

# Technical Experts on Tapes

By Fred Barbash

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On Nov. 21, 1973, White House lawyers J. Fred Buzhardt, Leonard Garment and Douglas M. Parker entered the privacy of Judge John J. Sirica's chambers to seal an agreement.

"Your Honor," the President's lawyers heard Assistant Special Watergate Prosecutor Carl Feldbaum say, the White House and the special prosecutor "are in agreement that these men represent the best that the various disciplines that are involved in the tape testing have to offer."

The men referred to by Feldbaum were the six tape recording experts who later made front page headlines by reporting back to Judge Sirica that an 18½-minute obliteration of a taped White House conversation between President Nixon and H. R. Haldeman on June 20, 1972, just three days after the Watergate gate break-in, was caused by several manual operations of a tape recorder. From all appearances, the panel later indicated, the tape erasure could not have been an accident, as suggested by the White House.

"I think I'm going to talk to my own expert," President Nixon's chief lawyer, James D. St. Clair, responded after the 18½-minute gap report was made. And within five days, St. Clair had hired his own tape expert, Michael Hecker of the Stanford Research Institute.

There then followed a series of White House challenges of the findings of the court's tape experts and, by implication, challenges of the experts themselves, until these six men, their selection and their qualifications for the task became a separate new issue in the Watergate affair.

The six tape experts are part of a small, professionally tightly knit group of scholars and practitioners who have spent their ca-

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reers studying sound—its nature, transmittal and reception. They have studied at the same universities, attended the same conventions, worked for many of the same companies and collaborated on research papers.

Four of the six, as well as St. Clair's expert, Dr. Hecker, have ties to the Massachusetts Institute of Technology, described by speech specialist and former White House science adviser Edward E. David as "the womb of some of the finest acousticians in the country." The movement of these experts from post to post makes them prime examples of the growing intermingling of government, industry and university expertise in recent years.

The six experts selected for Judge Sirica were:

**RICHARD HENRY BOLT**, 62, chairman of the board of Bolt, Beranek and Newman, a Cambridge-based acoustics, computer and architectural consulting firm that does both government and private work. He is a former professor of acoustics and director of the acoustics laboratory at MIT, a physics Ph.D., and is regarded as an expert in the use of computers to determine the origin of sounds. "He is one of those people with a broad range of experience, probably the widest grasp of all" of the six tapes panel members, said Edgar A.G. Shaw,

president of the Acoustical Society of America, of which Bolt is a past president.

**JAMES L. FLANAGAN**, 46, head of the Acoustics Research Department at the Bell Telephone Laboratories in Murray Hill, N.J. His Ph.D. in electrical engineering from MIT. Flanagan has published 90 technical papers in speech and its analysis and holds 30 U.S. patents. He is capable, using sophisticated computers at Bell, "of reconstructing the movement of your mouth" based on the sounds coming out, said Barry Blesser, an MIT scientist. "It's not too big a jump to reconstruct the movements from a tape." According to Dr. David, former science adviser to President Nixon, who hired Flanagan at Bell Labs in the 50s, Flanagan has "extensive experience with tapes and tape recorders."

**FRANKLIN COOPER**, 65, president and engineering director of Haskins Laboratories in New Haven, a private nonprofit lab that, among other things, specializes in studying how people produce speech. Cooper is regarded as an expert in the use of sound spectrographs, instruments can pinpoint tape splicings by analyzing sounds from a magnetic tape. Cooper holds a Ph.D. in physics from MIT, where he worked in Bolt's acoustics lab. He has worked for the General Electric Co., served as a consultant to the Pentagon and managed the interchange of civilian war re-



Recording tape technical experts gather outside U.S. District Court. From left, Mark R. Weiss, Richard H. Bolt, Franklin Cooper, James L. Stockham and John G. McKnight. Waving at far right is unidentified United States marshal.

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search among the Allies during World War II.

JOHN G. (Jay) McKNIGHT, 46, vice president of Magnetic Reference Laboratory in Palo Alto, Calif. This firm specializes in tapes and tape recorders and markets test tapes containing especially designed signals used by professionals to make adjustments in tape recorder. He also is a consultant to Scully-Metrotech, a division of Dictaphone, where he specializes in the development of voice logging machines, which are recorders used by police and fire departments to preserve incoming phone calls. He holds a bachelor's degree in electrical engineering from Stanford and has written about 35 technical papers. "He is one of the most prominent tape recorder people in the United States," said Barry Blesser of MIT, and was involved in generating tape recorder standards for the country."

THOMAS G. STOCKHAM, 40, professor of computer science at the University of Utah, where he is best known for developing methods to restore old Enrico Caruso recordings. His specialty is removing extraneous background noises from a recording and rendering it clear and intelligible. Stockham holds a doctorate in electrical engineering from MIT and has received two major professional awards for his work.

MARK R. WEISS, 45, vice president for acoustics research of the Federal Scientific Corporation in New York, a firm known for developing and using complex instruments to break down a sound into its component parts for analysis. Weiss is regarded as expert in the use of techniques for reducing background noise and interference on speech recordings to increase intelligibility.

When DR. DAVID, science adviser to President Nixon until last year and a man who sources say helped the White House make its selections for the panel of six experts, said that altogether the six men "are among the most reputable and outstanding people that you could gather together for the job."

Barry Blesser, the MIT professor who assisted the Watergate special prosecutor in selecting its nominees for the panel, said he "cannot think of anyone in the field that could come up against that panel."

"They are not closet intellectuals, but represent a spectrum from audio engineering, record-cutting and academic life. "They are a very top-notch committee in terms of breadth, depth and awareness of all kinds of issues."

Neither the White House nor the special prosecutor's office would answer questions about how the panel of six experts was chosen. But two members of the panel members and a number of specialists who participated in the search for panel members were interviewed.

One panel member, Franklin Cooper, said he believed that both sides were looking for a panel that would "cover a range of expertise and not all of them to be experts in each particular area."

The responsibility of the panel was to examine the authenticity and integrity of seven Watergate-related tapes that the White House had been ordered to turn over to the special prosecutor. (Two other subpoenaed tapes, the White House reported, did not exist.)

The search for the experts began at the beginning of November, after the White House agreed to turn over

the tapes, and ended when the panel was assembled for the first time on Nov. 18. The White House and the special prosecutor's office each con-

sulted their own experts for recommendations.

A source who participated in the search said the White House consulted Dr. David

and Dr. William O. Baker, president of the Bell Telephone Laboratories in New Jersey. When asked if he was consulted, Dr. David

said "I believe I'd better not comment on that." Dr. Baker, through his secretary, declined all comment. David, a former Bell Labs

executive who hired panel member Flanagan at Bell, is himself a recognized expert in speech analysis and recently collaborated with panel members Bolt and Cooper on a study of the reliability of voice prints for legal purposes. Baker, who has been described as an unofficial science adviser to the president, runs what is regarded as one of the country's pre-eminent sound analysis laboratories at Bell.

Carl Feldbaum, of the special prosecutor's office, contacted Blesser at MIT, and Stephen F. Temmer, head of the Gotham Audio Corporation in New York, who has been experimenting with and researching tape recorders since they first appeared in the United States.

Temmer had volunteered his services to the prosecutors, he said, after White House aide Alexander Butterfield revealed the tapes' existence last summer in testimony before the Senate Watergate committee. Temmer said he acted as a tapes consultant to the prosecutors before the search for the panel began.

Because of the scarcity of experts—some say there are as few as 20 who could have done the job—many of the names recommended by these consultants to both sides were the same.

"Invariably the same names kept coming up," said Blesser. "What they observed was that a lot of these names began to con-

verge on a very few select people." The process was thus made easier, and by the second week in November calls were going out to prospective panel members.

"I was in Washington at a linguistics meeting," Cooper recalled, "and got a call from my secretary. She said, 'now you won't believe this, but I've just had a call from the special prosecutor's office. They said you know we had a problem with the tapes.'"

"When I was first contacted (Nov. 13)," said McKnight, "I thought, Gee, that might be an interesting thing to look at. When we were first contacted we knew precious little about it."

None of the specialists interviewed said they knew of anyone who turned down the request or who was unilaterally rejected by either side.

Cooper, reflecting similar statements made in court by Bolt, said he took the assignment in part "because the task was one of serving the court and not of serving either side of the controversy. I would not have taken it if it was for one side.

Another reason for accepting, he said, was what he called his "moral responsibility. How can you turn down a responsibility like that?"

By Nov. 18, the panel was complete. All the men were

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summoned to Washington where they met that day in the Executive Office Building in the presence of lawyers from the White House and the special prosecutor's office.

Despite the momentous occasion, there were no ceremonies or solemn opening remarks, Cooper recalled. Nor did the lawyers for either side question the experts about their qualifications or political affiliations. "That surprised me," Cooper said.

The meeting was "Pretty low key," he said. "The problem was laid out: what could be done to look at the integrity and authenticity of the recordings?"

The men worked well into that evening, and by Monday, Nov. 21, produced a memorandum outlining their approach. That was presented to Judge Sirica on Nov. 21 during the meeting where the lawyers from both sides agreed on the panel's membership.

By the end of November, the panel members were on their way to New York for the first lab tests at Weiss' Federal Scientific Corporation. Accompanying them was the June 20 tape, protected by a magnetic field-proof steel box, Rose Mary Woods' typewriter and lamp and six armed guards. During the next two months, they put in hundreds of man-hours, crisscrossing the country from lab to lab, a process that is expected to continue as other tapes are examined.

It was shortly before the Jan. 15 report on the 18½ minute gap—but some weeks after an inkling of ex-

perts' findings were revealed publicly in a preliminary report to the court — that St. Clair apparently began his own search for another expert.

Dr. Kenneth Stevens, a professor of electrical engineering at MIT (who collaborated with David, Bolt and Cooper on the voiceprint study) said that St. Clair called him a few days before the 18½-minute gap report and "asked if I would work with his side."

"I declined," Stevens said. "I knew most of the members of the panel and they were pretty competent. Also I felt I had a bit of a conflict-of-interest since I do consulting work for the firm of Bolt, Beranek and Newman."

The White House then apparently contacted Dr. Hecker, a former student of Stevens at MIT and a Stanford Research Institute engineer specializing in speech and hearing sciences.

In a statement issued Feb. 26, the Stanford institute (not connected with Stanford University) said it had been retained by the White House five days after the panel's presentation "to conduct experimental work and provide consultations on the White House tape recordings."

The battle of the experts actually began the day the 18½-minute report was presented and threshed out in a private session with Judge Sirica on Jan. 18. The transcript of that closed meeting has since been unsealed.

Bolt complained in that meeting of St. Clair's comment that he would get his "own expert," suggesting he believed this was counter to the agreement.

"I cannot and will not stop counsel for the White House or the special prosecutor from consulting other experts in the field to get their advice," Sirica answered.

"But the attorneys cannot allege or state that the panel is working for or is the property of either side," Sirica added. "The court appointed the panel upon the recommendations of the attorneys on both sides."

St. Clair assured the judge that he did not intend to call another expert as a witness. "I am not going to call an expert," he said. "These gentlemen are appointed by the court. They are the experts."

Yet throughout the court testimony on the panel's findings concerning the 18½-minute gap, both St. Clair and Charles Rhyne, Mss Wood's lawyer made it appear that they were aware of another tape expert's theory that ran counter to the panel's findings.

St. Clair then stated that theory in an out-of-court statement Feb. 17. A wholly independent "technical investigation," he said, had determined that the gap "could well have been and probably was caused" by a defect in Rose Mary Wood's tape recorder.

The source of that theory, which has since been widely reported in Science Magazine and in the columns of Joseph Alsop, appears to have been Allan D. Bell Jr., a retired army lieutenant colonel who runs Dektor Counter-intelligence and Security in Springfield, Va. Bell told a reporter he had volunteered his services in a letter to Judge Sirica "when

the tapes were first discovered. It was never followed up."

A Washington television station had brought Bell into the controversy, he said, by asking him to appear on a program to discuss the tapes issue.

Bell's firm specializes in what he called "the controversial psychological stress evaluator," which is a lie detector that uses the voice as a measure, and in debugging devices. The firm went to work armed largely with information on the tapes that had appeared in the press, Bell said.

Eventually, he decided that the gap could have been an accident. A defective part in Miss Wood's tape recorder could have caused a change in the electric current supply, which in turn, could have caused the erasures, according to Bell's theory.

In a recent interview, Bell augmented his biew by stating that at least a portion of the tape panel's findings were "impossible." The panel found indications that at least five, and possibly nine separate manual operations took place to cause the erasure.

Bell said at least two of those operations, according to his analysis using the information provided by the panel, happened too fast for the human hand.

Bell said he turned over his initial findings to Rhyne. The White House has stated, however, that Bell is not the source of St. Clair's counter-explanations.

Bell said his training comes largely from 20 years of military service concentrating in audio surveillance and counter-surveillance. In the Army, he said, one of his jobs was setting standards for tape recorder purchases.