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## The Lindbergh Case Revisited: A Review of the Criminalistics Evidence

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**ABSTRACT:** The Lindbergh kidnapping case, now over half a century old, has been the subject of numerous books and articles, several films, and a current lawsuit. Doubts about the guilt of Bruno Richard Hauptmann raised in the late 1930s persist today. The identification of the body of the child found in the woods near the Lindbergh estate approximately two months after the kidnapping is still being questioned. Criticisms of the purported associations between the homemade ladder left at the scene with Hauptmann's tools and with wood in his residence are also still being voiced. The retention of the crucial pieces of physical evidence by the New Jersey State Police and their new accessibility as a result of an executive order makes a contemporary evaluation of these questions possible. In January of 1983 the author, at the invitation of the president of the American Academy, Anthony Longhetti, traveled to New Jersey, viewed the original crime scene, studied the trial exhibits and re-examined the major items of physical evidence exclusive of the kidnap and ransom notes. Certain criminalistic examinations carried out by the New Jersey State Police Forensic Science Bureau in 1977 were also reviewed in preparing this paper for the 1983 plenary session.

**KEYWORDS:** plenary session, criminalistics, Lindbergh kidnapping case, physical evidence

On the night of 1 March 1932 at approximately 9:15 p.m. the 20-month-old son of Charles Augustus Lindbergh, America's quintessential hero since his solo trans-Atlantic flight five years earlier, was taken from his crib located on the second story of the southeast corner of the nearly completed Lindbergh estate near Hopewell, NJ.

A kidnap note had been left in the nursery and a 19.05-mm ( $\frac{3}{4}$ -in. Buck brand carpenter's chisel with white beechwood handle and brass ferrule was found on the ground below the nursery window. A homemade ladder consisting of three collapsible sections had been abandoned approximately 23 m (75 ft) from the house. A few unclear footprints were also observed the next day but were not accurately recorded or preserved.

On 12 May 1932 after a \$50 000 dollar ransom had been paid over a month earlier on 2 April to a lone individual who called himself "John," a truck driver named William Allen stopped along the Hopewell-Mt. Rose road a few miles from the Lindbergh estate and after walking a short distance into the woods to relieve himself, came upon the decomposed body of a child. The body had some sleeping garments on it which were subsequently determined to be those worn by the Lindbergh baby on the night of the kidnapping.

Certain physical and anatomical features were still sufficiently apparent to allow for Dr. Mitchell, the Mercer County physician; Colonel Lindbergh; nurse Betty Gow; and the child's physician to identify the body as that of Charles Augustus Lindbergh, Jr.

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On 19 Sept. 1934, two-and-one-half years later Bruno Richard Hauptmann was arrested in New York City for the crime.

Largely on the basis of the physical evidence Hauptmann was tried, convicted, and sentenced to die in the electric chair at the conclusion of his trial on 13 Feb. 1935 in Flemington, NJ.

The next year on 3 April 1936, nearly four years to the day that the ransom had been paid and still claiming to be innocent of the crime, he was executed at the Trenton State Prison—his remains cremated in the same facility that had been used to cremate the body of the child found in the woods by William Allen.

### Discussion

Before the arrest of Bruno Richard Hauptmann the physical evidence exclusive of the kidnap and ransom notes and passed ransom money consisted of the homemade ladder left at the Lindbergh estate; the 19.05-mm ( $\frac{3}{4}$ -in. wood chisel found on the ground beneath the nursery window; several footwear impressions in the soft, damp soil adjacent to the house; a "Dr. Denton" sleeping suit sent to the Lindberghs 15 days after the child's disappearance; the clothing on the body of the child found in the nearby woods together with such bodily materials as hair, finger and toenails; and a burlap bag located a few feet away from the body.

As for the matter of the identity of the body of the child found on 12 May 1932 one must consider the criminalistics evidence since the extremities of the corpse were either missing or were unsuitable for finger or footprint comparisons. At his age of 20 months, no dental X-rays had been taken of the child although today one should recognize that objects that are known to have been chewed upon by an individual might bear impressions suitable for comparison with casts of the teeth from any body recovered later.

A comparison of the blond head hair from the body with strands from a lock of the Lindbergh child's hair cut a week or so before his disappearance revealed the two specimens to have comparable microscopic characteristics. While it is recognized that hair comparisons can seldom lead to a definitive statement of common origin, the correspondence in microscopic characteristics of the known and questioned hairs was re-affirmed in 1977 by the New Jersey State Police Laboratory. Similar hairs were also recovered from the burlap bag which had not been previously examined. This finding would indicate that the child was transported in this bag.

The similarities between the hairs, certain physical and anatomical features visible in the body, the size and approximate age of the body, and its proximity to the crime scene should satisfy most individuals that this was the body of Charles Augustus Lindbergh, Jr. Any lingering doubts however should be dispelled by an examination of the physical match between the handmade nightshirt removed from the body and the corresponding remnant obtained from the child's nurse Betty Gow. A physical match might be defined as the reassembly of two or more separated objects either through physical, optical, or photographic means which, because of the unique nature of the corresponding entities, allows one to conclude that the objects were one entity. The handmade nightshirt from the body of the child and the matching portion obtained from Betty Gow are still in the possession of the New Jersey State Police and were readily seen to have once been a single piece of cloth when examined by the author in January 1983.

In the first few weeks after the kidnaping, numerous people had offered to help solve the crime. One of them was Arthur Koehler, a wood identification specialist with the U.S. Department of Agriculture's Forest Products Laboratory in Madison, WI. Colonel Schwarzkopf of the New Jersey State Police who was directing the investigation took Koehler up on his offer and a short time thereafter sent Koehler specimens of the various rungs, rails, and dowel pins in the kidnap ladder. Koehler promptly determined that four types of wood had been used in its construction. Little could be done with this information however and when nearly a year had passed with no suspect in custody it was realized that Koehler might be able to provide more information by examining the ladder itself. And indeed he did.

Since the ladder was homemade it was unique and possessed an individuality that stood to be associated with its maker if he could be located. It had been constructed in three sections, each fitting inside the other for easier transportation. Assembly of the extended sections was accomplished by the insertion of birch dowel rods through corresponding holes drilled in the side rails. The soft ponderosa pine rungs of the ladder showed no detectable signs of wear which indicated that it had seen no previous usage. One could conclude that it was made for this particular task. One of the rails in the ladder (to become known as Rail 16) had been narrowed down from a wider board as was evidenced by handsaw marks and planing marks along its edges. Rail 16 had also served some prior purpose as it was found to possess four old-fashioned square nail holes in it that were not associated with the construction of the ladder itself. Furthermore these nail holes lacked any evidence of rust around them. Noting that Rail 16 also lacked any evidence of weathering, he concluded that its former service had been in a location protected from the elements. A rather dull hand plane had been used to plane the edges of Rail 16. Matching tool marks were found on the edges of some of the ponderosa pine rungs. This finding on two different kinds and sizes of wood pieces in the ladder meant that it was very likely that these planing marks arose during the building of the ladder itself rather than from some milling process. Although the cutting edge on the responsible tool could be expected to change with continued usage, other pieces of work from the same period of time fashioned by the suspect or, more correctly, his plane should be sought.

Unlike Rail 16, which had been hand finished, the two bottom pine rails had been dressed on a planer having eight blades in the rotary cutter heads that dressed the flat surfaces of the boards and six blades in the rotary cutter that dressed the edges. These boards had gone through the milling operation at a rate of 23.6 mm (0.93 in.) per revolution of the top and bottom planer head and 21.8 mm (0.86 in.) per revolution for the edge planers. It was from this observation and the contacting of over 1500 lumber mills that the Dorn mill in McCormick, SC was ultimately found to be the source of these boards and that lumber of this batch had been shipped to the National Lumber and Millwork Co. in the Bronx, NY on 1 Dec. 1931 some of which according to records of the company was believed to have been purchased by Hauptmann on 29 Dec. 1931.

Koehler also examined the 19.05-mm ( $\frac{3}{4}$ -in.) wood chisel and subsequently determined that it had been made approximately 40 years before this crime. The value of finding any companion chisels in the possession of any suspects would be enhanced by the evidence chisel's age.

In April of 1933 President Roosevelt ordered the turning in of all gold certificates. Approximately two thirds of the ransom money was in the form of gold certificates and a list of the serial numbers of all of these bills had been printed and circulated to the banks. By 15 Sept. 1934 when the driver of a 1930 Dodge sedan bearing New York plate 4U-13-41 gave gas station attendant Walter Lyle a \$10 gold note, serial number A73976634A, for 98¢ worth of gasoline, he recorded the plate number on the margin of the bill in the event the bank refused to exchange it. On 18 Sept. 1934 the bank where Walter Lyle turned in his weekend's earning reported the finding of this ransom bill to the authorities. Once they verified the penciled inscription in the bill's margin as a license plate number, they quickly determined that this plate was registered to Richard Hauptmann, a carpenter who lived at 1279 E. 222nd St., the Bronx.

Hauptmann was arrested the following day and found to have another one of the ransom bills in his wallet. A subsequent search of his garage revealed \$14 560 of the ransom money hidden in a 3.8-L (1-gal) shellac can and a drilled-out board from the garage wall.

From a criminalistics viewpoint the real finds came later when a scrap of wood was found in Hauptmann's garage which Koehler subsequently showed bore the same striated tool marks as were on various parts of the kidnap ladder. Hauptmann's hand plane was also seized and later shown by Koehler to produce the same pattern of tool marks. That no detectable change had taken place in its blade seemed so unlikely; further investigation would reveal that Hauptmann quit his job the day the ransom was paid and had not worked as a carpenter since that time. The actual court exhibit is presently in storage at the New Jersey State Police

(NJSP) facility at West Trenton showing the excellent correspondence of the tool marks on Rail 16, Rungs 8 and 10 of the kidnap ladder, and the comparison specimens.

Finally came the greatest discovery of all. In searching the attic of the Hauptmann residence it was noticed that one of the attic floor boards along one side of the partially laid floor had been sawed off and a section removed as evidenced by a small amount of sawdust below the severed end, a small saw cut in an adjoining board, and four square nail holes in the joists where the now missing section of flooring had once been.

Koehler found that Rail 16 could be positioned on the joists in such a way that square nails of the size and shape as those used the rest of the attic flooring would pass through Rail 16 and on into corresponding holes in the joists. Furthermore, although a gap of approximately 34 mm ( $1\frac{3}{8}$  in.) existed between the repositioned Rail 16 and the cutoff floor board he was able to establish a physical match between the two boards on the basis of the surface grain pattern and through the annual growth ring patterns on the end views of the two boards. These trial exhibits as well as the actual pieces of wood (Rail 16 and the attic board) were examined at the NJSP facility by the author.

Although clearly of lesser importance, it deserves mentioning that the search of Hauptmann's toolbox revealed a like Buck brand chisel in 6.35-mm ( $\frac{1}{4}$ -in.) blade width but with the same brand imprint, white beechwood handle grooved in the same fashion as the chisel found at the scene and possessing the same style of brass ferrule.

### **Summary**

Only the major criminalistics evidence exclusive of the questioned documents material was addressed in this presentation. The actual techniques employed in effecting the various comparisons and the methods used in presenting the findings to the Hunterdon County jury that ultimately heard the case were beyond the scope of this review. Likewise the conduct of the trial must be left to others.

As for the investigation itself, there were oversights made, opportunities missed, and evidence lost or not acted upon. No doubt some of these same errors will continue to be made. Today we would perform more sophisticated analyses on the hair, use improved methods for latent print development and trace evidence analysis, properly document and preserve the footwear evidence, and use improved techniques for illustrating the correspondence between the attic board and Rail 16 and the matching tool marks produced by Hauptmann's wood plane and found on various portions of the kidnap ladder. The end result however would be the same.

### **Conclusion**

The physical evidence available in 1935 as well as certain additional tests and re-examinations carried out by the New Jersey State Police Forensic Laboratory in 1977 fully support the proposition that Bruno Richard Hauptmann was connected with the ladder used in the crime. he was in possession of a substantial amount of the ransom money, he was known to have spent some of the ransom money and has been repeatedly identified as the author of the ransom correspondence.

The major forensic science question that will probably never be answered in this case is how, when, and where the child met his death. Clearly the body of the child found in the woods a few miles from the Lindbergh estate 72 days later was not subjected to a complete autopsy. Surviving physical features and, in particular, the unique nature of the clothing on the body place the contention that this is not the body of the Lindbergh baby outside the realm of reason.

Every possible question can no more be answered today than it could at the time this trial took place. Some speculation can never be resolved to the satisfaction of all.

However, with the preservation of the bulk of the physical and documentary evidence in this case and its accessibility made possible by New Jersey Governor Brendan Byrne's 1981 executive order, almost any plausible hypothesis that one cares to put forward should be capable of evaluation by the serious researcher.

With its 90 000+ documents, photographs, and exhibits, this case must stand as the most exhaustively documented cases of that era—perhaps even of today.

### *Acknowledgments*

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