associate the groups individually and collectively with the circumstances, even though sketches of the scene were included in the report. The prosecutor pointed out that a jury would have even greater difficulty in understanding the location of events. Therefore, it was decided that aerial photographs would be helpful in clarifying the situation.

Although the Vero Beach Police Department is a relatively small department, it has the good fortune to be able to call upon the services of an aircraft corporation which operates a plant in Vero Beach. The corporation has frequently furnished both a pilot and a plane to local law enforcement agencies for search and rescue type missions. They readily agreed to furnish a plane for the purpose of taking aerial photographs of the crime scene.

Accordingly, detectives of the Vero Beach Police Department were flown over the crime scene area, and they were able to successfully photograph the scene. The aerial pictures were taken with a standard 4- by 5-inch press camera, using a panchromatic film rated at ASA 400 and exposed at a speed of one four-hundredth second at F-16. The aerial photographs were reproduced and enlarged on 16- by 20-inch paper, and the areas of importance were circled and numbered with a corresponding reference guide. (See figure A.) The prosecutor indicated

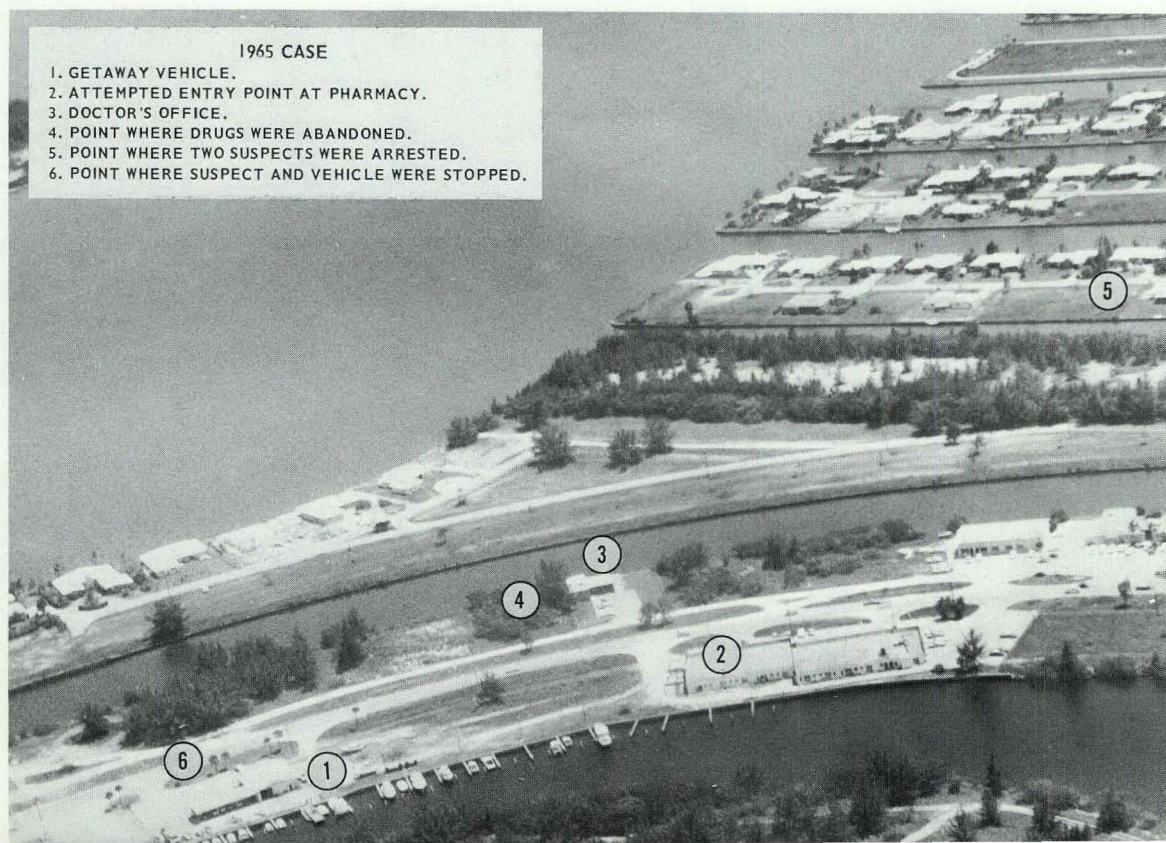


Figure A.

“... aerial photographs clarified the case for [the prosecutor] ... and ... for the jury.”

that the aerial photographs clarified the case for him and would do the same for the jury. The suspects involved in this case entered pleas of guilty, and the case established for the investigators the need in the future for aerial photographs in major crimes where the crime scenes encompass large areas.

Elaborate Escape Route

One such case was a recent bank robbery which was investigated by the Federal Bureau of Investigation and

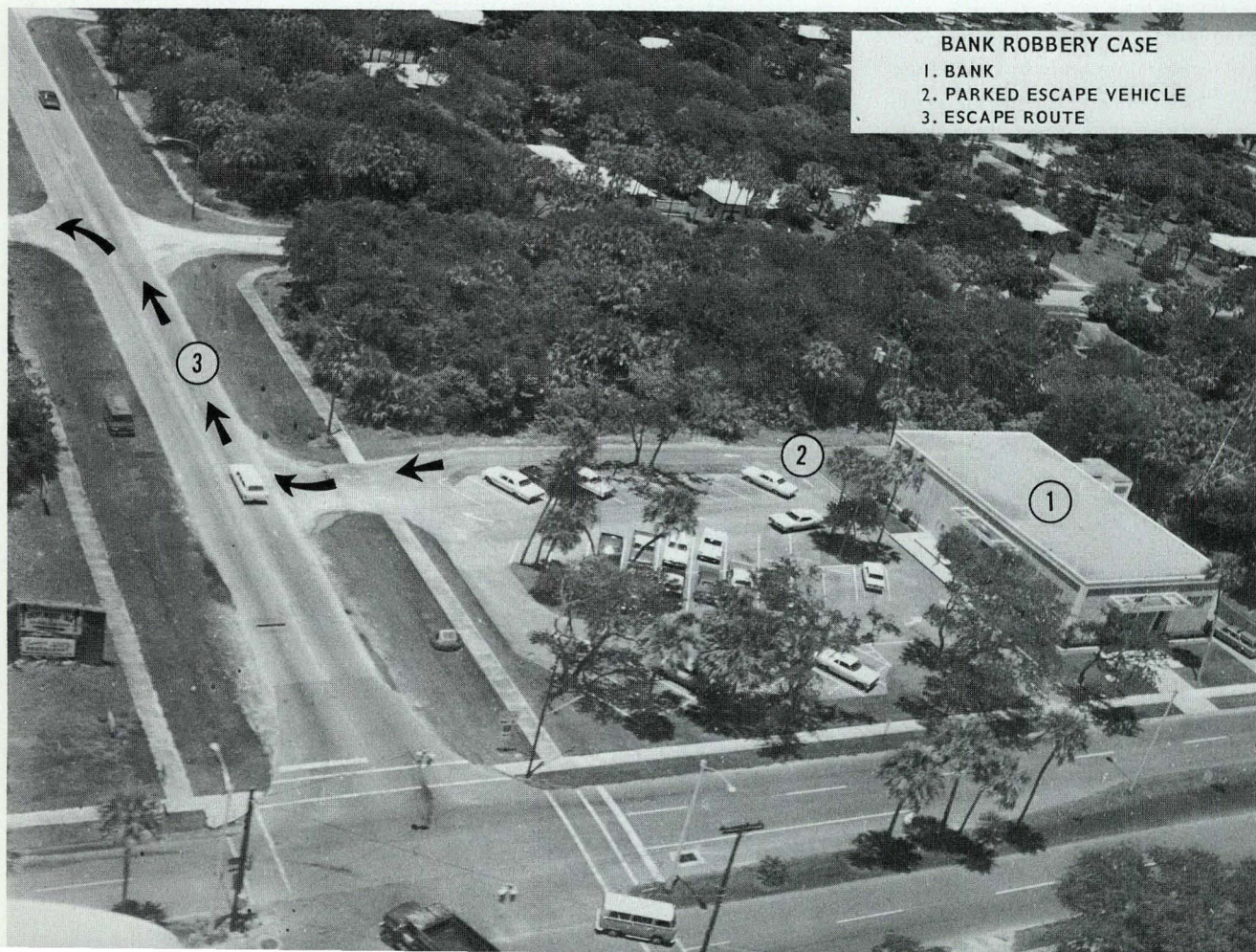
the Vero Beach Police Department. An elaborate escape route was used by the subjects after the robbery. The bank, located on an island portion of Vero Beach which fronts on the ocean, is separated from the mainland by the Indian River. The subjects reached the bank, driving a vehicle which was stolen locally. After completing the robbery, they fled in the car heading west for approximately three-quarters of a mile to a marina on the river side of the island. There, the subjects abandoned the vehicle and rented a boat from the marina. They proceeded south on the Indian River, passing under the only local bridge available, where police had established a roadblock. The subjects traveled approximately three-quarters of a mile on the river to a point just south of the municipal power plant on the west side of the river, where they beached the

boat. They traveled on foot to the residence of friends who lived near the power plant and with whom they had been staying. The area encompassed was approximately $1\frac{1}{2}$ square miles.

This case was to be presented to a jury in Federal court in another city. Prospective jurors were to be called from a 4-county area, and thus the majority of them would be unfamiliar with the scene. The U.S. attorney who was to prosecute the case was from Miami and was unfamiliar with the area. It was therefore determined that aerial photographs would be taken of the total crime scene and related areas.

The aircraft corporation again assisted the police department, and aerial photographs were taken of the immediate area surrounding the bank. (See figure B.) Photos were also taken of the overall area, including

Figure B.



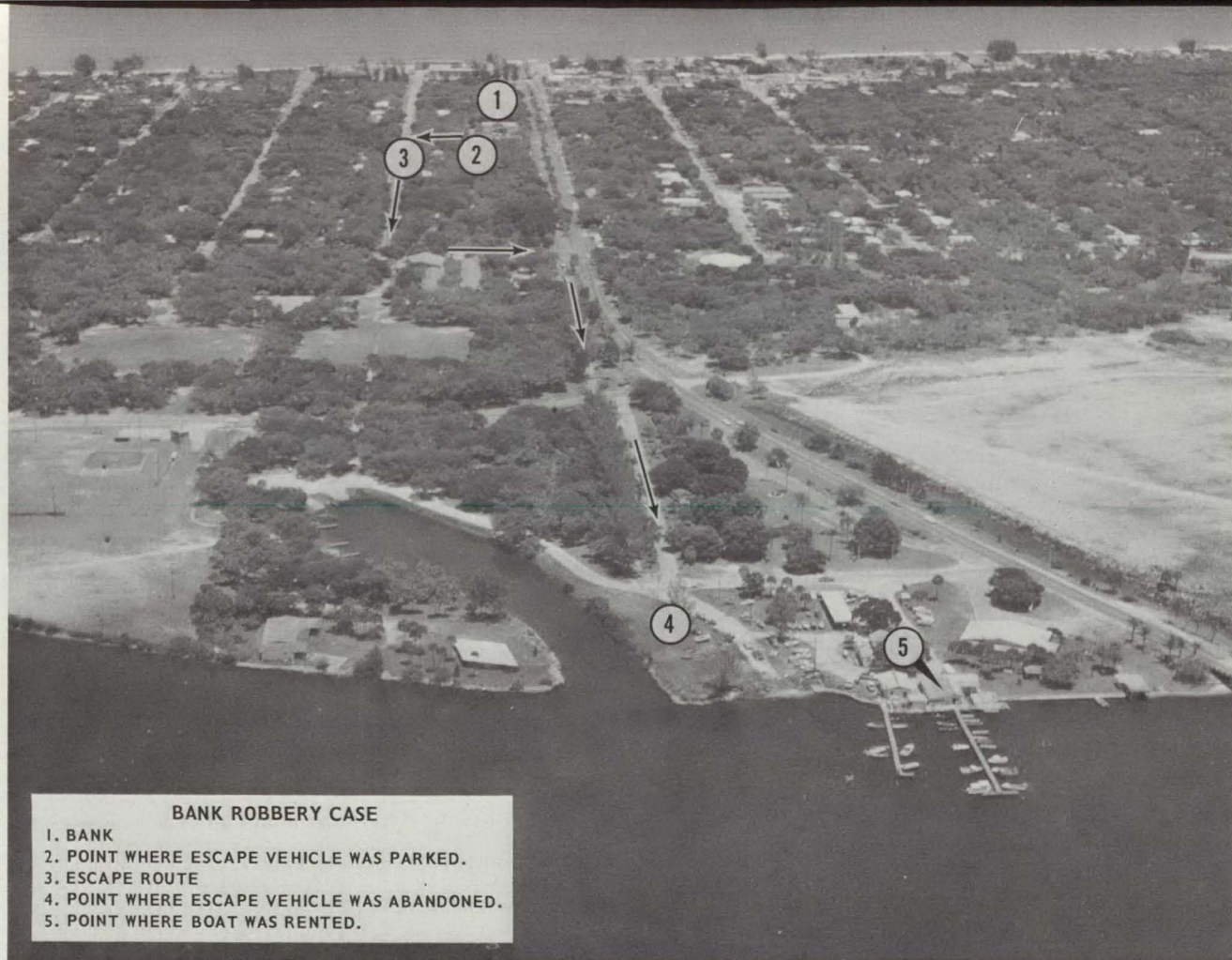


Figure C.

the bank; the subjects' direction of travel; the location of the abandoned, stolen vehicle; and the marina where the subjects had rented the boat. (See figure C.) As before, a 4- by 5-inch press camera was used with panchromatic film rated at ASA 400 and exposed at a speed of one four-hundredth second at F-11. These photographs were subsequently enlarged to 16 by 20 inches in duplicate, with one set marked and numbered with a corresponding reference guide. The other set was left unmarked for court presentation. The U.S. attorney utilized

the marked photographs for his consideration, and the unmarked ones were later introduced into evidence. Both defendants were found guilty of bank robbery in Federal court.

Aid in Murder Case

The most recent case in which aerial photographs were utilized was a double murder investigated by the Indian River County Sheriff's Department. The Vero Beach Police Department assisted by taking the aerial photographs. This case covered an area of

approximately 3 square miles and involved the abduction and subsequent murder of two young adult females. The subject, after abducting the females, drove to an isolated point on a remote country road. The victims were then forced to walk approximately 400 yards to a thickly wooded area, where they were murdered and their nude bodies were abandoned.

All clothing and identification were removed from the victims. The clothing, identification, and murder weapon were taken by the subject to a canal approximately 1 mile east of the

"... [aerial] photographs were ... admitted as evidence, permitting the jury to correlate the physical evidence with the testimony of the investigators and other witnesses."

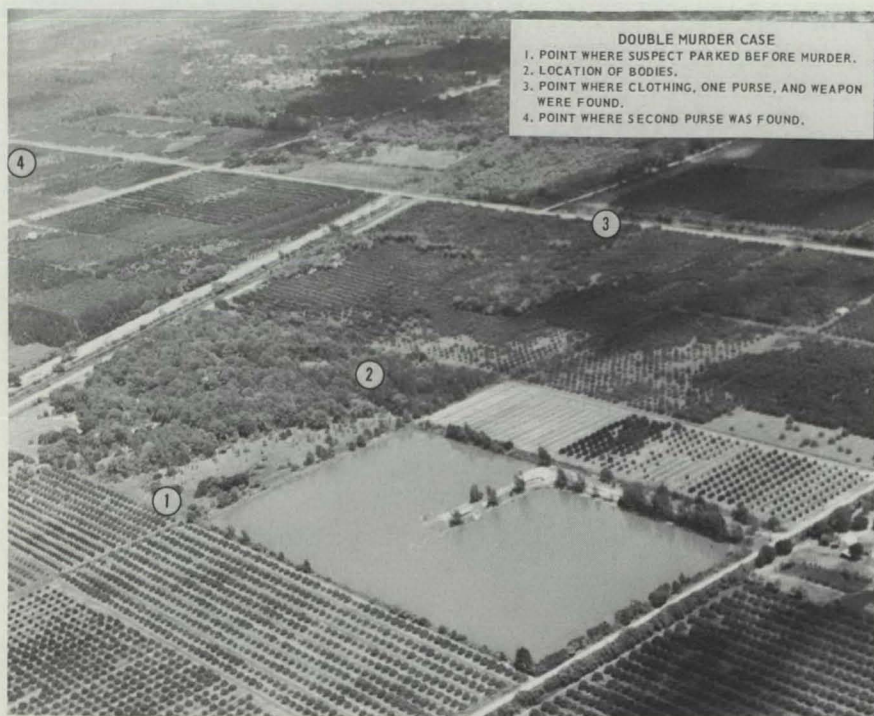


Figure D.



Figure E.

Photographs were enlarged
 to 16 by 20 inches for
 courtroom presentation.

death scene and disposed of in the canal. A purse belonging to one of the victims was overlooked in the subject's car and was not discovered until he had traveled another mile and a half north of the canal disposal point. The subject stopped at this point and threw the purse into a ditch along the side of the road. The discarded clothes, identification, and weapon were subsequently located and recovered by sheriff's investigators.

Once again, an extensive program of aerial photography was undertaken. Photographs were taken of each separate point where evidence was found from an elevation of 500 feet. Using the same equipment and film as noted earlier, photographs were taken at one four-hundredth of a second at F-11. In addition, overall pictures were taken at altitudes of 1,000; 2,000; and 3,000 feet. (See figures D and E.) These photographs were enlarged to 16 by 20 inches and they were subsequently admitted as evidence, permitting the jury to correlate the physical evidence with the testimony of the investigators and other witnesses. The trial in State court resulted in the defendant being found guilty of first degree murder.

Policy

It is now the standard policy of the Vero Beach Police Department to make aerial photographs in those major criminal cases where the crime scene covers an extended area and where such photographs will aid the prosecution's understanding and courtroom presentation.

DETERMINATION OF TIME OF DEATH

(Continued from page 15)


the estimate of time of death but is mentioned because inevitably the investigator will encounter bodies that have been mutilated by domestic and wild animals and marine life as well as by insects. Such injuries should not be interpreted as necessarily ante mortem in origin. Household dogs, if hungry, will commonly devour portions of a dead body. Rats and other rodents will inflict similar damage. Larger meat-eating wild animals will also ravage a body located in the countryside. Crabs and fish commonly nibble upon the "floater." Such post-mortem animal activity requires the knowledge and interpretation of the forensic pathologist so as not to mistake these injuries as having occurred during life.

Similarly, post-mortem wounds, especially those noted in the drowning victim, caused by body movement by currents or contact with marine propellers require proper evaluation by the trained eye.

Information Derived at the Scene

Despite the application of all the foregoing scientific and accumulated knowledge to the problem of the determination of the post-mortem interval, the pathologist must not fail to recognize the importance of on-the-scene data obtained by the investigating police personnel. The time the individual was last seen alive, the status of the home (such as newspapers, milk deliveries, mail in the mailbox, dishes and kitchen utensils in use, lights on or off), and a complete résumé of the last hours of the deceased should be available to the pathologist so as to

assist him in the estimate of the post-mortem interval. On-the-scene data regarding the circumstances at the time of death represents an integral and vital part of the estimation and must not be overlooked. Communication between investigating law enforcement officers and the pathologist is essential in this matter.

As is applicable to many areas in the field of forensic pathology, complete cooperation between the pathologist and the law enforcement officers is a vital component. The optimal effectiveness of such an investigation is dependent upon teamwork between the interested parties. Cooperative interaction between the law enforcement agency and the medical examiner facility within the jurisdiction is an absolute necessity if the maximum benefit of both of these agencies is to be realized. This is the basis upon which a medical examiner system is designed. 

ENTRAPMENT

(Continued from page 25)

crime he would not otherwise commit? If so, would this not result in a weak, though ductile, person being convicted? Consider the *Sherman* case. What would the reaction be of a "reasonable man" who, while sitting in a doctor's office, was asked by another to purchase narcotics? One would trust that a hypothetical "reasonable man" would refuse even to consider for an instant purchasing illegal narcotics for himself or for another, no matter how many times he was asked. Yet, many will agree that the *Sherman* court was correct in condemning the conduct of the informant in that case.

On the other hand, if the standard is to be drawn according to what would lure a weak, though ductile,

person into committing a crime, then it would appear that the experienced criminal who initially refuses to perform his illegal act out of caution or to reach a better bargain, though predisposed to commit the crime and looking for the opportunity, will go unpunished.

If the present law on the subject is to be changed, the solution to the problem any alteration will present should not be reached without thoughtful deliberations of all factors including the laudable and necessary goal of insuring responsible police conduct in an area of law enforcement in which detection and conviction of the criminal is most difficult. In the midst of such deliberation and debate the observation of the great jurist Learned Hand must find its place. "Indeed, it would seem probable that, if there were no reply (to the claim of inducement), it would be impossible ever to secure convictions of any offences which consist of transactions that are carried on in secret."¹⁷

FOOTNOTES

¹ Miller, "The Entrapment Defense," FBI Law Enforcement Bulletin, (February-March 1973).

² 13 Cr. L. 3055.

³ 287 U.S. 435 (1932).

⁴ 356 U.S. 369 (1958).

⁵ Id. at 372.

⁶ 468 F. 2d 1027 (7th Cir. 1972).

⁷ See also *United States v. Bueno*, 447 F. 2d 903 (5th Cir. 1971); *United States v. Chisum*, 312 F. Supp. 1307 (C.D. Calif. 1970); *Greene v. United States*, 454 F. 2d 783 (9th Cir. 1971).

⁸ 13 Cr. L. at 3058.

⁹ Ibid.

¹⁰ *Russell v. United States*, footnote 4, 13 Cr. L. at 3056.

¹¹ *Supra* footnote 4.


¹² 13 Cr. L. at 3057-8.

¹³ E.g., see Ill. S. H. A. ch. 38, § 7-12; McKinney's Consolidated Laws of New York, Penal Law, § 40.05, formerly § 35.50; American Law Institute Model Penal Code, § 2.13 (Proposed Draft, 1962); S. 1 and S. 1400, 93d Cong., 1st sess.

¹⁴ E.g., see *People v. Mann*, 31 N.Y. 2d 253, 336 N.Y.S. 2d 633, 288 N.E. 2d 595 (1972); *People v. McCloskey*, 2 Ill. App. 3d 892, 270 N.E. 2d 126 (1971), reversed on other grounds, 276 N.E. 2d 349 (1971).

¹⁵ Donnelly, "Judicial Control of Informants, Spies, Stool Pigeons, and Agents Provocateurs," 60 Yale L.J. 1091 at 1111 (1951).

¹⁶ Tiffany, McIntyre, and Rotenberg, *Detection of Crime*, Boston: Little, Brown and Co., 1967.

¹⁷ *United States v. Sherman*, 200 F. 2d 880 at 882, quoted by Chief Justice Warren in footnote 7 in *Sherman v. United States*, 356 U.S. 369 at 377. 

WANTED BY THE FBI



DENNIS RAYMOND PATERRA

Interstate Flight—Murder

Background

Dennis Raymond Paterra is being sought by the FBI for unlawful interstate flight to avoid prosecution for murder. A Federal warrant was issued for his arrest on September 12, 1969, at New York, N.Y.

Using a .22 caliber weapon, Paterra allegedly shot to death a man who had interceded in an argument between Paterra and another individual on July 13, 1969, in Bronx, N.Y.

Caution

Paterra is being sought in connection with a murder. He should be considered armed and very dangerous.



Left index fingerprint.

Race-----	White.
Nationality--	American.
Occupation--	Longshoreman.
Remarks----	Reportedly blind in left eye.
FBI No-----	12, 210 H.
Fingerprint	
classification	11 S 1 U IOI 16
	M 1 R III

Description

Age-----	26, born July 1, 1947, New York, N.Y.
Height-----	5 feet 11 inches.
Weight-----	180 pounds.
Build-----	Medium.
Hair-----	Black.
Eyes-----	Brown.
Complexion..	Dark.

Notify the FBI

Any person having information which might assist in locating this fugitive is requested to notify immediately the Director of the Federal Bureau of Investigation, U.S. Department of Justice, Washington, D.C. 20535, or the Special Agent in Charge of the nearest FBI field office, the telephone number of which appears on the first page of most local directories.

FOR CHANGE OF ADDRESS ONLY
(Not an order form)

Complete this form and return to:

DIRECTOR

FEDERAL BUREAU OF INVESTIGATION

WASHINGTON, D.C. 20535

NAME

TITLE

ADDRESS

CITY

STATE

ZIP CODE

Sound Recording Piracy Copyright Matter

On October 15, 1971, Public Law 92-140 was enacted, effective February 15, 1972. Its thrust extended copyright protection to sound recordings, and the legislation was designed to combat the unauthorized duplication and piracy of sound recordings. It has been estimated that of the approximately \$600 million in gross sales of legitimate sound recordings (records and tapes) annually, some \$200 million worth are being sold by so-called pirates who manufacture and distribute unauthorized reproductions of sound recordings of the legitimate recording industry whose sound recordings are protected by copyright.

Prior to enactment of Public Law 92-140, sound recordings of musical compositions were not protected by copyright under Federal law. Rather this protection was limited to printed musical compositions (sheet music). Under compulsory licensing, the sheet music composer and/or copyright owner was compelled to license the use of copyright musical compositions to anyone after the copyright owner initially used or permitted the copyright work to be used in the manufacture of a sound recording. The compulsory user was required to pay the copyright owner a royalty of 2 cents per use.

The new law prohibits the unauthorized copying of sound recordings. It retains compulsory licensing of musical compositions, but it does not extend compulsory licensing to sound recordings.

A sound recording is eligible for Federal copyright protection only if the sound recording is fixed and first published with the statutory copyright notice on or after February 15, 1972. A series of audibles constituting a sound recording is fixed when the complete series is first produced on a final master recording from which copies can be made.

The FBI has investigative jurisdiction over violations of Federal copyright law. Since the enactment of Public Law 92-140, a growing number of violations have been uncovered on a nationwide basis.

Gebhardt to Long memo 8/9/73

UNITED STATES DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. 20535

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JUS-432

THIRD CLASS



INTERESTING PATTERN

The reproduction at left is an odd and most unusual pattern. Due to the presence of the upthrusting ridges in the center of the pattern, this impression is classified as a tented arch.