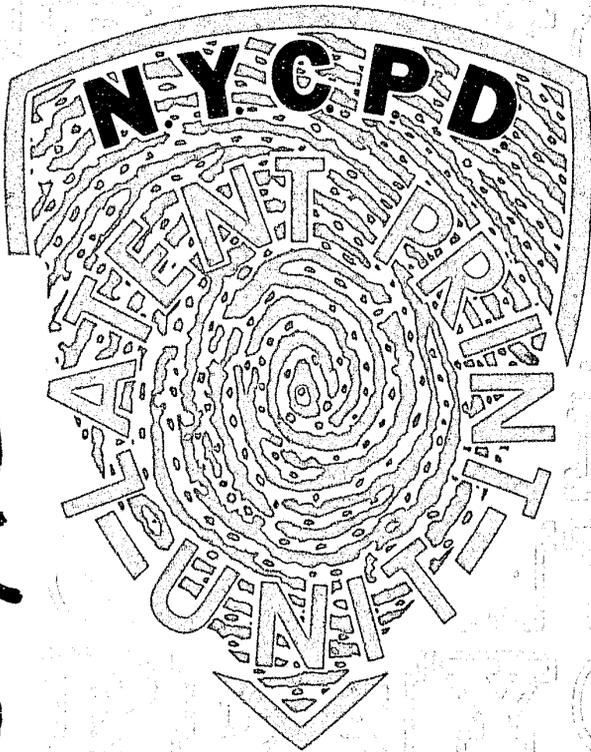


LATENT PRINT PROCESSING



145713

DETECTIVE BUREAU

NEW YORK CITY POLICE DEPARTMENT

145713

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Dedicated to

Those individuals involved in the field of
Latent Print Processing and Identification.

LATENT PRINT PROCESSING

WRITTEN

by

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PREFACE

The information presented in this manual is not meant to be a finalized or all inclusive text regarding latent print processing and identification. That is, one must be mindful of the fact that changes and improvements in the form of new discoveries and procedures is a continuous process. Rather, this manual is to be used as a practical guide and a basic training tool for novices in the latent print processing field, as well as, a handy reference for individuals who are experienced in this field.

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FINGERPRINTS

INTRODUCTION

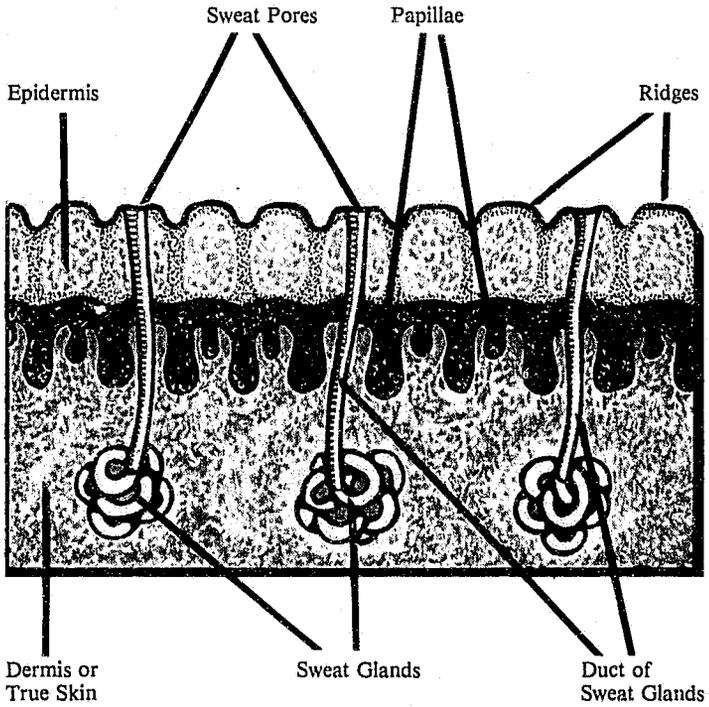
Fingerprints are imprints or impressions of patterns formed by the friction ridges of the skin on the fingers, thumbs and palms of the hands; and soles of the feet.

Friction ridges are useful to individuals for grasping and holding onto objects or surfaces. However, friction ridges form each person's mark of individuality, that is, each human being can be positively identified through the comparison of fingerprints. The term fingerprints as used in the following pages, is a general term meaning Friction Ridges on all the fingers, thumbs, palms of the hands and soles of the feet.

Fingerprints are a unique means of individual identification in that no two are exactly alike. In fact, the chance of two fingerprints being exactly alike are 1 in 1,900,000,000,000,000 fingerprints. This figure is accepted as natural law and is admissible in all courts throughout the world.

Fingerprints are universally recognized as a law enforcement tool where fingerprint identification is considered an exact science.

CROSS SECTION OF FRICTION SKIN



HISTORY OF FINGERPRINT IDENTIFICATION

Fingerprint identification dates back to the ancient Chinese who used thumb prints on clay seals as a means of recording business transactions.

In 14th Century Persia a government official, who was also a physician, observed that among all the fingerprints recorded on various governmental documents no two fingerprints seemed to be the same.

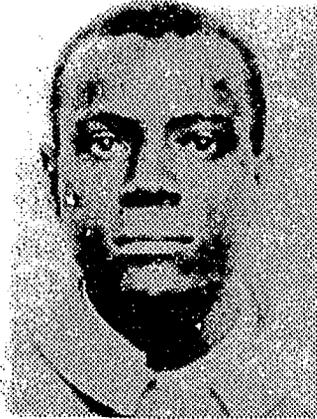
In 1880, Doctor Henry Faulds of Tsukiji Hospital located in Tokyo, Japan, anticipated that the use of fingerprint identification would become a valuable tool for connecting a perpetrator to a crime scene. He demonstrated the practical application of his theory by establishing, through the analysis of a greasy fingerprint, the identification of a person who had been suspected of consuming alcohol from the hospital's supply room. This is one of the earliest known latentprint identifications of our time. Dr. Faulds also recommended the use of printers ink for recording fingerprints because it dries quickly and is permanent in nature. In fact, printers ink is widely used today for fingerprint recording.

In 1882, Sir Francis Galton, a noted British anthropologist, developed the theory of fingerprint individuality and permanence. The theory points up that no two fingerprints are exactly alike, and all of them remain the same from the time that they form on the unborn child (*fingerprints start to form during the third & forth months of pregnancy*) until decomposition after death.

It should be noted that fingerprint identification replaced other means of criminal identification such as the "Bertillon System", named after its developer/founder. The system focused on measuring a person's bone structure to develop a formula used as a means of identification. The Bertillon System was generally accepted for thirty years, until 1903 when Will West was sentenced to Leavenworth Penitentiary. Denying previous imprisonment his measurements were taken and the subsequent formula revealed the record card of one William West whose Bertillon measurements and facial photograph were almost identical to the new prisoner's measurements and facial features. However, the card indicated that William West was still incarcerated and serving a life term. The subsequent comparison of both the West's prisoners fingerprints showed no resemblance. Hence, that same year the first practical systematic use of fingerprints as a means of criminal identification in the United States was officially adopted by the New York State prison system. (see next page).

Although new methods of personal identification are often developed such as ear prints, voice prints, teeth or bite marks, etc., it is difficult to conceive of the development of a system that can improve or even match the fingerprint identification system.

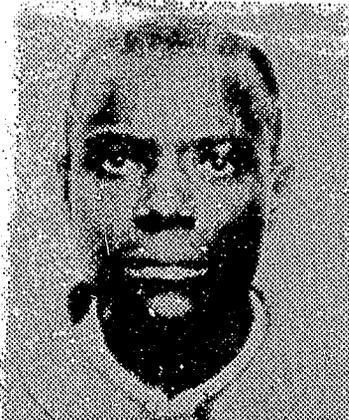
THE WEST CASE



Will West



Will West



William West



William West

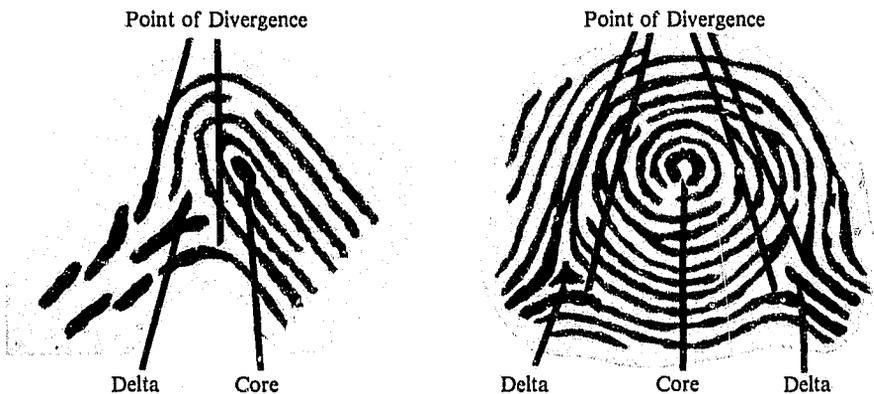
FINGERPRINT PATTERNS

Friction ridges on the fingers, palms of the hands and soles of the feet form various patterns which are used in the fingerprint classification system. There are eight sub-fingerprint patterns which are formed from three basic types of patterns. The basic patterns are: **LOOPS**, **ARCHES** and **WHORLS**.

LOOPS - are either Ulnar or Radial type patterns. Loops account for 65% of the total fingerprint patterns among the world population; Ulnar loops account for approximately 60% and Radial Loops account for the remaining 5%.

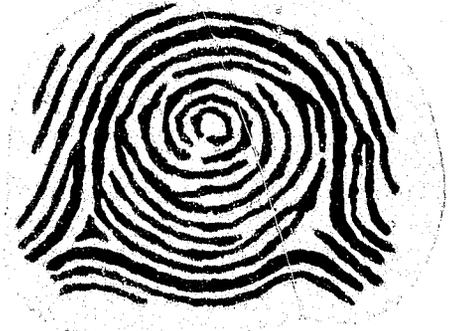
ARCHES - are either plain or tented and account for 5% of all patterns.

WHORLS - are subdivided into four types; plain, central pocket loops, double loops, or accidental. Whorls comprise 30% of all patterns. Before describing the eight fingerprint patterns mentioned above, the terms Delta, Core (*sometimes called focal points*) and Type Lines must be defined.



DELTA - is the point on a ridge at or nearest to the point of divergence of two type lines.

CORE - is the approximate center of Loops, Whorls and some Arch patterns.



TYPE LINES - are two ridges that start - run parallel and surround or tend to surround the pattern area within which appears the Cores and Deltas of Loops, Whorls and some Arches.

The Delta and Core are called focal points of a fingerprint pattern because of their importance in ridge counting and tracing that is used in the classification formula. Note that most Arch patterns do not have Deltas. Loops have one Delta. Whorls have two or more Deltas.

FINGERPRINT PATTERN DEFINITIONS



PLAIN LOOP is a pattern where one or more of the friction ridges enter the pattern on one side, recurves, touches or passes an imaginary line drawn from the delta to the core and exits on the same side from which it entered.

Loop patterns that have ridges which enter and terminate toward the little finger are called 'Ulnar Loops' and those that have ridges which enter and exit toward the thumb are called 'Radial Loops'. This is determined by looking at the left or right hand which is open and the palm is face up.

PLAIN ARCH - is a pattern in which the ridges enter on one side and flow or tend to flow out the opposite side rising somewhat in the center.





TENTED ARCH is the same type pattern as a plain arch. However, one or more of the ridges form a sharp upthrust or a definite 90° (or less) angle at the center of the pattern or a loop pattern lacking either a delta, ridge count or sufficient (unobstructed) recurve.

PLAIN WHORL is a pattern that has two deltas, at least one ridge which makes a complete circuit within the pattern area. An imaginary line drawn between the two deltas must touch or cross at least one of the recurring ridges within the pattern area.



CENTRAL POCKET LOOP (Whorl Type) is a type of pattern which has two deltas, at least one ridge making a complete circuit within the pattern area and an imaginary line drawn between the two deltas must not touch or cross any recurring ridge.

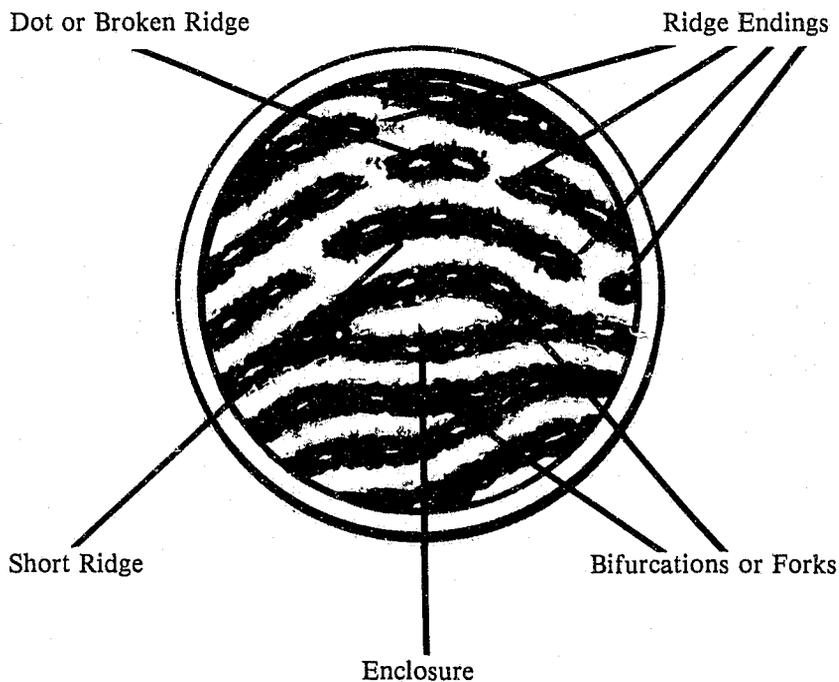
DOUBLE LOOP (Whorl Type) consists of two separate loop formations and contains two deltas.



ACCIDENTAL (Whorl Type) consists of two or more different types of patterns, containing two or more deltas or it is a pattern which does not conform to any of the pattern definitions.

FINGERPRINT CHARACTERISTICS

Fingerprint identification is based on the analysis of the minute ridge details of imprints and impressions (*known as fingerprint characteristics*) and their relationship to one another.



THE LATENT PRINT UNIT

INTRODUCTION

The Latent Print Unit of the New York City Police Department was established April 18, 1957.

The primary function of the Latent Print Unit is to identify latent (*chance*) impressions recovered from various crime scenes and to compare and identify baby footprints.

One of the most important factors in any criminal investigation is the search for physical evidence at the scene of a crime. In recent years a greater emphasis has been placed upon physical evidence recovered from a crime scene. The successful discovery and identification of latent impressions from the scene affords perhaps the most convincing item of physical evidence obtainable. By this means alone, many crimes have been solved and the perpetrator/s identified beyond all doubt.

The experts assigned to the Latent Print Unit have all been screened for background qualifications and experience. They have completed intensive specialized training in all phases of the processing, developing and identification of latent impressions. Each member is a specialist in this field. The Latent Print Unit represents the pooled experience and resourcefulness of technicians who have conducted countless thousands of latent print examinations, searches and comparisons of millions of finger, palm and foot prints. They will testify as latent print experts in courts throughout the State of New York as well as many other jurisdictions.

The Latent Print Unit consists of a Central Office and a Satellite Unit in each Borough. The Central Office processes latent prints from major crimes which are submitted to the Latent Print Unit mostly by the Crime Scene Unit and Police Laboratory. The Satellite Units process latent prints mostly from scenes of burglaries submitted to each office by Precinct Burglary Reduction Units.

LATENTPRINTS AS EVIDENCE

Fingerprint evidence, can without a doubt establish the presence of a suspect at the crime scene in that he or she touched an object connected with a crime scene. Latent (chance) imprints may be imprinted onto a surface, where as Latent (*chance*) impressions are impressed into a surface.

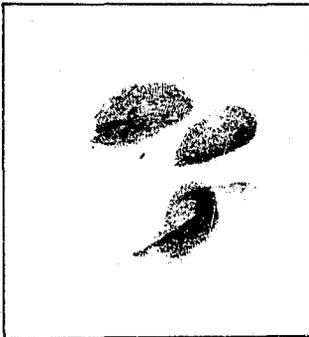
THREE TYPES OF CHANCE IMPRINTS OR IMPRESSIONS ARE ENCOUNTERED

1. **LATENT:** (*not visible to the naked eye*) must be developed either with fingerprint powder or chemicals. Latent prints are the results of the secretions from the skins pores due to perspiration. The secretion is composed of 99% water and 1% oily acids and salts. Also grease left on the fingers and palms by contact with other parts of the body such as hair, face, etc.

2. **PATENT:** (*visible*) prints in blood, paint, grease, ink, etc., must be photographed because the prints may not be preservable and they may not be developed for lifting. Patent prints are caused by the fingers, palms or feet contacting some foreign matter such as dust, blood, fresh paint, ink, etc. Then the foreign material is imprinted onto a surface.

3. **PLASTIC:** (*visible and moulded*) must be photographed with side (*oblique*) lighting. Plastic prints result from friction ridges pressing into some plastic material such as: soft putty, soft wax, soap, tar, plastic explosives, butter, grease, etc.

LATENT PRINTS; is a GENERAL TERM used in Personal Identification meaning all Friction Ridge Areas, (*Fingers, Palms, Feet*) and all types of chance imprints and impressions.



Patent Prints (Ink)



Plastic Prints (Putty)

LATENT PRINT DEVELOPMENT, MECHANICAL

FINGERPRINT POWDERS AND THEIR USE ON SMOOTH, NON-POROUS CONTRASTING SURFACES:

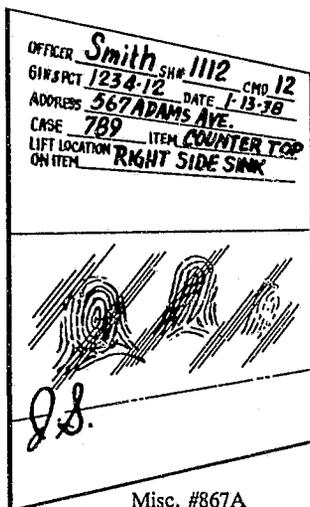
- a. Black powder has a carbon-black base plus a wetting agent. The wetting agent allows an even and efficient flowing of the powder.
- b. White powder consists mainly of some form of chalk plus a wetting agent.
- c. There are numerous other colored powders available namely: silver and gray which are most useful on glass and metallic surfaces, these powders photograph well. Gold, copper (*both have excellent adhering qualities*) and red are useful on multi-colored surfaces because they enhance photography. Choice of a particular powder to be used on a surface is determined by the individual investigator's expertise and availability of the powder.
- d. Ferromagnetic powders are finely ground metal fillings mixed with a finely divided colored powder. This powder is especially good when the investigator is seeking latentprints from most recently touched porous surfaces such as paper, cardboard, wood, leather or other small non-metallic surface(s).
- e. Fluorescent powders are used for contrast on multi-colored non-porous surfaces. Use of fluorescent powders involve photographing the processed surface with ultra-violet light so that the prints become visible in a neutral color.

NOTE: The components of fingerprint powders are trade secrets among the various manufacturers.

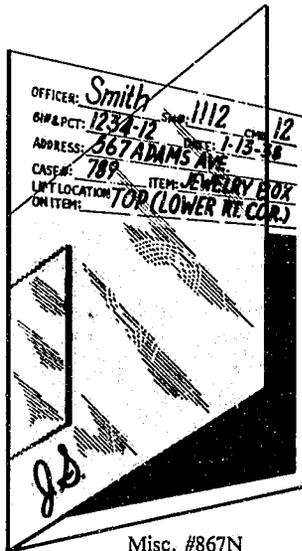
TOOLS USED FOR DUSTING, PHOTOGRAPHING AND LIFTING LATENT PRINTS:

- a. Feather dusters usually made from turkey feathers are used almost exclusively by the Crime Scene Unit investigators. Feather dusters of this type are excellent for processing larger surfaces more quickly and efficiently.
- b. Camel, Pony or Goat hair brushes (*Bristle length approximately 2"*) are used for dusting small areas or items and to 'clear out' an 'over-powdered' latent print.
- c. Fiberglass brushes have the capacity to retain large quantities of fingerprint powder, thereby, eliminating the need for constant powder replenishment. Fiberglass brushes are good for processing most surfaces. They can be cleaned by washing and reused.

- d. Magna Brush Wand is for use with ferromagnetic powder.
 [There are a variety of other brushes and dusters on the market which can be used depending on the individual investigator's preference. However, the feather duster and/or camel's hair brush is sufficient for processing most surfaces.]
- e. Hand magnifying glass of sufficient size, in conjunction with a small light (*flashlight or 'Hi-Lo' intensity lamp*) should be used to inspect a surface for latent prints.
- f. Polaroid Land Camera, Model CU 5 (*for 1 to 1 photography*), which uses #107 or #667 black and white Polaroid film, is used to photograph a latent print on a flat accessible surface.
- g. Transparent lifting tape, a clear cellophane or plastic tape-1 ½" or 2" wide, is used almost exclusively for lifting latent prints.
- h. Contrasting background fingerprint lifters (*white or black in color*). Commercial lifters are usually substituted with photographic paper that contain a high gloss, and are cut into 4" x 5" pieces. In addition for white powder lifts, 4" x 5" clear plastic is to be used rather than other background materials. Also available are "LATENT PRINT LIFT EVIDENCE CARD," 4" x 6" (*N.Y.P.D. Misc. #867N*) and 3 ½" x 5" (*N.Y.P.D. Misc. #867A*).



Misc. #867A



Misc. #867N

There are several types of commercial lifting mediums manufactured, however, the 1 ½" or 2" roll tape use in conjunction with the backgrounds suggested above have been found to be most practical and economical.

PROCEDURES FOR DEVELOPING, PHOTOGRAPHING AND LIFTING LATENT PRINTS

APPLICATION OF FINGERPRINT POWDER ON A SURFACE:

- a. the feather duster or brush and the surface to be processed must be dry! The surface should be at *room temperature* for best results.
- b. choose a powder that will contrast with the surface to be processed.
- c. pour a small amount of powder onto a clean dry receptacle, such as a piece of paper or cardboard, or into an envelope from which powder may be taken during the processing procedure. Re-seal the powder container that contains unused powder so that moisture will not cause it to become lumpy and difficult to use.
- d. protect the area surrounding that which is to be processed from becoming unduly soiled, i.e. floors, furniture, appliances, etc.. Newspapers or other disposable materials are a good source of protection.
- e. gently dip the feather duster or brush into the powder.
- f. carefully dust or brush the powder onto the suspected surface.
- g. if friction ridges start to appear, continue dusting or brushing in the direction of the ridges.
- h. add powder to the surface as necessary. Avoid using too much powder, a common fault. This tends to paint or fill-in the furrows or valleys of the print, thereby, obscuring ridge details and hindering identification.



Latent Print Before Clearing (Too much powder)



Same Latent Print After Clearing

- i. clear the print by dusting or brushing the excess powder from between the ridges while following the ridge contour of the fingerprint pattern.
- j. measure and record the location where the latent print was found.

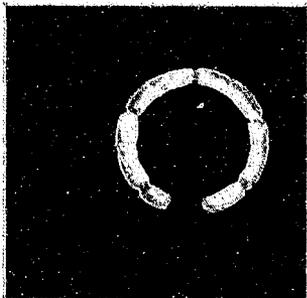
FERROMAGNETIC POWDER APPLICATION

Ferromagnetic powder is used simply by dipping a magnetic wand into a jar containing the metal filings and powder, thereby, forming a bristlelike brush which is gently applied over a suspected latent surface following the procedure described above. After the surface has been processed for prints the excess powder, unlike conventional powder which should be discarded after use, is picked up with the magnetic wand and deposited back into the jar.

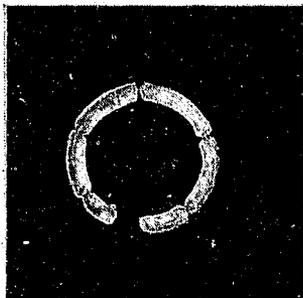
RECORDING LATENT PRINTS WITH THE USE OF PHOTOGRAPHY

As a general rule, all latent prints should be photographed before lifting. However, the expertise of the Crime Scene Investigator is a major factor when determining the necessity to photograph before lifting. Usually a fingerprint is photographed prior to lifting when the investigator believes that the print may be lost or damaged in the lifting process.

- a. if there appears to be a lifting problem and the surface is flat, then photograph the print before lifting it by using a Polaroid Camera (*CU 5 - 1 to 1*) and placing an identification tag into the photograph.
- b. if using the strobe light to photograph a latent print on a reflective surface, care must be exercised when positioning the camera to prevent the reflection of the strobe light circle from blocking out the print.



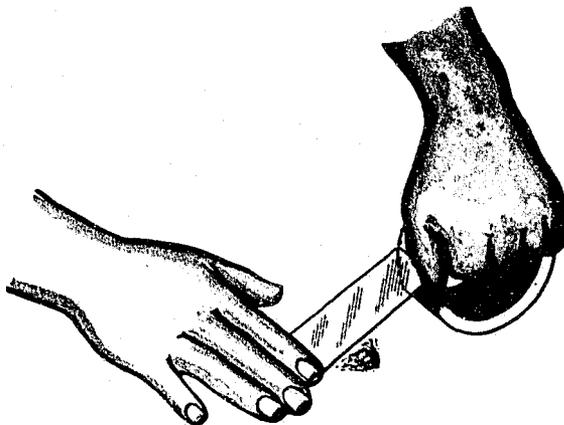
Strobe Light Blocking Print



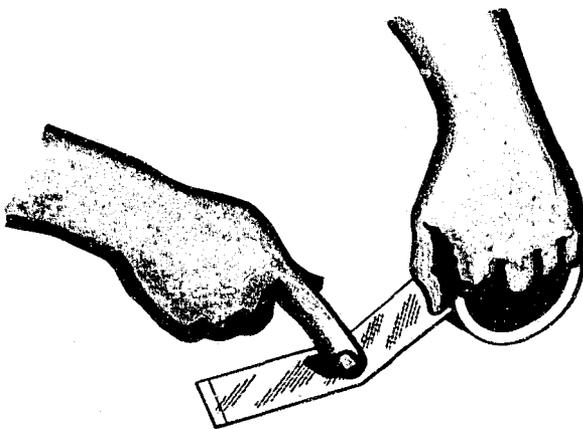
Camera Positioned Directly Over Print

LIFTING LATENT PRINTS FROM A SURFACE

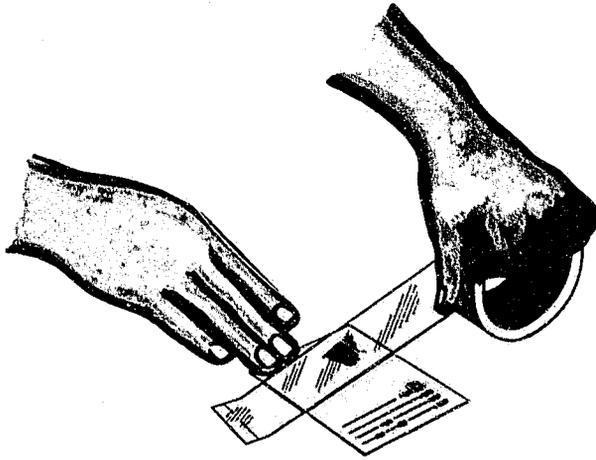
Unwind the roll of transparent lifting tape with a slow, steady, pulling motion to a size of sufficient distance on either side of the Latent Print. Prevent unnecessary contact with the Latent Print. Do not cut the extended portion of the tape from the roll at this time.



a. place the end of the tape on the surface a safe distance from the edge of the latent print.



b. use the bulbous part of a finger to press the tape firmly and evenly over the print. Avoid or eliminate any air bubbles between the tape and the print by pressing them out.

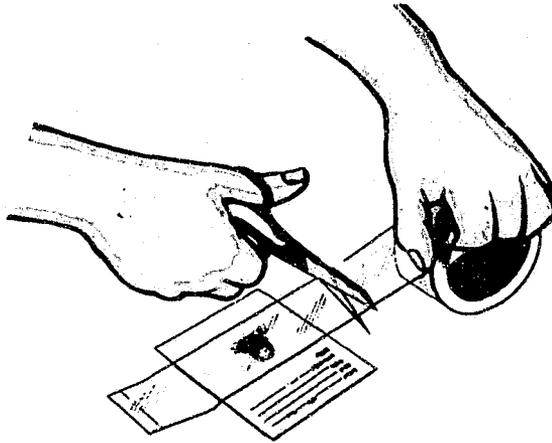


c. lift the tape by pulling it up and away from the surface upon which the print is located, until the print is clear of the surface. Place a clear, if white powder is used, or contrasting lifter background (*Misc. 867 A or N*), if other than white powder, is used, on a hard flat surface underneath the lifted print.



d. carefully press the tape containing the print onto the background in one even motion.

e. cut the tape from the roll and fold the excess tape under the edges of the lift card. This will indicate the proper direction of the lifted print. Be sure to fold the unused end over against the roll of tape to serve as a tab.



f. record the identity of the lift marking it according to the item and location where the print was lifted from, address, date of lifting, Case number or Run number, precinct, the lifting investigator's name, shield number, command and diagram of item marking 'X' where latent print was lifted from. Initial lift card (*Misc. 867A or N*).

OFFICER	Smith	SH#	1112	CMO.	12
SUB PCT.	1234-12	DATE	1-13-38		
ADDRESS	567 ADAMS AVE.				
CASE#	789	ITEM	COUNTER TOP		
LIFT LOCATION ON ITEM	RIGHT SIDE SINK				

J.S.

Misc. #867A

OFFICER	Smith	SH#	1112	CMO.	12
SUB PCT.	1234-12	DATE	1-13-38		
ADDRESS	567 ADAMS AVE.				
CASE#	789	ITEM	JEWELRY BOX		
LIFT LOCATION ON ITEM	TOP (LOWER RT. COR.)				

J.S.

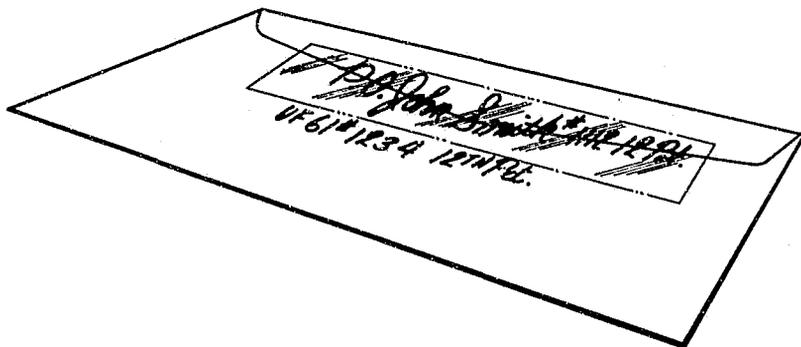
Misc. #867N

It is sometimes possible to re-lift the same print a second or third time if the first lift was obscure. In order to attempt to relift a print, redust the area where the original lift was taken from and repeat the aforementioned lifting procedure.

In order to preserve a latent print on its original surface, apply the transparent fingerprint tape over the latent print and do not attempt to lift the print. Rather, allow the tape to remain on the surface over the print.

When finished lifting, clean the area and discard the paper containing the unused powder. Do not attempt to pour the unused powder back into the original container because this will eventually cause the powder to become lumpy and unusable.

Latent prints are considered to be evidence and must be secured when forwarded through departmental mail.



LATENT PRINT DEVELOPMENT, CHEMICAL

CAUTION, all the chemicals mentioned in the following pages could prove injurious to a person's health if used improperly. Before attempting to use any chemical, confer with the chemists at the Police Laboratory.

CHEMICALS USED ON POROUS SURFACES IN THE LATENT PRINT DEVELOPMENT PROCESS:

a. Iodine reacts to and discolors oils and fats. Iodine is effective when searching for prints on most recently touched absorbent surfaces such as paper, cloth, raw wood, etc.. An Iodine Fumer (*pipe*) or Iodine Cabinet can be used to distribute the iodine onto a surface.

b. Ninhydrin reacts to amino acids. This chemical is generally used by the police laboratory to develop Latent Prints on most recently touched paper. It is particularly useful for detecting very old prints. Latent prints, some as old as thirty years, which were kept in ideal condition, have been developed with the use of Ninhydrin. Ninhydrin is available in liquid or spray form.

c. Silver Nitrate reacts to salt and is sensitive to light. Silver Nitrate is useful for developing latent prints on absorbent surfaces up to approximately six to twelve months old.

If more than one of the above chemicals are to be used on the same surface, they must be used in the following order:

- a. Iodine - will fade shortly after processing.
- b. Ninhydrin - will fade eventually after processing.
- c. Silver Nitrate - will not fade after processing.

METHODS AND EQUIPMENT USED IN CHEMICAL DEVELOPMENT OF LATENT PRINTS:

IODINE FUMING: This method is used whenever an important document is not to be defaced or when secrecy is desired. Because of the iodine's fugitive nature, a latent print can be photographed and then allowed to fade and disappear, thereby, leaving no trace of processing. Iodine fuming is also used to locate a latent print on a surface which is to be further processed by a more permanent means.

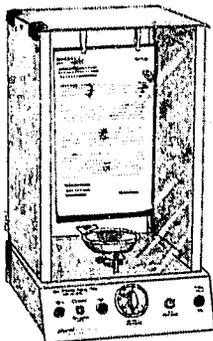
IODINE FUMING CABINET

- a. suspend the article containing the suspected latent print in the cabinet.

b. heat a small amount of iodine crystals in the dish which is provided and allow the vapors to permeate the object; if a latent print is present it will turn a yellowish brown color.

c. remove the article from the cabinet and photograph any prints that may have been developed before they fade. Faded prints can be restored by repeating the process.

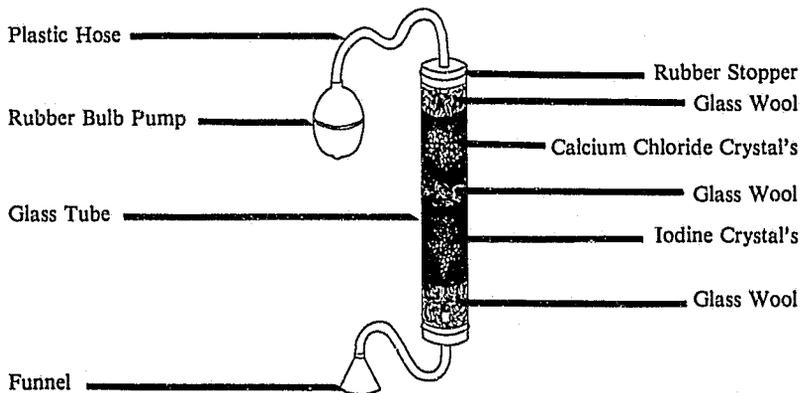
LABORATORY TYPE FUMING CABINET AND HEAT CHAMBER



IODINE FUMER OR PIPE

The Iodine Pipe is much more portable than the cabinet and can be used to locate a latent print which subsequently can be photographed or processed by a more permanent method. The glass body of the pipe contains iodine crystals and calcium chloride crystals (*a drying agent*); these crystals are separated and held in place by glass wool.

IODINE FUMING PIPE



THE FUMER IS USED IN THE FOLLOWING DESCRIBED MANNER

- a. the iodine crystal end of the Fumer is initially heated slightly with a match or similar source of heat.
- b. a small compressor or rubber bulb pump is attached to the hose at the opposite end.
- c. a hand is then cupped around the iodine crystal end to retain the heat.
- d. the funnel is circled over the suspected surface.
- e. when a yellowish brown print appears it can then be photographed or processed by a more permanent means as previously mentioned.

IODINE CRYSTALS AND PLASTIC BAG METHOD

- a. a small amount of Iodine Crystals are poured into a small plastic bag (*a bag of approximately 8" x 12" in size is usually sufficient*).
- b. the object to be processed is then placed into the bag.
- c. the bag is sealed to ensure airtightness.
- d. shake the bag for a few minutes.
- e. if latent prints appear they must be photographed immediately or processed by a more permanent means and preserved.

NINHYDRIN

This chemical is best used under laboratory conditions with proper ventilation because the inhalation of fumes could prove injurious to the user. The chemical will leave a stubborn purplish stain on all contacted surfaces including human skin.

- a. the article to be processed is saturated with Ninhydrin by either spraying it with an aerosol ~~spray~~ can or by immersing it in a liquid solution of Ninhydrin.
- b. the processed article should then be allowed to dry at room temperature, to accelerate the reaction time apply moist heat (steam iron, etc.).
- c. the latent print/s will appear purple in color and develop fully after several days if allowed to dry at room temperature.

d. latent prints developed with the use of Ninhydrin will fade after several weeks. To insure permanency, a Ninhydrin fixative in liquid or spray form must be applied to the surface of the article containing the latent print/s.

e. photographs of the latent print/s will also provide a permanent record.

SILVER NITRATE

This chemical, like Ninhydrin, is generally used by laboratory personnel. Absorbant articles to be processed should be forwarded to the laboratory where a determination will be made as to the most efficient method to be used on the specific article in question. Silver Nitrate is usually employed when all else fails.

a. a 3% solution of Silver Nitrate is prepared.

b. the article is immersed in the solution until it is completely saturated (*Silver Nitrate is also available in spray form*).

c. the article is then suspended in a dark room to dry.

d. once dry it is exposed to a strong light source (*sunlight is an excellent source of light to be utilized*).

e. the latent print/s that are present will appear light brown in color and will gradually become a darker brown, gray or black.

f. the latent print should be photographed when it appears to be fully developed.

g. the print is preserved on the original surface by sealing it in a dark envelope or container. Continued light exposure will darken the print beyond identification.

HEATED CAMPHOR METHOD

This method is ideal for developing latent prints on certain metals such as galvanized steel.

a. a small amount of Camphor is placed into a large metal spoon or metal dish.

b. the Camphor is ignited with a match or cigarette lighter.

c. fumes produced from the Camphor are directed onto the metal.

d. the excess soot should be brushed away using the pony hair brush and the "clearing a print" process.

e. the prints that appear are photographed and then preserved on the original surface with fingerprint tape or they can be lifted.

CYANOACRYLATE LATENT PRINT DEVELOPMENT (SUPER GLUE)

The cyanoacrylate glue method develops latent prints from the fumes that are produced when the glue is exposed to the atmosphere. This method can be used in conjunction with or independent of conventional methods. Some surfaces upon which latent prints are developed by the glue method are plastics (*plastic bags*), glass, glossy paper, glassine envelopes, leather and metal.

PROCESS:

- a. place three or four drops of the glue in a small dish.
- b. place the dish in an enclosed airtight container (*glass cabinet*).
- c. suspend or stand the item so that all suspected surfaces are exposed to the fumes.
- d. allow 1 to 24 hours development time. A chemical (*.5% solution of sodium hydroxide*), a bed of baking soda in a dish and/or a heating process can be used to expedite the development process.
- e. photograph any visible latent prints which usually appear gray or white.
- f. dust the item with powder in as much as dusting may either enhance the latent print or develop prints that were not previously visible to the naked eye.

PROCESSING INTERIOR OF AUTOMOBILES WITH SUPER GLUE:

- a. vehicle must be in garage at room temperature.
- b. close all windows to seal the inside of vehicle.
- c. place 5 or 6 drops of glue into each of approximately 20 small plastic dishes.
- d. place the dishes strategically throughout the vehicle.
- e. close all doors to seal in the fumes.
- f. allow 1 to 24 hours development time (*according to the development processes used*).
- g. photograph visible prints and dust the interior for additional prints.

CAUTION, when using cyanoacrylate glue. It is flammable. Do not smoke or expose to open flame. The fumes may be toxic, be sure to ventilate area

after the development process is completed and prior to searching for latent prints.

NOTE: the super glue method is best left to the experts such as the Crime Scene Unit or Laboratory personnel.

GENTIAN VIOLET LATENT PRINT DEVELOPMENT (CRYSTAL VIOLET)

Latent print development occurs when fingerprint residue is stained by a solution of 1/10 gram of crystal violet in 100 ml. of distilled water. This method can be used on the adhesive side of all types of tape with a viscous, rubber like adhesive (*not water soluble adhesive*).

PROCESSING WITH GENTIAN VIOLET

- a. place the tape into the prepared solution or the solution may be painted on with a brush.
- b. allow 1 to 2 minutes before placing the tape under running cold tap water to rinse off excess solution.
- c. the latent prints will appear in a violet or blue color and should be photographed and then protected with clear plastic.
- d. black tape is processed in the same manner and the latent prints can be transferred to resin coated photo paper, these prints are in a reverse position and must be photographically reversed to their original position.

This method can also be used on hard surface items but it is usually less efficient than the use of fingerprint powders.

The Gentian Violet method is best left to the experts at the Laboratory.

NOTE: There are many other chemical methods available for use with various surfaces and types of latent prints. However, the aforementioned chemical processes are the most practical and commonly used methods.

REASONS WHY LATENT PRINTS ARE NOT ALWAYS FOUND AT SCENES

Latent prints are not easily left on or in a surface. It does not follow that if a person touches a surface that he will automatically leave a latent print. Consider the following reasons.

1. Some people do not perspire and, therefore, do not secrete body fluid from the skin pores which is sometimes necessary to leave friction ridge patterns on or in a surface.

2. Some surfaces are not conducive to latent prints. For example: stippled surfaces (*most safes have this finish*), grained leather or some plastic items, engraved gun grips, etc. In some instances, ridge detail might be detected with the naked eye on these articles. However, upon closer examination with a fingerprint magnifying glass, the ridge characteristics are not distinct in that they are obstructed by the design of the surface.

When an investigator is in doubt as to whether or not a surface is conducive to latent prints he should:

a. process an 'out of the way' area of the surface and if no latent print appears on it, then the area should be wiped clean.

b. place his own print on the 'out of the way' surface. If after processing the surface, his own print appears, the surface should be considered conducive to latent prints and at this time his own print should be wiped clean from the 'out of the way' surface.

3. Weather has an effect on latent prints.

a. sunlight and heat will dry the secretions left on or in a surface.

b. cold prevents perspiration, therefore, little or no secretion occurs.

c. latent prints on a surface will freeze (*perspiration is 99% water*) when the temperature is approximately 32°F. or below. If a surface is cold enough to freeze prints, it is best to gradually warm the the article to room temperature before processing it.

4. Dust and dirt affect latent prints. These substances may:

a. dry the hands and fingers leaving no medium to transfer the friction ridge impressions on or in a surface.

b. fill the furrows between the friction ridges resulting in a fingermark which lacks ridge detail.

5. Liquids and moisture can cause the secretions to become too watery, thereby, distorting the latent print. However, water will not usually harm a latent print which was placed on or in a surface prior to the article becoming wet. For example: a drinking glass which was dry when handled and subsequently became moist from condensation will ordinarily retain the prints on it's surface.

NOTE: Empty the glass if possible and allow it to dry at room temperature before attempting to process it for latent prints. Another example is a vehicle which was touched before being exposed to rain, snow or sleet. This vehicle may retain latent prints because the moisture produced will not normally destroy the existing latent prints. However, before processing the vehicle's surface have it removed to a warm dry area (*room temperature*) and allow it to dry thoroughly. If this is not possible, the vehicle must be safeguarded until dryer weather conditions permit processing.

6. Size of surface can be a factor which affects the latent print. For example: a surface area smaller than the head of a thumb tack will usually not contain enough fingerprint characteristics for identification.

7. Superimposure of several latent prints (*one on top of another*) are usually of no value. Superimposures are found on constantly used surfaces such as door knobs, handles, telephones and other heavily used surfaces and/or items. Superimposures can accumulate on a surface over a period of time. Identification of the superimposed print is difficult because the ridge characteristics cross one another and are not distinct.

8. Handcovers may prevent an individual from depositing his prints on a surface. Gloves, socks, longsleeved shirts, bandages, plastic spray, nail polish, etc., are considered hand coverings; they prevent the friction ridges from coming in direct contact with a surface leaving only fabric, leather or other ridgeless fingermarks.

9. Pressure or movement can result in a distorted print on a surface. Too much pressure applied to a surface will cause friction ridges to spread distorting their characteristics, whereas movement during contact with a surface can cause the latent print to smear.

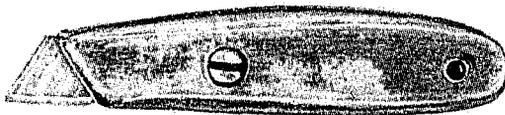
SEARCHING SUSPECTED SURFACES FOR LATENT PRINTS

An investigator must be mindful of the fact that latent prints are fragile and can easily be lost if handled carelessly. He must be systematic and carefully review all suspected surfaces when searching for latent prints. One

technique is to use a light source such as a flashlight, hi-lo intensity lamp, etc., directed at an angle upon a suspected surface. This technique of "offset" lighting will frequently reveal the location of a latent print.

SOME PROBABLE LOCATIONS TO SEARCH FOR LATENT PRINTS

Some likely surfaces to consider are the areas surrounding entrances and exits of scenes or in and/or on objects likely to be handled by a perpetrator. An investigator must use his imagination when searching a scene for prints; for instance, if a perpetrator leaves a flashlight on the scene, the batteries contained therein should also be processed for latent prints. Other examples of where to search for prints are as follows: any tool or piece of equipment which contains a blade or cartridge insert and was left behind by a perpetrator should be disassembled and processed for prints, the underside portion of toilet seats, the wall area over toilets and/or urinals, food packages and other containers which may have been removed from a refrigerator or food cabinet, light bulbs, styrofoam materials that have a smooth surface, fabrics that have a smooth surface, firearms, ammunition magazines from automatic weapons and cartridges (*particularly those removed from magazines and/or cylinders of revolvers*) should be given special attention by the investigator. In addition, the size and condition of the surface in question must be evaluated by the investigator to determine the feasibility of processing it.



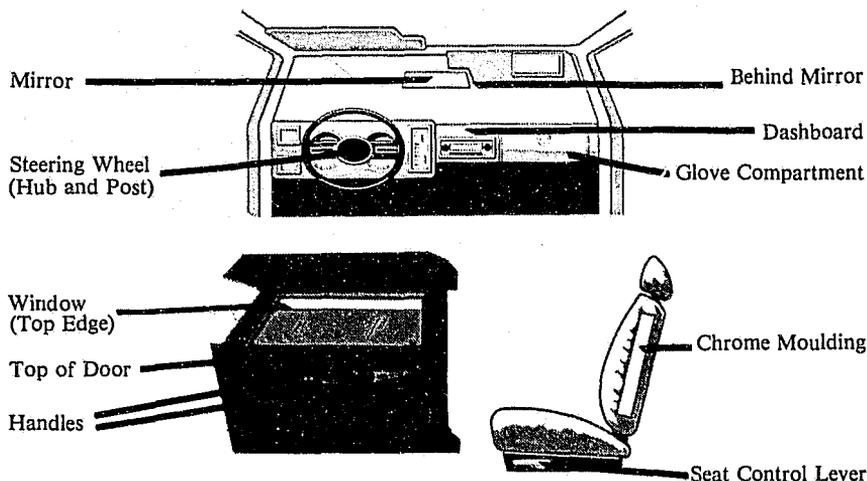
Utility Knife



Blade Removed from Knife

VEHICLES

Although the entire vehicle should be considered when processing for latent prints, particular attention is directed to the more productive areas (See *Cyanoacrylate [Super Glue] Latent Print Development*)



PROCESSING PLASTIC BAGS FOR LATENT PRINTS

When processing plastic bags a mixture of $\frac{1}{3}$ conventional powder and $\frac{2}{3}$ magna powder, of the same color, can be used more effectively on contrasting colored bags than just all conventional powder. (*See Cyanoacrylate [Super Glue] Latent Print Development*)

PROCESSING PAPER FOR LATENT PRINTS

When developing latent prints on paper evidence the first consideration should be to submit the evidence to the police laboratory for chemical processing. (*See Latent Print Development, Chemical*). If this is not possible, then the use of the "magna brush" is recommended for locating prints on most recently touched paper surfaces. However, if a magna brush is not available an alternate method would be to sprinkle a small amount of conventional powder onto the surface of the paper then shake the powder back and forth across the surface.

LATENT PRINTS ON FIREARMS

Latent prints of value on firearms have been recovered successfully on occasion. Several reasons which hinder the recovery of identifiable latent prints on firearms are as follows:

- a. a well oiled gun obscures latent prints.
- b. if a gun is not properly cared for, it will usually be rusted and pitted, this will obscure latent prints.
- c. curved surfaces tend to smudge latent prints.
- d. recoil action when fired, tends to smudge latent prints.
- e. surfaces that are handled frequently are usually checkered or grooved.
- f. latent prints are invariably superimposed on frequently handled firearm surfaces.
- g. areas on handguns that are conducive to latent prints are minimal.

PACKAGING ARTICLES THAT HAVE LATENT PRINTS ON THEM

When packaging articles that are to be processed elsewhere, they should be handled by their edges with tongs or tweezers; the knuckles of the fingers can be used as tongs in an emergency. Be sure not to place one object against another. Do not use cloth or paper for securing or wrapping an object. It should be suspended or secured so that it will not rub against another surface. Paper or cardboard that contain latent prints which comes in contact with another surface usually will not harm a latent print and could be stacked one on top of another without destroying a latent print.

ELIMINATION FINGERPRINTS

There is nothing more frustrating to a latent print examiner than to discover that the latent print which he has searched and compared against numerous fingerprint cards, for several hours, days or weeks, match those of the complainant, member of the service or a person having legal access to the crime scene.

The crime scene investigator should, whenever possible, take elimination prints of the complainant or other persons who may have touched or handled the processed areas and submit them to the Latent Print Unit together with the recovered latent prints. Additionally, he should list and submit to the Latent Print Unit names and addresses of other people who have legal access to the crime scene for which no elimination fingerprints were submitted and the rank, name, shield number, tax registry number and social security number of each member of the service who entered the crime scene area.

Whenever palm prints are recovered from a crime scene, the crime scene investigator must be sure that the palm prints of the complainants, homicide victims and police personnel involved are taken.

RECORDING INKED FINGERPRINTS

EQUIPMENT REQUIRED

- a. a tube of printers ink (*a heavy black paste*). Do not use stamp pad ink or ordinary writing ink they are too light, too thin and take too long to dry.
- b. a glass or metal plate (*approx. 5" x 12"*).
- c. a 3" rubber roller.
- d. a standard 8" x 8" ten finger, fingerprint card.
- e. a fingerprint card clamp holder is helpful to hold the card in place. A heavy paper weight can be used.
- f. instead of ink, plate and roller, an inking (*porelon*) pad can be used.

PROCEDURE FOR RECORDING INKED FINGERPRINTS

- a. fingers must be clean and dry.
- b. the inking plate or pad should be placed on a counter top or table of counter top height, positioned at the edge so that the subjects fingers which are not being printed will not interfere with the fingerprinting process.
- c. a few small dabs of ink should be placed on the inking plate and thoroughly rolled until a very thin, even film covers the entire surface. If an inking pad is used be sure to utilize the entire pad surface for best results.
- d. place the subject to your right rear.
- e. ink and fully roll, in one steady rolling motion, avoiding too much pressure, each finger from one side of the fingernail to the opposite side of the same fingernail. Include the upper portion of the second joint just below the crease. Be sure to include the focal points. (*Cores & Deltas*).
- f. insert the fingerprint card into the holder or fold the card horizontally along the bottom edge of the righthand finger boxes. Position the fold at the edge of the counter top using a weight to hold the card in place. Using the same method as in paragraph "e" above, record the fingers in their respective boxes. When the right hand fingers are completely printed, repeat the same process with the left hand fingers.

- g. in order to avoid slipping which smudges a print and because of the bone structure in the forearm, roll the fingers away from the center of the subjects body and the thumbs toward the center of the subject's body. From an awkward to a relaxed position.
- h. the smaller prints (*plain impressions*) at the bottom of the card are taken simultaneously. Print, without rolling, all four fingers of each hand grouped together, then the thumbs separately.
- i. fingers that are unable to be printed due to physical deformity, (*amputated, injured and / or bandaged fingers*) must be noted in the respective finger box.

CAUTION: Safeguard firearms while taking a subject's fingerprints.

PROPERLY ROLLED PRINTS



Under Rolled



Properly Taken
Double Loop Whorl



Double Hit
One Print Over Another



Not Enough Ink
Dirt on Fingers
Dirt on Equipment
Pad Dried Out



Finger Tip or Amp?

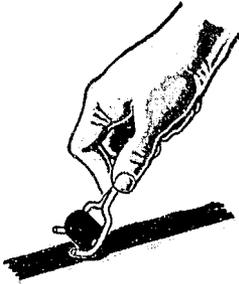


Too Much Ink or
Pressed too Hard or
Moisture on Fingers

RECORDING PALM PRINTS AND MAJOR CASE PRINTS

The most efficient method of recording palm prints is as follows:

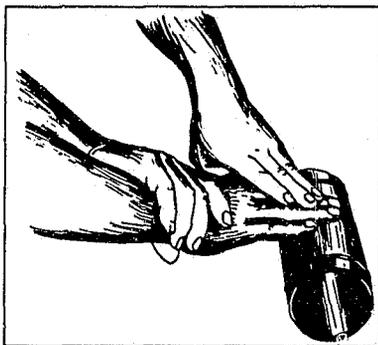
1. Using a roller for spreading black printer's ink, firmly roll a thin even film of ink over the entire palm area of the hand. When using a fingerprint inking pad, utilize the entire surface of the pad to insure complete inking of the palm, be sure to ink the middle (*hollow*) of the hand.



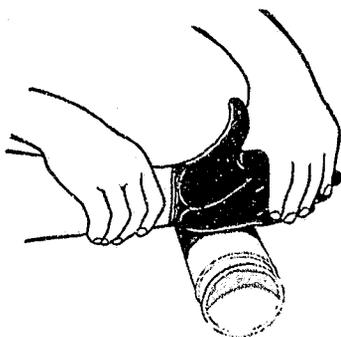
2. A Standard white piece of paper approximately 8" × 8" or 8½" × 11" should be positioned around a cylindrical object 3" or more in diameter, approximately 8" to 10" in length (*cardboard tube from a roll of wrapping paper, a smooth round bottle, a full paper towel roll, etc.*). A rubber band around each end can be used to hold the paper in place.
3. Place the cylinder with the paper attached well away from the edge of the table. The heel of the palm is placed on the lower edge of the paper, fingers together pointed straight ahead. Apply sufficient pressure on the back of the hand being printed to insure firm contact.



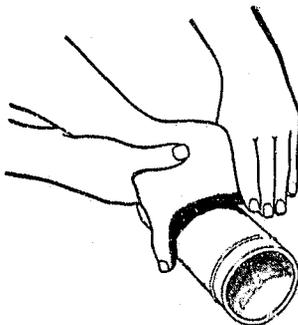
4. Roll the cylinder backwards toward the person being printed until the tip areas of the fingers are recorded. The hand is kept in a horizontal position during the rolling so that, as the areas of the palm and fingers are recorded, it is automatically removed from the paper.



EXTENDED PALM PRINTING FOR MAJOR CASES ILLUSTRATED BELOW



Side of Palm

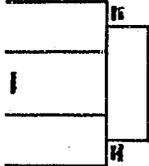
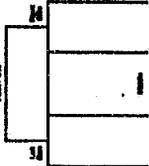
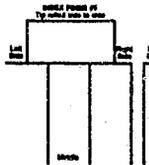
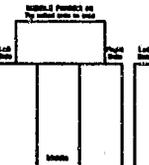
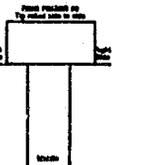


Inside Palm

MAJOR CASE PRINTS

Very often latent prints recovered from a crime scene consists of a portion of the hand or fingers which are not ordinarily recorded during the normal fingerprinting of an individual, such as, the extreme portion of the fingertips, the sides and lower joints of the fingers, palms and the extreme sides of the palms. All the palm surfaces of the hands, the fingers and the soles of the feet contain friction ridges which form the fingerprint characteristics that are the basis for latent print identification. Therefore whenever these conditions exist, the crime scene investigator must, in addition to the ordinary ten finger rolled impressions, also take that portion of the hands or fingers that may appear in the recovered latent print. When in doubt as to which portion of the hands or fingers to record, then the entire hand should be printed including fingertips, sides, and the sides of the palms as are taken in "Major Cases".

MAJOR CASE PRINT CARD

PALM		TIP	
<small>MAJOR CASE PALM PRINTS BY MAJOR CASES</small>		LEFT FINGERS	
PULSIT HAND	SIDE OF HAND		
			
			
			
		<small>THUMB PRINTED ON TIP rolled side to side</small>	<small>INDEX PRINTED ON TIP rolled side to side</small>
		<small>MIDDLE PRINTED ON TIP rolled side to side</small>	<small>RING PRINTED ON TIP rolled side to side</small>
		<small>LITTLE PRINTED ON TIP rolled side to side</small>	

Palm, Fingers and
Sides of Palm

Fingers and Tips
Rolled Side to Side

Taking the fingerprints of minors is justified if they are to be used for elimination purposes. Upon completion of the latent print comparison, the elimination fingerprints of both adults and minors must be returned, if so requested. The investigator must indicate this request on the fingerprint card along with the forwarding address.

IDENTIFICATION BASED ON FINGERPRINTS

After latent prints are photographed and lifted all of the original lifts and/or photographs must be forwarded to the Latent Print Unit for inspection and evaluation. A complete report of the criminal occurrence including the Modus Operandi and the pedigree of the perpetrator/s if known must also be forwarded.

The Latent Print Examiner will either compare the latent print with a suspect's prints, or if no suspect is known and the latent fingerprint is sufficient for search, where a pattern can be determined and enough descriptive data is available, the examiner will attempt a computer search through the BETA terminal. If lack of descriptive data negates a computer search the examiner will search the Latent Print Units' fingerprint card files. These files are maintained according to Modus Operandi and Precinct as well as fingerprint classification. If no identification is made at this time then the latent prints are compared with future arrest fingerprint records that have a similar modus operandi. *Some perpetrators have never been arrested. Therefore their fingerprints are not on file for comparison with latent prints that are recovered from a crime scene.*

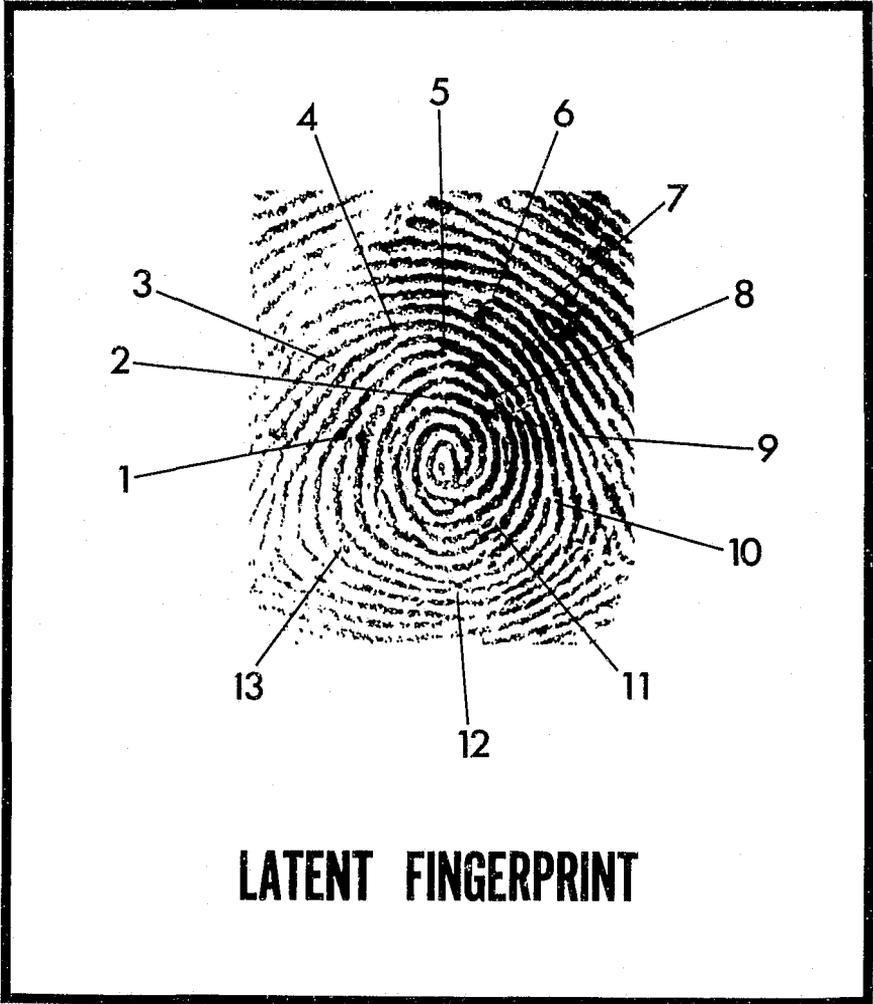
Criminals have been connected to past crimes as a result of a fingerprint identification after they were arrested and fingerprinted for a current crime.

It is believed that 12 points (*Fingerprint Characteristics see page #6*) of comparison between the latent and inked print are required to establish a positive identification. However, contrary to this belief, experts have successfully testified to positive identifications where less than 12 points were available. The number of comparison points that is acceptable for identification is based on the clarity of the latent and/or inked fingerprint and the types of fingerprint characteristics. Such determinations should be left solely to the latent print identification expert.

There are some probabilities that exist when a latent print expert searches prints:

- a. radial loops are found mostly on the index fingers.
- b. whorls are found mostly on the thumbs and ring fingers and usually spiral to the right on the right hand and to the left on the left hand.
- c. little fingers almost always have ulnar loops.
- d. corresponding fingers of the opposite hand usually have the same fingerprint pattern.

LATENT FINGERPRINT CHART FOR COURT PURPOSES

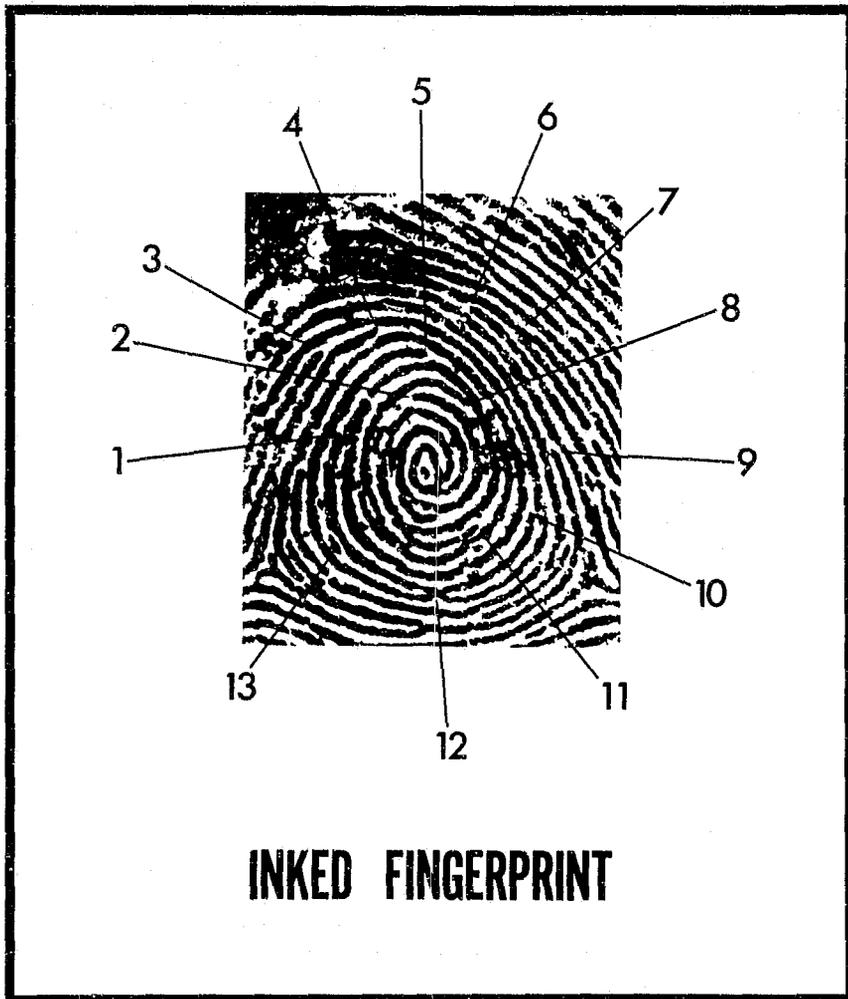


LATENT FINGERPRINT

Print from crime scene

Corresponding characteristics are numbered the same. The ending ridge marked No. 1 on the left side of the Latent Fingerprint Chart corresponds to the one marked No. 1 on the Inked Fingerprint Chart. Likewise, No. 2 is also an ending ridge and is found by counting two ridges to the right of No. 1, follow the second ridge up and to the right, stopping at it's apex, and

When a latent print found at a crime scene is to be compared to a suspects print, both prints are laid side by side as shown below; the individual characteristics are then pointed out.



INKED FINGERPRINT

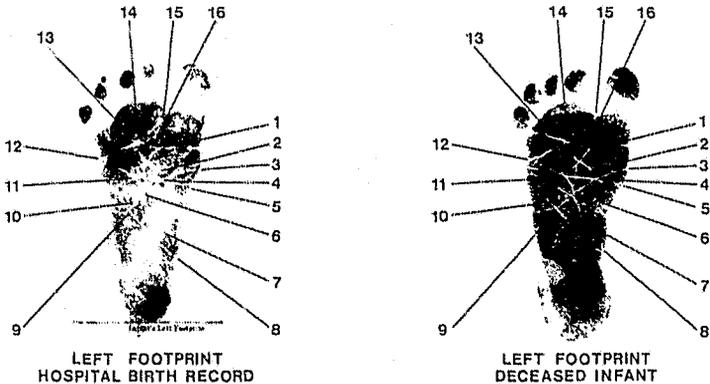
Suspect's Print

dropping down one ridge to point No. 2. No.s 3, 4, 5, 6, 8, 9, 10 are other ending ridges. No.s 7, 12 are bifurcations. No.s 11, 13 are dot or broken ridges. The two fingerprints were made by the same finger. If they were not the same finger the points would not match.

IDENTIFICATIONS BASED ON FOOTPRINTS

Baby footprints can be identified from friction ridges as are all other prints. However, the footprints of new-born babies which are taken at birth are usually smudged with too much ink, too much pressure is applied when these prints are taken or the feet are not thoroughly dried, causing the friction ridges, although fully formed, to become obscure. Most baby footprints are identified by comparing the flexure creases, which remain the same for approximately one year. Due to the growth process, the older the child becomes, the possibility of identifying footprints from flexure creases alone becomes remote.

FLEXURE CREASES



Footprints of adults are identified from the friction ridges which are similar to palm prints. That is, the patterns and characteristics of friction ridges cover a larger area than those of the fingers.

Footprints and palm prints are not usually classified, therefore, the files at the Latent Print Unit cannot be searched for comparison. Palm and footprints of suspects and complainants must be forwarded to the Latent Print Unit, they are required for comparison and identification whenever latent palm and/or footprints are recovered from a crime scene.

AUTOMATED FINGER AND LATENT PRINT IDENTIFICATION SYSTEMS

A prototype Optical Latent Fingerprint Recognition System (laser) in use at the Latent Print Unit since January, 1974 was phased out in February, 1981. The system's equipment more than outlived its expected lifetime of five years. It had become counter productive and not cost effective.

After exhaustive studies, the New York City Police Department, in cooperation with New York State authorities has acquired an automated system from Morpho/IBM. It was operational, on a limited basis, in January 1990. It is designed for use with the ten inked fingerprint card files. This SAFIS system is similar to other systems currently being introduced in the United States and other countries. It has the capability to automatically classify a ten inked fingerprint card by plotting the minutiae (fingerprint characteristics), and storing, searching and retrieving the fingerprint information. It can also search a latent (partial fingerprint) against the established data base of the ten inked fingerprint impressions. All searches, ten inked fingerprint card, and latent prints, can be accomplished within a fraction of the time it takes for a manual search. The search time can be reduced even further when descriptive data regarding a suspect is submitted along with the latent prints.

LATENT SEARCH

For latent cases at the Latent Print Unit (Major Crimes) or regional sites, demographic and event data is entered into SAFIS and is searched against the latent cognizant data base (1,200,000 fingerprints). If the latent search does not produce a confirmed match, the minutiae record and image may be added to the unsolved latent case file data base. Future arrest prints will be searched against this file and may result in closing the case quickly or over a period of many months or even years, since the unsolved latent prints are now on file.

Six regional sites have been established, at various locations within the city, to send latent images and demographic data to the New York State Division of Criminal Justice Services for searching.

In the foreseeable future the possibility exists for police agencies throughout the country with compatible systems to have access to the national central fingerprint data base maintained in Washington, D.C. by the Federal Bureau of Investigation.

DETECTION OF LATENT PRINTS BY LASER

An 18 watt laser is currently used by the F.B.I. and a few other police agencies around the country. The unit can detect latent prints on surfaces not previously detectable by conventional means such as on cloth, leather, raw wood and the inside of rubber gloves. The laser reacts to amino acids in the human body and unlike other techniques which use chemicals or powder the laser will not contaminate the evidence. The laser can detect prints as much as 40 years old as well as fresh prints. At this time the laser is not portable. The machine is ten feet long and must be attached to an elaborate cooling system which restricts its use to portable items only. The Laser's success rate thus far is not phenomenal, continued research by current users is necessary. A 300,000 watt solid state portable laser has just been developed and its detection ability has yet to be proven.

DETERMINING AGE OF LATENT PRINTS ON A SURFACE

Many times the question regarding the age of a latent print arises. To date, there are no scientific tests to determine the age of a latent print on a surface. A number of factors affect the life of a print on a surface such as weather conditions, air temperature, degree of humidity, condition of surface, condition of subject's friction ridges, etc. Occasionally the experienced investigator, after considering the factors which affect the life of a print, can make a reasonable determination as to the possible age of a latent print. For example: most recently touched surfaces will generally react very quickly to mechanical (*powder*) processing.

LATENT PRINT DEVELOPMENT — ON HUMAN SKIN

A practical and effective chemical or mechanical method to process and recover identifiable latent prints from human skin has yet to be developed. Some techniques occasionally used by investigators are:

THE IODINE SILVER TRANSFER METHOD

The equipment needed for the Transfer Method is:

- a. an iodine fuming pipe.
- b. a 2" or 4" square silver sheet .005 inches to .010 inches thick.
- c. a strong light source such as a 100 watt bulb.

THE BASIC STEPS IN THE TRANSFER METHOD

- a. fume the skin tissue with iodine vapor from the iodine fuming pipe.
- b. press the silver plate directly onto the skin, being sure to cover the area where there may be a latent print (*discolored area from fuming*).
- c. remove the silver plate and expose it to a strong light.
- d. photograph the plate immediately.

NOTE: These prints are reversed (*mirror image*) on the plate and must be corrected by photography to insure proper comparison and identification.

- e. protect the print on the plate with fingerprint tape and place the plate into a light proof envelope to insure that the print will not fade.

A technique found to be somewhat more economical and practical for developing latent prints on human skin is "The Iodine-Polaroid Film Transfer Method". The development process in this procedure is the same as the Iodine-Silver Plate Method except that an unexposed #107 or #667 Polaroid (*black & white*) film sheet is used instead of the Silver Plate. Additionally, after the Polaroid film has been pressed onto the skin, the film sheet is dusted with black powder so that the print can be developed. It should be noted, the prints will not fade. These prints are reversed and must be corrected by photography for latent identification.

The "Magna-Brush Method" is a technique which has been used successfully under ideal conditions. This method employs the procedure described for "ferromagnetic powders", (*refer to page #12*) in conjunction with "The Iodine - Polaroid Film Transfer Method" instead of using conventional black powder. It should be noted, these prints are reversed and must be corrected by photography for latent identification. Fingerprint tape can be used to cover and preserve the latent print on the Polaroid film, these prints will not fade.

A more direct procedure which met with limited success is similar to the "Magna-Brush Method". The ferromagnetic powders are applied directly onto the human skin within the suspected areas. If prints are developed, they must be photographed and lifted in accordance with standard procedures.

Although the Iodine-Silver, Iodine-Polaroid and Magna-Brush Methods have proven successful in an experimental environment, very few identifiable latent prints have been developed in the field to date.

THE FOLLOWING FACTORS AFFECT LATENT PRINT DEVELOPMENT ON HUMAN SKIN

- a. the body area must be smooth and free from hair.
- b. the length of time which lapses between the time the victim is touched and the time of the latent print examination is an important consideration. The longer the time lapse, the less chance there will be to develop a latent print. Identifiable latent prints on the skin of a live person have been developed under laboratory conditions up to one hour after the skin was touched. Whereas, prints have been developed up to 42 hours after the skin of a deceased unembalmed person was touched.
- c. conditions of the skin either before and/or after death. For example, moisture (*perspiration*), dirt, etc., on the skin can insulate the skin and prevent a latent from being deposited.
- d. amount of finger/palm pressure applied to the skin. Usually too much pressure is applied by a perpetrator upon a victim when physical contact is made. This excess in pressure will prevent an identifiable latent print from being deposited.
- e. the location where the body is found. For example, if the body is found outdoors, weather conditions could interfere with latent print development. Whereas, if the body is located indoors, temperature and humidity could be a hindering factor.

The development of latent prints on human skin, although possible, is not feasible at this time. Further experiments must be conducted before a completely practical method is developed.

TRANSFERRING LATENT PRINTS FROM ONE SURFACE TO ANOTHER

Although the below described transfer may be performed successfully under ideal laboratory conditions, there is no evidence of its successful use in a field environment.

A transfer with the use of fingerprint tape involves the lifting of a latent print with fingerprint lifting tape from one hard smooth surface, then placing the tape with the lifted print on it onto another hard smooth surface.

In attempting a transfer, one must first locate a relatively fresh latent print where conditions are ideal for lifting it. For example: the surface must be hard and smooth, weather and temperature must be ideal, conditions of the subject's friction ridges must be favorable at the time the surface is touched, and the person doing the transfer must have experience in latent print processing and recovery.

The recovery of latent prints at a crime scene cannot be done haphazardly. When in doubt as to the proper procedure to follow, refer to this guidebook or seek assistance. Consult a proper authority, such as, the Crime Scene Unit, the Latent Print Unit, or the Police Laboratory.





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- Protect the lives and property of our fellow citizens and impartially enforce the law
- Fight crime both by preventing it and by aggressively pursuing violators of the law
- Maintain a higher standard of integrity than is generally expected of others because so much is expected of us
- Value human life, respect the dignity of each individual and render our services with courtesy and civility

