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National Criminal Justice Reference Service

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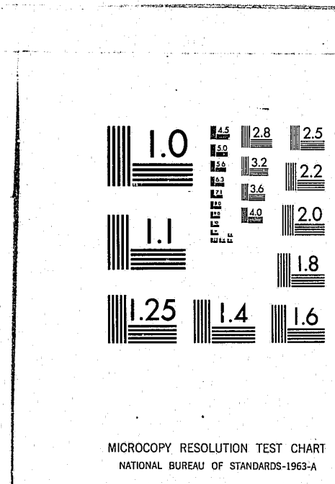
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FBI LAW ENFORCEMENT BULLETIN

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Federal Bureau of Investigation
United States Department of Justice
Washington, D.C. 20535

William H. Webster, Director

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Threat Analysis
The Psycholinguistic Approach

By MURRAY S. MIRON, Ph.D. and JOHN E. DOUGLAS

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On the night of March 1, 1932, the infant son of Col. Charles A. Lindbergh was taken from his crib in his parents' Hopewell, N.J., home. A note left by the abductor was discovered on the windowsill of the baby's nursery. It read:

Dear Sir

Have 50000$ ready 25000$ in 20$ bills 15000$ in 10$ bills and 10000$ in 5$ bills. After 2-4 days we will inform you were to deliver the mony. We warn you for making anyding public or for notify the police. The child is in gut care. Instruction for the letters are singnature.

This note was one of several sent to the Lindberghs. Errors in spelling and syntax occurred repeatedly in the notes, and these errors, running like links from one letter to another, said more than the writer could have intended. Their author often correctly spelled such difficult words as "hazardous" in other messages, while misspelling such words as "mony," "anyding," and "singnature." The phrasing of these messages and the errors clearly indicated that their author had been born in Germany and that he could be expected to have retained a heavy German accent. His message even contains the German word "gut" for its English equivalent "good" and the German pronunciation for "anything." Although such clues might have helped to narrow the search for this infamous perpetrator, his apprehension was the result of an alert bank teller's identification of one of the ransom bills deposited by Bruno Richard Hauptmann. A German-born, illegal alien, Hauptmann had an eighth grade education and a history of skirmishes with the law.

Three months later, the baby's body, bearing an extensive skull fracture, was found in a makeshift grave some 5½ miles from the scene of the kidnaping.

The Lindbergh case marked the informal initiation of what today has become a sophisticated modern tool of law enforcement—psycholinguistic analysis.

During the last 6 years, a psycholinguistic research program, under the direction of Dr. Murray S. Miron of Syracuse University and in collaboration with the Behavioral Sciences Unit of the FBI Academy, has been tested and developed into a set of techniques which can be directly applied to the management of threat analysis. This psycholinguistic program is one instance in which an academic science has found widespread application in the demanding circumstances of the criminal world.

Combining the best of both psychology and linguistic disciplines, psycholinguistic techniques provide an understanding of those who use criminal coercion, as well as a rational management strategy, for dealing with such a threat. Psycholinguistics was originally developed as a research tool, but the research has progressed to the point where the techniques are now being used in a wide range of criminal investigations.

These new techniques have already proven effective. Concentrating on the evidence which can be obtained from the form and content of the message, whether spoken or written, the psycholinguistic technique microscopically examines the message for clues as to the origins, background, and psychology of the originator. Every sentence, phrase, syllable, word, pause, and comma is automatically scanned by computer for what they can reveal about the author. These messages can also establish the author's identity by comparisons with other messages whose authors are known.

"Combining the best of both psychology and linguistic disciplines, psycholinguistic techniques provide an understanding of those who use criminal coercion. . . ."

Evaluation of the Method

Judge William H. Webster, Director of the FBI, referred in a recent speech to psycholinguistics as a valuable tool in criminal investigations. The congressional hearings on terrorist activities record testimony on these methods as a major tool in combating modern terrorism. The Honorable Richard Ichord, Representative from Missouri and Chairman of the House Committee on Internal Security, speaking on behalf of the committee said, "It has become very evident from the testimony received . . . that terrorism is a growing international problem and that our complex industrial society is becoming more and more vulnerable to its many manifestations." [1] Mr. Richard Velde, then Deputy Director of the Law Enforcement Assistance Administration (LEAA), also testified before that committee.

". . . we are now contemplating a number of additional initiatives which would enhance our ability to assist in international efforts to reduce terrorism. I would like to briefly describe for the committee some of these initiatives now under consideration.

". . . Prof. Murray S. Miron, prof. of psycholinguistics at Syracuse University, [has initiated a] project entitled 'Semantic Analyses of Threat Communications,' [which] would seek to achieve an understanding of the personality of those individuals who employ threats of violence or property damage as the central part of their criminal behavior.

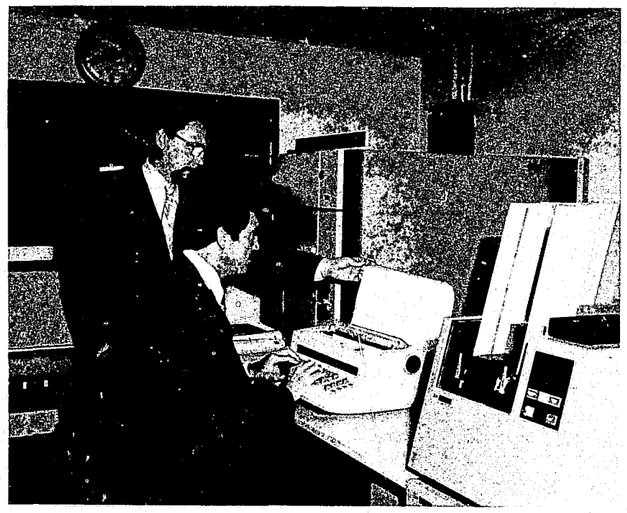
"Threats and subsequent behavior would be studied to form the basis for a threat analysis dictionary. Such a dictionary could be used to automatically scan threat communications as they are received in an attempt to identify the predicted outcome and courses of action contained within the threat.

"As a result, police responsiveness to particular threatening communications could be improved markedly. And we do have some experience, Mr. Chairman, with this technique to indicate that there is a good likelihood of success."

* * *

"We feel that this discipline can be of major value in these types of situations." [2]

Dr. Miron (standing) and Special Agent Douglas read computer printout on a threat message.



Since the time of these hearings, terrorism has dramatically increased in the world. The prophecy of these hearings has proven to be correct. The research effort in psycholinguistics was implemented; now more than 4 years later, with funding from LEAA, the methods are being used in case after case.

The Threat Dictionary

When a threatening message is received, it is entered into the computer by means of a terminal keyboard. The computer then scans the message in an attempt to identify every word of the communication. Each word's occurrence is assigned to a set of categories which research has identified as important in the characterization of the threat. These categories represent the word entries of a dictionary. Under each category of the dictionary there are a large number of words which contribute to that category's definition. The computer also serves to separate word meanings which may be represented by the same spelling in a text, and tabulates occurrences of such things as punctuation, speech hesitancies, misspellings, sentence constructions, and other aspects of the message. All of these tabulations are printed out and form a profile of the message.

Over the years, the threat dictionary has continued to grow in size and comprehensiveness. Today, there are more than 350 categories representing more than 250,000 words. Both the categories and the words contained in the dictionary are the result of analyzing the wide range of threats gathered in the course of the research. These threats span from suicide notes to terrorist communications, from clear instances of hoaxes to threats which have been carried out.

The computer also stores summaries of over 15 million words gathered from analyses of ordinary spoken and written English. These files are used to compare a message against the usual forms of spoken or written English. Unusual usages or word occurrences which differ from these stored files are flagged by the computer for closer examination. These files of ordinary language are also used to evaluate samples of speech or writing in cases where the origins of two or more communications are in dispute. By weighing the vocabulary usages of an author or speaker against the usages employed by the average speaker, one can derive a set of "signature" words which are unique to the individual and which can be expected to match across differing communications.

". . . the psycholinguistic technique . . . examines the [threat] message for clues as to the origins, background, and psychology of the originator."

Case Examples

The following actual case analysis is representative of the sort of information that psycholinguistic techniques can provide. Prepared from communications received from an unidentified subject (UNSUB) who threatened a flight from New York to Geneva, Switzerland, Dr. Miron drew several conclusions. On the basis of psycholinguistic analyses, he judged that the UNSUB was a German-born male of at least 50 years of age who had immigrated to the United States as an adult and had resided in this country for at least 20 years. Further, the analyses indicated that the UNSUB had probably written previous messages to prominent officials in both the United States and Germany. Perhaps most revealing was the conclusion that the perpetrator's personality compelled him to leave clues as to his identity in the message itself. At the conclusion of the extortion message, there was a series of three-digit code numbers which seemed to correspond to the fictitious name of the group UNSUB claimed he directed. The following code appeared at the end of the message:

Sig: 604 247 945 305 734 430 915 837 907 Reciprocal Relief Alliance for Peace, Justice and Freedom Everywhere.

Each of the nine code groups appears to correspond to the nine words of the group name. No words are duplicated in the group name or in the three-digit code groups.

However, if the code groups are rearranged so that each group is written as a column of numbers, the code would look as follows:

6 2 9 3 7 4 9 8 9
0 4 4 0 3 3 1 3 0
4 7 5 5 4 0 5 7 7

When arranged in this way, the first three code numbers, 6 2 9, correspond to the alphabet letters of FBI. Using a standard coding device which employs a displacement key for the remaining text, the next code groups translate as "IM" followed by two initials repeated twice. Together the translation would read "FBI, I'm JK JK." A search of the names of the passengers on the flight revealed that one of the travelers matched the profile description and part of the initials of the deciphered code. Search of the records revealed that this passenger had written and signed his name to a series of similar messages written in 1969. Subsequent psycholinguistic comparisons established that these earlier messages were written by the same suspect. After this identification, the psycholinguistic tools were then used to suggest methods for conducting the interview with the suspect. Using the clues gleaned from the messages as to the personality of the suspect, specific stratagems for approaching him were devised. These involved predictions as to how the subject would react, and whether or nor he might contemplate suicide or escape.

A member of the Royal Canadian Mounted Police, in evaluating another case involving messages from a terrorist group, said, "There can be no doubt that Dr. Miron's analysis of the threat

communications has been of great value to us. His opinions have helped to resolve certain confusing aspects of the investigation, but most significantly, his analysis assisted us in successfully resolving this case. To my knowledge, the service of a psycholinguistic analyst has not previously been used in Canada and, therefore, this case has been of national significance."

In still another case involving analyses for the Los Angeles, Calif., Police Department, the department reported after identification of the suspect, "The information you supplied narrowed the field to five choices out of 7,000 men." The writer concluded with a personal observation: If he were to leave a threat message he hoped that it would not be analyzed by such techniques.

This case involved a series of television appearances by a masked man who claimed to be a member of the Los Angeles Police Department (LAPD). In his interview, this "Masked Marvel," as he came to be called, reported that he knew of "death squads" on the force who assassinated minority citizens. The LAPD was understandably quite anxious to identify this purported member of their force. The psycholinguistic analyses of the sound track of these interviews not only narrowed the search for members of the LAPD (it was not originally certain that he was an officer at all), but described the Masked Marvel in sufficient detail to narrow the suspects to 5 members of the 7,000-man force. Based only on the speech of this man, the report was able to identify his place of birth, age, education, background, and location of residence over the last 5 years, in addition to those purely psychological factors which motivated him. Some 2 years following these television appearances, the Masked Marvel resigned from the Los Angeles police force and revealed he had been the man who fabricated the exposé.[3]

Another case assisted by psycholinguistics concerned an extortionist calling himself B. A. Fox, who threatened more than 250 major corporations and their executives with letter bombs, adulteration of products, assassination, and even infected ticks. The psycholinguistic analyses helped to provide identification of the suspect, as well as grand jury testimony leading to his indictment.

"The psycholinguistic analyses of the sound track . . . described the Masked Marvel in sufficient detail to narrow the suspects to 5 members of the 7,000-man force."

The suspect was first identified by an investigation which had been narrowed to a specific region of the country and a probable description of the perpetrator on the basis of the psycholinguistic profile and other physical evidence. After a number of suspects had been identified in this manner, the psycholinguistic analyses were then able to compare the known writing of these individuals against the anonymous extortion messages. As a result of those analyses, one individual emerged as a prime suspect. This evidence presented before a grand jury was sufficient to result in an indictment. At the time of the suspect's trial, there was no precedent for the admissibility of psycholinguistic testimony. Never before had a jury heard testimony which identified a suspect on the basis of such analyses.

Legal Status

The U.S. Attorney's Office had on other occasions contemplated using such testimony, but in each instance the suspect had either pleaded guilty or other case evidence was sufficient to secure a conviction. In the Fox case, the District Court of Colorado ruled against allowing the jury to hear Dr. Miron's testimony on the grounds that there had been no precedent for such testimony. Although the court's ruling conceded that such analyses could be of assistance in an investigation, it was reluctant to establish a precedent in criminal law. The court stressed its acceptance of the qualifications of the government's psycholinguistic expert, but voiced its discomfort over the possibility of the computer invading the court and of modifying what it characterized as the established procedures of criminal law. The court said:

"Now, I agree or I would concede that this science can be helpful in an investigative procedure. I think you can ferret out things through this method, all right, but when you come to determining the guilt or innocence of a person charged with crime on this type of testimony, if it is the only type of testimony that's available, it is tragic if in fact there is guilt but I wouldn't feel comfortable . . . in presiding over a trial where a man was found guilty solely on this type of evidence.

"I don't think we need a judge. We just punch it up and the computer comes out and he is guilty. That's the way he is going to arrive at his decision, a computer takes the whole human element out of it, it seem to me.

"Well, I just can't feel comfortable in permitting it." [4]

The U.S. Attorney's Office moved for dismissal of the case after this ruling on the grounds that the government did not have a case without Dr. Miron's testimony.

In a subsequent case, only 11 months later, the Federal precedent for psycholinguistic testimony was to be established. A member of a murder-for-hire ring had been indicted for extortion by the government on the basis of incontrovertible physical evidence of the suspect's complicity in the crime. There were a total of four extortion messages, each representing separate counts in the indictment of the suspect.

Three of these messages were handwritten and one was typewritten. The FBI Laboratory had confirmed that the three handwritten messages were produced by the same individual and had succeeded in matching a fingerprint lifted from one of these messages with that of the suspect. The psycholinguistic analyses had indicated that all four messages were authored by the same person. The judge in this case ruled that the jury would be allowed to hear the testimony of Dr. Miron which linked the fourth letter to the same source as the other three. The jury returned a verdict of guilty on all four counts of the indictment.[5]

The Hearst Case

Perhaps the most dramatic application of psycholinguistic methods was in connection with the Patricia Hearst case.

Soon after the first of the tape recordings sent by the Symbionese Liberation Army had been received by the authorities, Dr. Miron prepared a series of reports for the FBI. He described the individual calling himself "Cinque" as one who fit the known background of Donald DeFreeze. Perhaps more important, these reports predicted that Patricia Hearst would join the SLA and commit some criminal acts with them. The analyses further indicated that DeFreeze and his followers were suicidal and that they would undoubtedly die in a final shootout with the authorities rather than surrender.

Summary

These case examples represent a fraction of the past applications of the method. Admittedly, this technique is in the developmental stage and its adaptability to criminal investigative matters remains limited in scope. With additional research, experimentation, and refinement, psycholinguistics may well take its place among the more established means of crime detection. **FBI**

Footnotes

[1] U.S. Congress, House Committee on Internal Security. *Terrorism Hearings before a Subcommittee of the House Committee on Internal Security,* 93d Cong. 2d sess. 1974.

[2] Ibid.

[3] "Who Was That Masked Cop," *New West,* September 25, 1978.

[4] *United States* v. *Stephan G. Morton,* U.S. District Court for the District of Colorado, 77-CR-211, September 6, 1977.

[5] *United States* v. *Gene Willard Gaylord,* U.S. District Court for the Western District of Virginia, 78-0014-R-H, May 4, 1978.

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"You Can't Tell a Book . . ."

The hollow book pictured here is being produced commercially and advertised in newspapers as a "home defense book" which will accommodate snubnose revolvers as well as small automatic pistols.

It can be purchased by mail order and reportedly cannot be distinguished "from an ordinary book." Various realistic titles are available.

Police personnel should be aware of this product and its possible illicit uses. **FBI**

END