

## A Chronological Review of Fingerprint Forgery

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**ABSTRACT:** The article reviews the history of fingerprint forgery chronologically, based on about 70 papers, books and private communications. More than 30 known cases of fingerprint forgery are considered. Various techniques of fingerprint forgery are described and discussed as well as methods of fingerprint forgery detection.

**KEYWORDS:** forensic science, fingerprints, history, fingerprint forgery, fingerprint forgery techniques, fingerprint forgery detection

“Fingerprints cannot lie, but liars can make fingerprints.”  
—Paraphrase of an old proverb<sup>5</sup>

The authors are aware of all linguistic nuances of the synonyms of the term “forgery,” such as counterfeit, fraudulence, falsification, fabrication, etc. They have chosen to use the term “forgery” as the most capacious word to describe the situation of fingerprint transgression.

Of all categories of physical evidence, fingerprints remain one of the most important. The modern methods for the development of latent fingerprints allow for relatively fast results, and advanced AFIS systems turn the search for the suspect into a matter of hours or even minutes (1,2). There is a general consensus concerning the individuality of fingerprints, in parallel with an actual discussion about the standards of identification (3,4). One question periodically surfaces and disturbs this pastoral picture, “Can a fingerprint be forged?” It is appropriate here to quote Professor Andre Moenssens: “If an attorney asked the question whether fingerprints can be forged, the expert witness’s immediate answer has to be ‘Yes’ ” (5).

In September 1995 an appeal was sent through Interpol channels to 180 countries: “. . . we are interested in receiving any information you have on the fingerprint forgery, especially in cases known on the subject. . . .” Only 13 countries answered, and only four of these 13 answers were cooperative and full of real concern. This

situation reflects the current attitude of the international forensic science community to the problem.

The history of fingerprint forgery is probably as old as that of fingerprint development and classification (6). Quite naturally, the technological progress serves both sides: fingerprint experts and fingerprint forgers—with equal effectiveness.

To answer the question, “Who did it?,” all cases of fingerprint forgery can be divided into three main categories: 1. Forgery committed by a law enforcement officer or fingerprint expert. 2. Forgery committed by a criminal (or for the criminal). 3. Forgery made by a scientist or fingerprint expert to better understand the nature of the phenomena, or to demonstrate the possibility of fabrication.

Police officers who want so much to “get the guy,” even if they don’t have enough evidence against him, can fabricate the print with the goal of linking the “suspect” to the crime scene. Criminals on their part sometimes try to put the police on the wrong track, or to “help” the police frame the wrong person. From a survey of known cases we learn that both sides fabricate prints with the same frequency. As to the forensic scientists, we can trace the first scientific experiments in this field to the very beginning of this century (7,8).

The aim of this article is to review the history of fingerprint forgery or alleged forgery cases chronologically in as detailed a way as the literature affords. Our work is based on about 70 articles published in professional journals, books, popular magazines, newspapers, TV reports, and private communications. The bibliographic material in this article covers cases from the following countries: Australia, Bulgaria, Canada, Czechoslovakia, France, Germany, India, Israel, Malaysia, Netherlands, Soviet Union, South Africa, UK, and USA. Obviously, there may be more cases that have occurred but have not been reported.

It is evident that some of the sources used do not have the reliability expected from scientific journals; that is why this information has to be reviewed with some care and detachment. In some instances, it may be inferred from the publications that cases were indeed proved, when in fact, they were only alleged. Although the number of recorded and documented cases of fingerprint forgery is not very impressive, there is every reason to believe that the real number is much higher, and probably cannot be properly estimated.

The frequency and the number of publications on this topic from the beginning of this century to 1997 are in themselves quite instructive. Before the 1920’s the publications were rare and sporadic. From the 1920’s and to the 1960’s the frequency was about one article every three to four years. The situation changed drastically only in the 70’s with an average of about two publications a year (and even four articles in 1976). This sudden increase can be attributed to a direct response to the “De Palma Case,” which was widely discussed in press (9–12). The same rate of publications has remained unchanged during the 1980’s and 1990’s.

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<sup>5</sup> “Figures do not lie, but liars can do figures.”

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## History

The earliest mention found about forged fingerprints investigation was in 1903. The article mentioned only the place, Punjab, India, and the name of the investigator, Cpt. Smith. The source hints that this was definitely not the first case of fingerprint forgery in India, and on September 3, 1903, the government of Punjab accepted a resolution to investigate every detected case of fingerprint forgery (13).

In 1907, the famous French scientist, Edmond Locard (1877–1966), father of the “exchange principle” in forensic science manufactured a mould of his own fingerprints from gutta-percha, a leathery thermoplastic substance consisting of a gutta hydrocarbon with some resin obtained from the latex of a particular Malaysian tree (7).

In 1916, in Calcutta, India, the first known case of inked fingerprint forgery was recorded. The forger, Bengali Babu of Calcutta, had financially ruined a number of money-lenders by forging their thumb impression on promissory notes. He had used a strong thin paper and a glutinous substance to prepare a negative of the print to be reproduced, and a gummy substance for a positive. The forgery was finally discovered by F. Brewster, an advisor on the matter of forgery for the government of India (13,14).

During the 1920’s a professional medium named “Margery” from Boston, succeeded for a long time to dupe her clients using a fingerprint cast. “Margery” made a small cast in dental wax and stealthily made an impression in the wax slab when the lights in the room were extinguished during the performance. When the seance ended and the lights were turned on, a fingerprint was clearly visible in the wax. It was meant to prove that “Margery” had established contacts with the world of spirits. The mystification was exposed when the investigators found some traces of the cast preparation in the clinic of “Margery’s” dentist (15,16).

In 1922, Scotland Yard discovered a number of forgery cases, presumably linked with the name of a bright burglar named Bill Sikes. The fingerprint stamps used were of rubber, wax, and even bread (17).

Another case from the early 20’s was the so-called “Case of Anthony Trent.” Anthony Trent broke into the house of a rich German baroness. He found the baroness’s husband on the bed, deeply intoxicated. Trent used the baron’s finger, and planted it on the surface of the small gold box where the jewelry was kept, so producing an incriminating print (17,18).

In October 1923, Albert Wehde, a former convict, challenged the officers of the Illinois State Association for Identification to a public demonstration of his method for forging fingerprints. The method, photo-etching, was invented in Germany in 1921.<sup>6</sup> Wehde’s presentation was not declared a great success, but it did not prevent him from publishing (together with J.N. Buffel) a book, in 1924, discrediting fingerprinting as an identification method. The book of about 150 pages is totally subjective, but cannot be neglected even now. The matrix process (photo-etching) is relatively well described in the book, and some historical details are still of interest (6,18).<sup>7</sup>

In 1925, FBI experts received from local police a “developed” print on a very rough powdered board, and also a suspect’s fingerprint card. It was clear that no print could be developed on this type of surface due to its roughness. The “developed” print, however,

was extremely clear without any natural background. When confronted by the FBI expert, the forger admitted the fabrication (10,15).

In 1928, Lloyd Fogelman was put on trial for the burglary of a private apartment. His wife, who was convinced that her husband was innocent, succeeded in getting copies of the fingerprint evidence and contacted E.A. Parker, an expert from the International Association for Identification. According to the court evidence, the fingerprints were developed by powder on the window sill of a second-floor room. Position, inclination, and direction of the “developed” prints were inconsistent with the circumstances of the case. A second trial took place, and after Parker’s testimony the innocent Mr. Fogelman was released (15).

A wide range of fingerprint forgery cases was recorded in the USA from 1930 to 1960. The FBI reported 15 fabrications in 13 different states; numerous methods were used, from simple lifting to photo montage (10).

Dr. Harold Cummins of the School of Medicine, Tulane University (New Orleans, Louisiana) experimented with fingerprint fabrications. Unfortunately, not much is known about his methods of fabrication (mostly stamping). In a public demonstration in Chicago in 1934, his forgery confused eight American experts. Of the 32 answers received, 20 were correct, 11 wrong and 1 indefinite (19). The same Dr. Cummins mentioned the name of another scientist, Dr. Erastus Maed Hudson, who was a master in fingerprint fabrication; he spent more than 24 years (1919–1943) practicing in that field. Information on the methods which Dr. Hudson employed is unfortunately not available (20).

In 1937, William Harper from the Pasadena, California Police Department, applied the microscope and micro-photography to detect fingerprint forgery, which was the area of his interest. The quality of his home-made fingerprints was so high, that several Los Angeles experts were deceived by them (21).

The next case brings us to London, and the year 1938. Someone broke into the Tennis Club Pavilion. A fingerprint on a bottle handled at the scene was identified as having been made by David Pearce, who denied his connection to the crime. To demonstrate to the jury that the fingerprint could have been forged, he spread a plastic-like substance on the back of a glove and so obtained the fingerprint of other persons by getting them to shake hands with him (22).

In 1941, the FBI reported receiving a photograph of four latent prints which were allegedly found on a lady’s dress. A close examination of the photo showed that it was a photo montage. The ridges were continuous, but there was no cloth weave background. A forger was arrested (10).

On July 8, 1943 one of the wealthiest and most influential people in the Bahamas, Sir Harry Oakes, was found murdered in his home in Nassau, Bahamas. In the 40’s the American Mafia (Charly Luciano, Benjamin Siegal, Meir Lansky) wanted to acquire some land in the Bahamas for building casinos. Sir Harry Oakes categorically objected to this transaction, and refused to transform the city of Nassau to a new Las Vegas. With the aim of removing this uncooperative partner, or just in revenge, the Mafia organized a murder. Two police officers from the Miami Police Department were called to investigate the case, but they were on the Mafia payroll. The fingerprint of Sir Oakes’s son-in-law, De Marigny, was planted on the crime scene, and then “developed” and photographed by Cpt. Baker on the folding screen in the victim’s bedroom. Private detective Raymond Schindler and the defense attorneys doubted the validity of the exhibit, because the weaved pattern of the screen was not visible in the background of the photograph.

<sup>6</sup> From the modern point of view photo-etching is one of the parts of the photolithography—the science about materials, processes and equipment, interacting to produce three dimensional structures.

<sup>7</sup> Today this is the main method to manufacture micro-electronic circuits.

More than that, the entire procedure of collecting and documenting fingerprint evidence was neglected by the bribed investigators, thus helping the jury to acquit De Marigny (23).

In 1946 an adept burglar named Nedelkov was arrested in Sofia, Bulgaria. During interrogation Nedelkov confessed that he had told a trusting local peasant that he could tell his fortune. Nedelkov induced the rustic to let him make an impression of his hand in a soft substance, which he then used to prepare a home made cast. This gave Nedelkov the opportunity to leave his "client's" fingerprints at scenes of crime (24).

The following story also took place in the late 40's in Cmolnice, Czechoslovakia. A criminal, Alois Kostlar, was jailed for burglary. He had been working in a glass-factory belonging to the prison. One day he gave a few pieces of broken glass, with his fingerprints on it, to his cellmate who was to be released soon. The purpose of such a "present" was simple: to break into the Cmolnice Bank and to plant these pieces between other pieces of a broken window. Kostlar had two goals in mind: to share the booty in the future, and to obtain his own release from jail based on the claim that there could be two fingerprints exactly alike, and consequently, he was being held illegally. After a bank was burglarized the police noted the difference in the thickness of the different pieces of glass (24).

In 1950 S.R. Gupta and T.J. Gajjar conducted a research project about the possibilities of fingerprint forgery for the Government of India Security Press, at Nasik, India. The project concentrated mainly on photolithography techniques. The results are unknown (13).

July 25, 1963, New Jersey. A patrolman from the patrol division of a local police department responded to a burglary. By coincidence, it turned out that the victim was the patrolman's aunt. Some fingerprints were dusted on the scene. As it turned out, the same evening a well known burglar was arrested in the same city. The patrolman was so convinced that the suspect "did the job" that he decided to reinforce the suspicion with a manufactured fingerprint. He used a fingerprint card of the suspect and made a simple photo montage with the jewel box from his aunt's home. The result was submitted to the Bureau of Criminal Identification. The fingerprint expert from the Bureau noticed a shadow around the print on the photograph, and reported it to his superior. A week later the FBI confirmed that the print was a forgery. The patrolman was confronted with the forgery and dismissed from the force (25).

Dr. Walter Marsh of Durham Technical College, UK, had a hobby: forging fingerprints (mostly stamps). In 1964 he made a press statement in which he doubted the validity of fingerprints as an evidence in court; he also presented his extensive collection of forged prints to the HQ of the Yorkshire police. The collection was returned to him with a message from the Chief Constable not to pursue such a field (26).

The South African Police Service (SAPS) reported that the first South African court case connected with fingerprint forgery phenomena took place in 1965. Two people, Pretorius and Brenner, were both accused in the case. Pretorius alleged that Brenner had made casts of Pretorius's fingerprints and planted them at the crime scene. Brenner admitted the claim. Fingerprint experts agreed that fingerprints can be forged, but they stated that latents detected at the scene were genuine and belonged to Pretorius (the pores were visible on it). The fabrications produced by Brenner had no pores on it. Pretorius was convicted (15).

The De Palma Case took place in 1967 and it is probably the most sensational story in the whole history of fingerprint forgery (9-12). In October, 1967 Mercury Savings and Loan Bank in Buena Park, California, was robbed. William De Palma, 32 years

old, was arrested and charged with the robbery. De Palma claimed that he was innocent, and more than that, had never been in that bank in his life. Thirteen witnesses swore that at the time of the robbery De Palma was serving them fast-food and coffee from his truck, 27 kilometers from the bank. Two bank tellers, however, had identified De Palma positively in a line-up. As to the fingerprints, one police officer testified that he had dusted and lifted some fingerprints on the bank counter, and the other, Sgt. James Bakken, who examined the prints, said that one of the detected prints belonged to De Palma. De Palma was convicted. Before he was sent to jail, he contacted a private investigator, Mr. John Bond, and succeeded in convincing him that he was innocent. It took Bond about four years before he found something significant; a former Buena Park policeman told him that Sgt. Bakken had once fabricated fingerprint evidence in the case of a grocery store holdup. Bond started to "untwist" all the information about expert Bakken, and very soon he found that Bakken had lied to the jury about his academic and professional training. The Buena Park Police Department and District Attorney decided to double check Bakken's expertise in the De Palma trial. Two experts from the Orange County Crime Laboratory, Larry Ragle and Robert Wagener, conducted a microscopic examination of the fingerprint evidence. They found that the print submitted to the court by Bakken had been fabricated. They also determined the technology of the fabrication. Bakken had used a photocopy of an already existing fingerprint card of De Palma and then lifted it. The microscope revealed a significant difference between the shape and dimension of the particles from the copy machine toner and from the fingerprint powder. De Palma, who had already served a few years, was acquitted, and Bakken was indicted for falsifying and fabricating evidence in both cases.

In 1970, Herm Wiggins, a patrolman from San Diego, California, decided to form his own private fingerprint file. His manner of replenishing the file deserves attention. Wiggins would stop a suitable person on the street and under the pretext of a body search, ordered him to put his hands on the clean patrol car's body. After releasing the person, Wiggins would dust and lift the prints. Later, at the first opportunity, he planted these prints claiming that they were taken from the crime scene. He called the Investigations Department with precise "intelligence information" about the "suspect." Not surprisingly the number of "solved" cases greatly increased in San Diego in 1970 (15).

In 1976, evidence was received by the New York State Police from a local police department. This consisted of a latent fingerprint alleged to have been developed using black powder on a radio set in a burglarized apartment. Examination of the print under a microscope showed the investigations supervisor that the print was fabricated. A local policeman was convicted for tampering with evidence, and the case against the defendant was dismissed even though there was sufficient evidence for trial without the print (27).

In 1977, the commissioner of the Irish police was fired after the chief of the fingerprint section had fabricated evidence. He had claimed to have found the fingerprint of a suspect at the scene of the murder of the British ambassador. The print came from another case handled by two other fingerprint officers. These officers had disputed the evidence and been demoted as a result from their accusation (28).

In July 1980, St. Elizabeth's Church was burglarized in Hopkinton, Providence, Rhode Island. A suspect, Richard Boske, was soon arrested, pleaded guilty to the charge, and was sent to jail. During the trial, two sets of Boske's prints were sent by Hopkinton Police Chief, D.E. McCumiskey, to the FBI Crime Laboratory for

comparison. He submitted one set of prints as being "inked" on the card, and the other set of marks as being "latent." According to FBI experts, both sets were inked from the suspect's fingers. McCumiskey was indicted and charged with forgery (29).

In 1982, a fingerprint fabrication scandal took place in Canada. A robbery getaway car was found. A latent print was detected by the identification officer on the seatbelt buckle, and later identified as being that of a known suspect. Before the trial, a verification officer was appointed as a back-up witness for the identification specialist. Examining the photograph of the evidence, the verification officer suspected fabrication. He based his suspicions on some obvious indications, such as some white bubbles and strange traces of the lifter. The identification officer was suspended and later charged with fabricating evidence (30).

In 1982, in Malaysia, forgers were caught fingerprinting documents with the embalmed thumbs of dead relatives to collect Malaysian government pensions (31).

The "Mickelberg Case" or the "Perth Mint Swindle" as it is commonly known in Australia made history especially because of a fingerprint fabrication allegation. This allegation has never been substantiated, but the case is still under review in 1998 (private communication. C. Lennard). In 1982, as a result of a criminal multi-stepped scheme, the director of the "Perth Mint" was the victim of three counts of false pretenses resulting in a large quantity of gold to the value of more than \$650,000 being unlawfully obtained. Stolen checks were used to purchase the gold. Two of the stolen checks were an account number in the name of "Peter Gulley" which was an account used by Raymond (Ray) Mickelberg under a false name. The checks were examined for fingerprints; several fingerprints were developed using ninhydrin. All prints except one, were found as belonging to people with legal access. A partial print on the reverse side of one of the checks was identified as part of Ray Mickelberg's right index finger. In 1987, the Court of Criminal Appeal acknowledged that in photographing the questioned mark had been the subject of criticism at the trial and during the hearing of the appeal. The evidence is that the first photograph of the mark was taken on July 16, 1982, before the check was sent to another laboratory. At the trial, there was evidence that Ray Mickelberg engaged in a hobby which inter alia involved him in making silicone and metal casts of hands, and further, that when his residence was searched by police officers both rubber and metal hands were seized. The date of seizure is disputed. Defense witnesses said it was on July 15, 1982 (the first date that police had Mickelberg in custody), whereas police placed it on July 26, 1982 (i.e., after the questioned mark had been photographed). Police denied that anything other than metal hands were seized. Police first identified the mark as being from Ray Mickelberg during the evening of July 15, 1982. At trial, the defense did not claim that the "police had used a rubber replica of a finger to create a latent print on the check." Counsel for Mickelberg asserted to the jury that Ray had been tricked into taking hold of the check during the time he was being interviewed on the July 1982 and that the questioned mark could be accounted for in this way! (It was at a later stage that allegation of a forged print arose). Police fingerprints experts believed the questioned mark contained less than the standard 12 points of identification required by the Courts at the time in Australia. This would be rather unusual for a "planted" print. If one plants something, it is to be obvious. The check was forwarded to another laboratory for enhancement using zinc salt treatment, and cooling under liquid nitrogen (32), a novel technique under development at the time. The entire treatment of the checks as evidence was negligent. In 1987, the Court of Criminal Appeal engaged in an extensive hearing con-

centrating on the allegation that the questioned mark was forged. Many reputable and experienced fingerprint experts throughout the world gave evidence. On the evidence before it, the Court of Criminal Appeal rejected the allegation. A new appeal has been lodged, has been adjourned to resume in August 1998. Lovell (33) has written a book supporting the claim of forgery.

On December 23, 1989, in Ithaca, NY, a family of four was murdered in their home. The house was burned in an attempt to cover up the murder. Police killed the primary suspect in an unsuccessful attempt to arrest him. The mother of the deceased suspect was also suspected of helping to set fire to the house. She was convicted of burglary and arson. Trooper David Harding testified that he had found a can of a gasoline in the living room of the burned house and developed the woman's fingerprint on it. Another officer, trooper Rob Lishansky, verified the identification. In 1990, D. Harding applied for a position in the CIA. During his polygraph interview he talked about fabricating prints in that case. The CIA immediately reported the information to the FBI and to the New York State Police. The investigation yielded the following results: Trooper Harding had obtained the woman's prints from her previous employer and forged the evidence. More than that, Harding and his colleague Lishansky had been involved during their career in 21 cases of fabricating prints in 7 states. Both forgers claimed that they had been pressured into forgery by their superiors. This claim was carefully checked, and three supervising officers, Lt. Patrick O'Hara, Lt. Craig Harvey, and Investigator David Beer, admitted faking fingerprints in three cases, by lifting and photo montage. All five officers were dismissed from the state police and put on trial (34).

In 1994, a police case file contained a fingerprint which had not been taken from the scene of the crime in Poland (35). This led to the examination of surface impressions on fingerprint lifters (36). It was demonstrated that the surface on which the print has been allegedly lifted did not match the complex pattern on the surface that should have appeared on the lifter. Jarosz published an article citing cases in which case files contain fingerprints which, either deliberately or accidentally, have not been taken from the scene of the crime (37).

The following three stories took place in Israel (information about them was received in private communication). 1. In 1981, in Beit Shean (in Northern Israel) two kindergartens, close to each other, were burglarized. A field technician succeeded to powder a good composition of fingerprints on the first scene, but the second scene was "empty." To increase the success, he decided to powder these prints twice and to submit the second copy as being detected on the second scene. Fingerprint experts found both prints exactly overlapping, and asked for an investigation. The technician was confronted with the evidence. He confessed to the forgery and was dismissed from the police. 2. In 1983-84, in Haifa, several field technicians were put on trial for multiple fabrication of the fingerprint evidence. Certain of the suspects' guilt, the technicians developed the suspects' prints on glossy paper by powdering, and then presented them as being from the crime scene. After three such cases, one of the technicians confessed the facts of the forgery to his supervisor. 3. In 1990, a document confirming a land transaction agreement was submitted to the Arbitration Land Court in Jerusalem. The vendor, which, according to the signed contract, was supposed to sell the land, denied the genuineness of the contract. Since this vendor was illiterate, he would sign his documents by the impression of his thumb. The contract was sent for fingerprint expertise to the Fingerprint Laboratory in Israel Police National HQ. Fingerprint experts found, that on numerous pages of the contract, the thumb impressions looked exactly the same on ev-

ery page of the document. The contract was hence declared by the court to be null and void.

## Discussion

### *Types of Forgery*

A number of known cases of fingerprint forgery have been considered. Unfortunately not in each and every case is the information complete. Sometimes the sources omit important details, such as the method of forgery, the way the forgery was detected, or circumstances of the case. This turbid style is typical in a "gray" area such as fingerprint forgery. Nevertheless, the analysis of the above mentioned material permits one to come to several conclusions. The most widespread techniques of fingerprint forgery are "stamping" (6,13–19,22,24,26), "lifting" (9–12,15,34,36) and "photo montage" (10,15,23,25,34).

"Stamping" is using of a fingerprint replica made by casting or photolithography, and lubricated with genuine or artificial sweat, blood, grease, etc. This is relatively easy to make. A good quality stamp not only gives a good quality forgery, but also gives the opportunity to penetrate into the areas of restricted access, controlled by finger-scanner-keys.

"Lifting" is a transplantation of inked, latent or already developed fingerprints from one surface to another, using a suitable sticky agent. This method is easy to perform, and the quality of forgery is sometimes surprisingly high.

"Photo montage" is a composite photograph made by the super—imposing of a number of images. This technique has unlimited potential for forgery if computer-linked scanners (flat-pad or negative) and suitable software are used.

Using real cut and stored in formaline fingers or pieces of human skin is "not in fashion" any longer and belongs to history (31,61). There are two other methods of forgery: using prosthetic cosmetic gloves (59,62) and computer manipulations with fingerprint minutiae. Unfortunately, these methods have yet to be investigated fully.

World War II and later wars provoked a mass production of prostheses. Nowadays the prosthetics industry is very sophisticated owing to new polymer materials, modern technology, and precise electronic devices. Modern prosthetic fingers, hands, and cosmetic gloves not only look natural, but are also able to leave fingerprint-like marks on different objects.

As to the computer manipulations with minutiae, the threat of this kind of forgery grows with the development of long-distance peripheral "satellite" AFIS stations, where the image is transmitted from the live-scanner to the mainframe AFIS computer via the local computer, modem, and regular telephone line.

### Detection Methods

Most forged fingerprints are planted on easily accessible plain and smooth surfaces, where they are likely to be found and later developed (15,17,18,22,23,25,30). The high quality of some arouse suspicion. As a rule they are singlets, often with unnaturally sharp borders (10,15,30); others are planted in blood, grease, oil, dust, or soot. An optical microscope is still the most prevalent tool for detecting fingerprint forgeries (9–12,21,27,29). Research on the way surface structure transfers an image has led to research linked to forthcoming cases, but may lead to a general approach to fingerprint forgery detection (36). All other methods are not researched, published or even well described. They are all based mostly on intuition and expert's skills—furthermore not discussed in public. It is the intention of the authors to investigate the mechanism of de-

tecting or suspecting the forgery and identify tell-tale signs to offer a general procedure or scientific methods to approach the problem. The research which is currently being carried out is investigating each type of forgery as well as the capability of experts to face the problem.

Like any other scientific discipline, forensic science progresses through different successive stages, from the "descriptive" to "predictable." The speed of development, however, is varied for various branches and even sub-branches of forensic science. The phenomenon of fingerprint forgery existed, exists and most probably will continue to exist. Long lasting policies of hushing up the phenomena of fingerprint forgery affected the natural development of methods and devices for forgery detection.

The limited frames of this article does not permit discussing many serious questions and subjects related to fingerprint forgery (for example the questions of intuition, training, etc.). One can find reasonable answers and interesting discussions in the list of supplementary reading (38–69).

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