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USE OF POLYGRAPHS AS "LIE DETECTORS"
BY THE FEDERAL GOVERNMENT

REPORT

BY THE

COMMITTEE ON GOVERNMENT
OPERATIONS

HOLD UNTIL RELEASE DATE
APPROVED BY FULL COMMITTEE
ON GOVERNMENT OPERATIONS



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LETTER OF TRANSMITTAL

HOUSE OF REPRESENTATIVES,
Washington, D.C., August —, 1964.

Hon. JOHN W. McCORMACK,
Speaker of the House of Representatives,
Washington, D.C.

DEAR MR. SPEAKER: By direction of the Committee on Government Operations, I submit herewith the committee's _____ report to the 88th Congress. The committee's report is based on a study made by its Foreign Operations and Government Information Subcommittee.

WILLIAM L. DAWSON, *Chairman.*

III

CONTENTS

	Page
I. Conclusions and recommendations.....	1
II. Scope and background.....	3
III. Introduction.....	8
IV. The "lie detector".....	10
A. Fallibility of the polygraph.....	11
B. Beating the polygraph.....	12
V. The polygraph operator.....	14
A. Selection of polygraph operators.....	14
B. Training of polygraph operators.....	14
VI. The polygraph test.....	16
A. Preemployment screening.....	16
B. Criminal matters.....	17
VII. The polygraph and the individual.....	18
A. Two-way mirrors and secret monitors.....	18
B. The polygraph "confession".....	19
C. "Voluntary" polygraph examinations.....	20
VIII. The galvanometer.....	21
A. The Post Office and the galvanometer.....	21
B. U.S. Army galvanometers in Vietnam.....	22
C. Bombs, baggage, and the FAA.....	22
IX. Research.....	23

APPENDIXES

I. Federal Government research and studies on the use of polygraphs..	27
II. Summary of Federal polygraph use.....	29
Table of agency replies.....	Faces p. 36
III. Defense Department memorandum pertaining to polygraphs.....	36
IV. Bibliography.....	37
V. Subcommittee authority.....	40

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AUGUST —, 1964.—Committed to the Committee of the Whole House on the
State of the Union and ordered to be printed

Mr. DAWSON, from the Committee on Government Operations,
submitted the following

REPORT

BASED ON A STUDY BY THE FOREIGN OPERATIONS AND
GOVERNMENT INFORMATION SUBCOMMITTEE

On August —, 1964, the Committee on Government Operations had before it for consideration a report entitled "Use of Polygraphs as 'Lie Detectors' by the Federal Government." Upon motion made and seconded, the report was approved and adopted as the report of the full committee. The chairman was directed to transmit a copy to the Speaker of the House.

I. CONCLUSIONS AND RECOMMENDATIONS

There is no "lie detector," neither machine nor human. People have been deceived by a myth that a metal box in the hands of an investigator can detect truth or falsehood.

The Federal Government has fostered this myth by spending millions of dollars on polygraph machines—the so-called "lie detection" devices—and on salaries for hundreds of Federal investigators to give thousands of polygraph examinations. Yet research completed so far has failed to prove that polygraph interrogation actually detects lies or determines guilt or innocence. While Federal investigators testified to their great faith in the polygraph technique, they admitted there are neither statistics nor facts to prove its value. Nevertheless, the Federal Government is going ahead with plans to extend the use of polygraphs and develop more complex interrogation devices.

The overwhelming majority of Federal investigators who operate polygraphs have neither the qualifications nor the training for their

work. Most Federal agencies have such weak controls over the use of polygraphs that these operators are permitted to give examinations without top level agency approval. Individuals under interrogation are persuaded to disclose past indiscretions, and investigators often ignore the so-called voluntary nature of the examination by noting in Government files any refusal to submit to the polygraph test. To these practices, two-way mirrors and hidden microphones are added in many Federal investigation chambers.

Federal investigators rely upon polygraph examinations for everything from top security investigations to minor pilfering cases. Thus, the polygraph examination has become a crutch, in too many cases replacing proven procedures of criminal investigation and serving as a weak link in our security system.

Although the committee is continuing its study of the Federal Government's use of polygraphs, immediate steps must be taken to correct the obvious defects and protect individuals from abuses. Because of the magnitude of the problem, establishment of the most stringent qualifications for polygraph operators will not assure their high moral standards nor will the strictest regulations guarantee the propriety of the polygraph technique.

The committee recommends that the Federal Government—

Initiate comprehensive research to determine the validity and reliability of polygraph examinations.

Prohibit the use of polygraphs in all but the most serious national security and criminal cases.

Improve the training and qualifications of Federal polygraph operators.

Restrict the use of two-way mirrors and recording devices during polygraph examinations.

Guarantee that polygraph examinations be, in fact, voluntary.

Insure that refusal to take a polygraph examination will not constitute prejudice or be made a part of an individual's records except in the most serious national security cases.

The committee further recommends that the President immediately establish an interagency committee to study problems posed by the Federal Government's use of polygraphs and to work out solutions to those problems.

II. SCOPE AND BACKGROUND

This is an interim report¹ on the Foreign Operations and Government Information Subcommittee's study of the Federal Government's use of the polygraph—a device inaccurately referred to as a "lie detector"—which has become a topic of increasing controversy in recent years. Serious questions have been raised both by public officials and private citizens regarding the reliability and propriety of the polygraph examination, including the machine, its operators, and the uses made of the information.

Problems posed by the Federal Government's use of the polygraph in important security matters became apparent in the investigation following the defection of Bernon F. Mitchell and William H. Martin, employees of the supersensitive National Security Agency. The two men had been cleared for access to highly secret material by the Agency's security procedures, including polygraph examinations. In spite of these security procedures, Mitchell and Martin defected to the Soviet Union. The House Committee on Un-American Activities investigated NSA security procedures following the defection. The committee found that, before the defectors were granted a final clearance on the basis of a full field investigation, they were granted an interim clearance for access to security material on the basis of a partial investigation including a polygraph examination. The committee's report concluded that such screening procedures "placed far too much importance on the polygraph as a means of determining the employee's security suitability * * *" (committee print, Aug. 13, 1962, p. 15). Public Law 88-290, signed March 26, 1964, prohibited NSA from granting employees access to sensitive cryptologic information without a full field investigation.

The use of the polygraph again came into question in the highly publicized double homicide case involving Airman Gerald M. Anderson, of Mountain Home Airbase, Idaho. In early April 1962, Anderson was taken into custody by Air Force investigators as the prime suspect in the brutal slaying of his neighbor and her infant son. During prolonged interrogation, Anderson underwent several polygraph examinations. Two of the tests, given on the same day, produced inconsistent results as described in the official Air Force summary of the case which was given to the Foreign Operations and Government Information Subcommittee on February 4, 1963. One was interpreted to show Anderson "had practiced deception when he denied any involvement" in the crime, but the other polygraph test indicated he "had no knowledge" of the missing murder weapon or its location. Anderson confessed to the double slaying on April 16 and was turned over to civil authorities. Shortly after signing, Anderson repudiated the confession; nevertheless, on the basis of it he was held in jail for 7 months awaiting trial.

On November 19, 1962, Theodore Dickie, an itinerant laborer who had admitted another killing, confessed to the murders for which Anderson was being held. Dickie was given a polygraph examination, and the examiner reported he was telling the truth when he confessed to the murders with which Anderson had been charged.

¹ This report does not fully cover the use of polygraphs for personnel screening by the Central Intelligence Agency, the National Security Agency, or other Federal agencies. Initial hearings on this subject were held with CIA representatives, and further hearings are to be held.

After connecting Dickie with the murder weapon, Idaho civilian authorities dismissed the charges against Anderson, and he was released to Air Force control on November 27. Air Force investigators still were in doubt. Feeling there was "too much evidence to be overlooked," including the "conclusion of the polygraph operator that Anderson had practiced deception" the airman was again charged with the murders and confined. Finally, following the military equivalent of grand jury hearings, the charges were dismissed on January 29, 1963, and Anderson was honorably discharged the next day at his request.

The polygraph came under fire again during the formal inquiry by the House Banking and Currency Committee into the disappearance of \$7.5 million in U.S. securities from the Federal Reserve bank in San Francisco. Citing testimony developed during hearings, the committee found that the Secret Service investigation of the missing funds was inadequate partially due to placing too much reliance on polygraph tests which had been administered by a private Chicago firm, John Reid & Associates (H. Rept. 354, 88th Cong., 1st sess., pp. 13-15 and hearings, exhibit 32, p. 507).

A case study pointing out the psychological problems of polygraph testing was reported in the American Journal of Psychiatry in May 1963.² During the course of a periodic polygraph testing program in a commercial bank, a young vice president was asked if he had ever "stolen any money from the bank or its customers." Although he replied "No," the machine registered a strong reaction which the polygraph operator interpreted to be a sign of lying. This information was turned over to the president of the bank and an exhaustive audit was ordered, but no shortages were discovered. When additional polygraph tests led the polygraph examiner to support his earlier conclusion, the young vice president—in desperation and because he had been convinced that he couldn't "fool the machine"—confessed to the "crime," giving details on how he must have done it. Because he was convinced of his employee's integrity and because the audit disclosed no losses, the president of the bank sent the young man to Dr. H. B. Dearman, former chief resident psychiatrist at the University of Virginia School of Medicine. Months of psychiatric examination disclosed that the young executive had unconscious hostilities toward his wife and mother, both of whom were customers of the bank. The key question: "Have you ever stolen money from the bank or its customers?" had invoked those hostilities and triggered the reaction detected by the polygraph. Dr. Dearman, co-author of the American Journal of Psychiatry article, concluded that emotional factors, unknown to the polygraph operator or to the person being tested, could significantly affect the test results; therefore, "the application of the polygraph technique as a lie detector is fraught with too many variables and sources of error for it to be used as it is currently being used in business and industry."

Controversy surrounding the polygraph broke out in the top levels of Government after the Washington Evening Star on March 21, 1963, published a story of a memorandum written by an unnamed Air Force officer that attributed abusive tactics to staff investigators of the Senate Permanent Investigations Subcommittee, then conducting hearings on the TFX airplane. Defense Secretary Robert McNamara

² Dearman, H. B., and Smith, B. M., "Unconscious Motivation and the Polygraph Test," American Journal of Psychiatry, May 1963 (hearings, p. 136).

maras asked Air Force Secretary Eugene M. Zuckert to find the source of the news leak, and Secretary Zuckert ordered Air Force Insp. Gen. W. H. Blanchard to carry out an investigation.

A few days later Arthur Sylvester, Assistant Secretary of Defense for Public Affairs, revealed that a number of high Defense officials, including himself, had been asked to take polygraph tests as part of General Blanchard's investigation. Sylvester said he had refused to take such a test "as a matter of principle." As a result of the public furor raised by Sylvester's disclosure, the plans to use "lie detectors" on top Government officials were dropped before any tests could be given.

The Presidential press conference held on April 3, 1963, opened with a question to President Kennedy asking how he felt about using "lie detectors" on men he had appointed to office, specifically those involved in the Pentagon news probe.

The President answered in part: "I think that it was a mistake to suggest a polygraph * * *. As a matter of fact, no polygraph was given."

In the days that immediately followed, the subject came in for widespread editorial comment in the Nation's press, and in Congress there were expressions of concern. In April 1963, Congressman William L. Dawson, chairman of the House Government Operations Committee, directed the Foreign Operations and Government Information Subcommittee to study the Federal Government's use of polygraphs. He acted at the request of Congressman Cornelius E. Gallagher, a member of the full committee.

No previous study of polygraph use in the Federal Government has ever been published by the Congress, by any agency of the executive branch, or by private researchers. Although some research had been done by Government agencies, the material was either classified as secret security information or was closely held by the agencies as internal documents (appendix I, p. 27). After an analysis of the available literature on the polygraph and after interviews with polygraph practitioners the subcommittee prepared a questionnaire which was sent to 58 Federal agencies. The subcommittee's questionnaire and letter transmitting it follow:

FOREIGN OPERATIONS AND GOVERNMENT
INFORMATION SUBCOMMITTEE,
COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C., June 11, 1963.

DEAR MR. ———: The Foreign Operations and Government Information Subcommittee, at the direction of House Government Operations Committee Chairman William L. Dawson, is looking into the use of polygraphs by Federal agencies. The survey is being undertaken in keeping with the committee's duty to study the operation of Government activities at all levels with a view to determining economy and efficiency.

In this connection, please furnish full and complete answers to each item in the enclosed questionnaire which is being sent to the heads of all executive departments and independent agencies. Responses are to cover all subordinate organizations within each agency. Within some individual departments and independent agencies more than one major subordinate organization may use polygraphs for different purposes or under different procedures. In that event,

please break down the requested data by major subordinate organizations in addition to providing an agencywide compilation.

If any portion of the questionnaire seems unclear, please contact the subcommittee staff for advice or explanation.

In order that the subcommittee can prepare a timely report on the matter, please provide the requested information by July 31, 1963.

Sincerely,

JOHN E. MOSS, *Chairman.*

QUESTIONNAIRE ON POLYGRAPH USAGE

1. Does your agency possess or make use of polygraphs or other so-called lie detection devices? (If major subordinate organizations within your agency engage in such activity, please list all those organizations.)

2. Briefly explain your agency's general procedures governing the use of such devices and answer the following specific questions. (Please explain procedures and indicate if they are covered by regulation in connection with each question. If more than one major subordinate organization within the agency is affected, provide separate responses for each.)

(a) For what specific purposes are these devices used (i.e., employment interviews, security clearance processing, suspected improper conduct of duties, or other purposes)?

(b) Are the devices used in every instance involving those purposes listed in answer to question (a)?

(c) What weight is given the data resulting from tests by these devices, or refusals to take such tests, in relation to other types of investigative information?

(d) Who makes the initial determination to use such devices, and is this initial determination subject to review by higher authority in each case?

(e) Is the physical and mental condition of each person to be tested considered to determine suitability to take such a test?

(f) What disposition is made of data derived from such tests given to persons connected with your agency (i.e., retained in affected individuals' personnel files, retained separately, etc.)?

(g) Are the findings of such tests made available to the individuals who take the tests?

(h) Is there a right of appeal in cases of adverse findings?

(i) Is access to such data restricted and, if so, what classification or other designation is applied to the data?

(j) If a person connected with your agency refuses to take such a test, is that refusal reflected in any way whatsoever in the individual's personnel records?

(k) Does your agency maintain special facilities, such as specially designed rooms, for the performance of such tests? Briefly describe such facilities and how they are equipped. Furnish photographs, if available.

(l) How many polygraph tests or examinations involving similar devices were conducted by your agency in fiscal 1963?

(m) How many such tests were conducted by other

agencies, public or private, at the request of your agency during fiscal 1963?

3. Please enumerate, by job title and grade, all employees of your agency who are authorized to conduct polygraph or similar tests and list their salary costs for fiscal 1963. In addition, please answer the following:

(a) How many of these persons have, as their primary duty, the conducting of such tests?

(b) What are the minimum qualifications required of those persons within your agency authorized to conduct such tests?

(c) Describe any training program your agency provides to train its own employees, or employees of other Federal agencies, in conducting such tests.

(d) Does your agency send employees to outside agencies or schools, public or private, for training in such testing? If so, please provide the name and address of the training facility.

4. How many polygraphs and other so-called lie detection devices are the property of your agency?

(a) Please list the total acquisition cost of all such devices.

(b) Please estimate the total annual maintenance costs of such devices and indicate whether maintenance is performed by agency personnel or by outside sources.

(c) If your agency leases such devices, or contracts with other public or private agencies to perform such tests, please provide the total costs for such activity during fiscal 1963.

(d) Please estimate all additional expenses attributable to such testing, such as travel expenses for examiners to and from location of tests, internal and external training programs, and all other costs.

5. Please provide two copies each of all intra-agency directives, administrative orders, rules, regulations and/or instructions governing the use of such devices within your agency.

In response to the questionnaire, 19 Federal agencies reported that they used polygraphs and other so-called lie detection devices in carrying out Government business. These agencies reported owning a total of 512 polygraphs. Acquisition and similar costs totaled nearly half a million dollars. Annual operating costs, including salaries, totaled well over \$4 million. These figures do not include the cost of polygraph operations by Central Intelligence Agency and National Security Agency. These facts are classified as sensitive security information.

The replies of these 19 agencies, broken down by their constituent units which use these devices, are shown in tabular form in appendix II, page 29.

Seven days of public hearings were held, and the following witnesses were heard: Private polygraph practitioners, Department of the Army, Department of the Navy, Department of the Air Force, a panel of scientists, and the Post Office Department. The committee also heard representatives from the Central Intelligence Agency. Agency officials asked the subcommittee that—for reasons of national defense—the hearings be held in closed session. Pursuant to this request, hearings were held on June 10, 11, 12, and 25, 1964, in

III. INTRODUCTION

Throughout the ages man has attempted to devise positive tests based on physical reactions to determine guilt or innocence. Trial by ordeal was an early brutal effort to determine guilt or innocence. If a suspected wrongdoer could thrust his hand into a fire and remove it unscathed, he was declared innocent; a burned hand was proof positive of the person's guilt. An improved method used by the early Chinese required suspects to chew rice powder while being questioned. If the rice powder was dry when spit out, the man was condemned since the tension of guilt supposedly dried up the salivary glands.

One story about early "lie detection" techniques involved the donkey tail pulling method. Suspects were required to enter a darkened cave and pull the tail of a donkey inside. The suspect was informed that the donkey would bray when the guilty person pulled his tail. Unknown to the suspects, the donkey's tail was painted with lampblack. When the suspects emerged from the cave, the absence of lampblack on the hands was considered sufficient evidence of guilt. Presumably, only the guilty would be afraid to pull the tail.

Modern criminology is more sophisticated. A wide variety of devices and methods has been developed to assist in apprehending criminals. Some of these, such as fingerprints, have been accepted as valid; others, such as the polygraph, are yet to be proven.

HISTORICAL DEVELOPMENT

The polygraph concept presumes that an identifiable physical reaction can be attributed to a specific emotional stimulus. Erasistratus, a court physician around 300-250 B.C., reported that emotion caused a quickening of the pulse, but the first attempt to use a scientific instrument as an aid in detecting lies dates back to 1895 when Cesare Lombroso, an Italian criminologist, claimed success in determining the guilt or innocence of suspected criminals by noting whether their blood pressure or pulse changed during interrogation.

In a book entitled "On the Witness Stand" published in 1908, Harvard psychology professor, Hugo Munsterberg discussed possibilities of detecting lies by recording physiological changes.

Changes in breathing rates were linked to attempts at deception by another Italian criminologist, Vittorio Benussi, in 1914. And the following year William Moulton Marston, a criminal lawyer and student of Munsterberg, began systematic research in the Harvard Psychological Laboratory into the correlation between lying and changes in blood pressure.

During World War I, Marston headed a committee of psychologists formed by the National Research Council to look into the then-known deception tests and report on their possible usefulness in counterintelligence activities. After performing a number of experiments, the committee found the Marston blood pressure test 97 percent reliable and recommended that Marston be appointed Special

Assistant to the Secretary of War with authority to use his method in spy cases. War Secretary Newton D. Baker took no action on the recommendation, but the committee's work aroused the interest of a young psychologist, John A. Larson, who was connected with the Berkeley, Calif., police force.

In 1921 Larson devised an instrument capable of simultaneously recording blood pressure, pulse rates, and respiratory changes, the forerunner of today's polygraph. Working under Berkeley Police Chief August Vollmer, sometimes called the father of scientific police work in this country, Larson used his device with reported success on hundreds of criminal suspects. Presently he was joined on the Berkeley force by a young man named Leonarde Keeler.

Keeler, a Stanford University psychology major, was destined to become the best known expert in the field. In 1926, he developed an improvement of Larson's apparatus. Keeler continued refining his device, which he named the Keeler polygraph, and developing polygraph interrogation techniques while at the scientific crime detection laboratory at Northwestern University from 1930 until 1938, when he entered private business. At that time he formed the Keeler Polygraph Institute in Chicago which he headed until his death in 1949.

The Keeler polygraph for many years has been the most popular instrument of its kind. Recently, a similar machine, the Stoelting Deceptograph, has become a leading competitor.

IV. THE "LIE DETECTOR"

Within the past 10 years the term "lie detector" has become a familiar expression, not only to law enforcement officers but also to jobseekers, suspects in criminal cases, and to the man in the street who has been led to believe that a metal box and its operator can determine innocence or guilt.

Compared to today's complex electronic devices, the polygraph which is the metal box used as a "lie detector," is a relatively simple instrument. Its primary parts are (1) a pneumograph—a corrugated rubber tube that expands and contracts as a person breathes and is fastened around the chest to measure respiration rate, (2) a cardi-sphygmanometer—an inflatable rubber cuff, such as doctors use to measure blood pressure, which is wrapped around the upper arm and measures blood pressure and pulse rate, and (3) a component made up of two electrodes which is attached to the hand to measure the galvanic skin response (GSR)—the flow of electric current across the skin as sweating increases. The physiological responses detected by these components are transmitted to recording pens which trace these reactions on a moving sheet of graph paper. There are no restrictions on purchasing any of these machines which cost from \$600 to \$2,000, and anyone can become a polygraph ("lie detector") operator for just the purchase price of the machine (hearings, "Use of Polygraphs as 'Lie Detectors' by the Federal Government," p. 457).

The polygraph machine will do only three things. It will measure the flow of electrical current across the skin; it will measure blood pressure and pulse; and it will measure respiration. According to Congressman John E. Moss, chairman of the Foreign Operations and Government Information Subcommittee:

That is all the machine does. I might add if all these hearings produce is an understanding by the public that there is no lie detector, that will be of significance * * * (hearings, p. 225).

When the subject strapped to the machine is asked a question his physiological responses are recorded on the graph by three pens. The experts who appeared before the subcommittee were unanimous that these responses, standing alone, could never be interpreted as verification of truth or indication of lying. Dr. John I. Lacey, chairman, department of psychophysiology-neurophysiology, Fels Research Institute, and professor of psychophysiology, Antioch College, Yellow Springs, Ohio, informed the subcommittee that given a response, one knows only that a response has occurred. "One then has to engage in a process of inference to find out what has happened" (hearings, p. 301). The expert witnesses testified that the following inferences could be drawn: First, the person is guilty and not telling the truth. Second, the person is innocent and telling the truth, but is emotional about some aspect of the polygraph examination. For example, he could be angry at the operator or embarrassed by the question. And

third, some neurotic interconnection occurred when the subject was responding to the question. It may be, Dr. Lacey testified, that one could elicit the reasons for the response only on the analytical couch, "after months and months and months of investigation" (hearings, p. 301).

A. THE FALLIBILITY OF THE POLYGRAPH

An article on "Detection of Deception" in the publication, Principles of Legal Medicine states:

The (polygraph) examiner should talk with the suspect in the examining room for some time before the examination is made. He must convince the suspect that the lie detector is going to work and it is impossible to beat it. The suspect must realize that if he lies during the examination, it will be recorded on the machine (hearings, p. 379).

This appears to be standard polygraph operating procedure, in and out of Government. As a result, people have come to fear the so-called lie detection examination. One agency of the Federal Government informed the subcommittee that, in the great majority of cases, the polygraph proved its worth because subjects disclosed valuable information when confronted with the machine and the entire polygraph process.

It is possible that a mimeograph machine or any other device would work as well if the individual believes his lies will be discovered. Dr. Martin Orne, senior research psychiatrist at the Massachusetts Mental Health Center, concluded from a laboratory study that the more the person tries to deceive, the more effective is the polygraph in discovering deception. ("Effects of Heightened Motivation on the Detection of Deception," Gustafson and Orne, *Journal of Applied Psychology*, 1963, vol. 47, No. 6, 408-411; see also hearings, exhibit 23, p. 415.)

Conversely, it was hypothesized during the hearings that if the public were properly informed that the polygraph is not a "lie detector," this might decrease the validity of the lie-detection procedure. Dr. Lacey commented:

* * * I consider it a degradation of a scientific procedure when the public or people subjected to this procedure are misled as to what is involved.

I strongly would like to see widespread dissemination of the fact that this is an imperfect tool, that false positive errors occur, that false negative errors occur. So that an individual never approaches the examination with the understanding that he can't beat the lie detector. This is practically a forced method of eliciting a confession, if my understanding of the field is correct, and I hasten to say this is not based on my personal experience. But if it is indeed true that a polygraph operator says, "This shows you are guilty," and thereby elicits a confession, I am afraid I react very strongly against that procedure.

Now let me point out, and this is a social decision which must be made, that if this information were widespread, if indeed an individual taking a polygraph examination felt that the lie detector was not unbeatable, that it was a record

of physiologic responses which change under a variety of conditions, this may lower the validity of the lie detection examination in practical matters. In all ethical views, I think, unfortunate as this may be for the practitioners of lie detection art, this is the only justifiable, democratic ethic (hearings, p. 374).

B. BEATING THE POLYGRAPH

In spite of claims by polygraph practitioners that "the only way to beat the polygraph is with a stick," there is proof that it is possible to defeat the "lie-detection" process. The experts are in agreement that the test can be rendered nearly or completely invalid if a person's physical or mental makeup involves any of the following conditions:

Extreme nervousness.—High emotional tension or nervousness can be caused either by fear of being accused or a guilt complex involving matters unrelated to the issues at hand.

Physiological abnormalities.—Since the polygraph measures physical reactions, abnormalities involving the physiological functions being measured obviously produce inaccurate results. Included in this category are excessively high or low blood pressure, heart diseases, such as sinus arrhythmia (hearings, p. 362), respiratory disorders (even the common cold), toothaches, severe headaches, or practically any painful ailment.

Mental abnormalities.—Persons with pronounced neuroses, psychoses, or abnormally low intelligence make extremely poor subjects for polygraph testing. Similarly, inaccurate data may be produced by some temporary mental states such as self-hypnosis or temporary amnesia. Research is presently in progress on the effect of hypnosis on the autonomic nervous system. Pathological liars, or persons who can rationalize a falsehood to the extent it becomes true to themselves, can frustrate polygraph tests, and often the polygraph operator will come up with an erroneous result. For example, mental patients who said they were Napoleon and believed it were telling the truth according to the polygraph (hearings, p. 290).

Unresponsiveness.—A lack of emotional response can seriously hamper accurate testing. Extreme fatigue or mental exhaustion can make a person unresponsive to polygraph examination. For this reason, polygraph experts generally recommend testing when a person is fresh and never after prolonged interrogation. A person under the influence of alcohol also would be an unreliable subject. In most cases, such conditions can be discerned readily. But an Air Force training publication, "Lie or Truth, a Lie Detection Handbook," notes that a number of readily available drugs which cause "emotional flatness" can be taken in a dosage to produce "no noticeable external symptoms." Managed responsiveness, or the ability to control one's responses through certain mental attitudes has been shown experimentally to enable a person to "beat the machine." (See J. F. Kubis, "Studies in Lie Detection," Fordham University, Air Force Document 30(602)-2270, project No. 5534, June 1962.)

The study by Dr. Joseph F. Kubis, professor of psychology at Fordham University, discussed three ways of "beating" the machine—called countermeasures. These are: (1) modified yoga—the separation of the self from outside stimuli and the maintenance of an abstract frame of mind; (2) muscle tension—such as tensing one's

toes, and (3) exciting imagery—a mental reproduction of an exciting image or situation which the testee knows could get him excited or upset. Commenting on a natural human ability to control responses so as to evade detection, Dr. Martin Orne testified:

Since we all have this ability at all times, we may consider the ability of the individual to produce a GSR response at will, to inhibit respiration at will, to increase his heartbeat at will as within the repertoire of the normal intact human being (hearings, p. 298).

Bodily movement.—Physical movement or muscular activity can lead to misleading blood pressure readings. Polygraph operators normally caution the subject against such movement before a test. If movement is seen by the operator, the reading at the particular point can be discounted. But if unobserved, muscular action can produce inconclusive or misleading results.

Sex.—The reliability of a polygraph test may be affected by the subject's sex, though there is no scientific proof of this. In a published compilation of police science lectures, Alva Johnston said:

Women usually put up a much better fight against the lie detector than men. They lie more skillfully and stick to a lie with greater resolution.³

These and other factors permit an individual to mislead the examiner. Expert witnesses testified, however, that neither Federal nor private polygraph operators have the training and ability to recognize obscure mental or emotional abnormalities. Government witnesses testified that some research is already underway in this area and that additional research is planned.

There is no "lie detector." The polygraph machine is not a "lie detector", nor does the operator who interprets the graphs detect "lies." The machine records physical responses which may or may not be connected with an emotional reaction—and that reaction may or may not be related to guilt or innocence. Many, many physical and psychological factors make it possible for an individual to "beat" the polygraph without detection by the machine or its operator.

³ Johnston, Alva, "The Magic Lie Detector, the Saga of Leonarde Keeler," "Academy Lectures on Lie Detection," vol. II, Charles C. Thomas, Springfield, Ill., 1958.

V. THE POLYGRAPH OPERATOR

The operator of the polygraph is the most important component of the "lie detection" technique. Whether called an examiner or an operator is relatively unimportant (hearings, pp. 88-89); what is of concern is that this individual be of high moral character, be selected carefully, trained properly, and supervised effectively.

A. SELECTION OF POLYGRAPH OPERATORS

There are no standard criteria to qualify polygraph operators for work in the Federal Government. The subcommittee's preliminary study (appendix II, p. 29) shows variance in minimum age, educational requirements, grade or rank, and investigative experience. Witnesses testifying before the subcommittee also differed as to the ideal qualifications, but all were in agreement that minimum requirements should include:

1. At least 25 years of age.
2. College graduate from an accredited school.
3. At least 5 years of investigative experience.
4. A complete background investigation, satisfactory completion of psychological tests, and a psychiatric interview.
5. High moral character and sound emotional temperament.

B. TRAINING OF POLYGRAPH OPERATORS

There is no uniformity in polygraph training in the Federal Government. Office of Naval Intelligence gives a course of only 2 weeks. Postal inspectors in the West receive a 4-week course from a private concern—at the cost of \$575 per student. Postal inspectors in the East get 6 weeks of training at the Backster School of Lie Detection, New York City. The cost of this training is \$525 per man. And, if the quota permits, the postal inspection service and any other Government agency can send employees to the Army Polygraph School at Fort Gordon, Ga.

This Army school—the only formal polygraph course in the Federal Government—offers 7 weeks of instruction. Included are courses on legal aspects of polygraph, taught by a lawyer; on abnormal psychology, taught by faculty members who are not psychologists or psychiatrists; on chart interpretation, and on polygraph case practice. Army witnesses testified that quite often a student will be graduated without having experienced an actual case (hearings, p. 201). Despite the obviously inadequate training program, a total of 234 polygraph operators were graduated during the period August 1961 to April 1964 (hearings, p. 283).

Testimony before the subcommittee indicated that a minimum of at least 6 months would be required before an individual could become acquainted with the many facets of polygraphy. To learn to operate the controls of the instrument might take a relatively short time

(hearings, p. 344); when polygraph interrogation and chart interpretation is added, however, it was the general consensus of private practitioners and scientists testifying before the subcommittee that 6 months is a minimum training period.

The man who runs the polygraph must have adequate training and experience to understand the polygraph and its limitations. Yet, there are no uniform criteria for selecting Government polygraph operators, and training procedures are even more inconsistent. Both are completely inadequate since the operator is by far the most important factor in the polygraph technique.

VI. THE POLYGRAPH TEST

It has been estimated that more than 200,000 polygraph tests were performed in the last 10 years by the Defense Department alone (hearings, p. 426). In fiscal year 1963, approximately 23,000 tests were given by Federal agencies (appendix II, p. 29). According to data from the 19 Federal agencies which use polygraphs, the purposes for the tests ranged from minor criminal matters to security clearances, from misconduct to personnel screening. The Health, Education, and Welfare Department, which includes the National Institutes of Health, the Public Health Service, and St. Elizabeth's Hospital, reported using the polygraph only for medical research.

A. PREEMPLOYMENT SCREENING

Only the Central Intelligence Agency and the National Security Agency use the polygraph routinely for preemployment screening. The Army and Navy conducted 3,494 polygraph examinations during fiscal year 1963 in conjunction with the recruitment of Cuban enlistees, but they contended this one-time program was because of unusual circumstances ("Use of Polygraphs by the Federal Government" [preliminary study], p. 48).

Witnesses testified that the Federal Government should not use polygraphs for preemployment screening with the possible exception of the top security agencies of the Government (hearings, pp. 350-351). The subcommittee's investigation and hearings with CIA and NSA regarding their use of polygraphs have not been completed.

As to nonsecurity activities it appears there is no value in using a polygraph to determine whether a job applicant will or will not become a good employee. Dr. Kubis testified that, realistically, "one can never predict what a man will do in the future, say, in terms of whether he will steal or not." Dr. Kubis continued on preemployment screening:

These procedures are often searches into the past of the individual which may damage the individual. They not only upset him but damage him because they elicit information from him that can be used against him * * *. To get such information about the personal lives of individuals when nothing serious is at stake, I think is a danger that creates all of the unhealthy aura that surrounds lie detection procedures (hearings, p. 350).

Because of similar considerations, the Atomic Energy Commission decided to drop its preemployment polygraph screening program in 1953. According to the AEC, the "indeterminate marginal increase in security" which might have resulted from using the polygraph was not of sufficient weight to balance it against the intangible costs of employee morale and personnel recruitment (hearings, p. 168).

B. CRIMINAL MATTERS

Both Army military police and the Post Office Department's investigators can, on occasion, administer a polygraph examination without the approval of anyone in higher authority in the chain of command (hearings, p. 202; p. 500).⁴ Navy officials informed the subcommittee of a similar policy:

The responsibility for determining whether the technique is applicable to a particular case or whether the issue is susceptible of resolution by the polygraph technique, is that of the duly authorized polygraph operator (hearings, p. 230).

Preliminary information obtained from the Federal Bureau of Investigation indicates a completely different policy. According to the FBI only three officials in the agency can authorize a polygraph test. They are the Director, or either of his two associate directors.

Serious questions were raised during the hearings as to the necessity for indiscriminate use of the polygraph. Dr. Joseph Kubis commented that the polygraph test is a waste of valuable time unless there is an important principle involved where the object is to deter more serious behavior (hearings, p. 349). It was Dr. Kubis' belief—concurred in by his fellow science panelists—that the polygraph should never be used in "trivial situations."

Polygraph testing is extensive and growing in the Federal Government. All too often it is used on trivial matters. This extensive reliance on the polygraph stems, partly, from lax administrative controls over investigators.

⁴ New Army regulations issued following the subcommittee's hearings require approval of the staff officer supervising law enforcement activities at an installation before a polygraph examination can be given (AR 196-10, change 1).

VII. THE POLYGRAPH AND THE INDIVIDUAL

The growing number of polygraph examinations given in and out of Government has become a matter of increasing national concern. One writer has commented that—

the way the lie detector has been catching on in popularity is little short of amazing * * *. Probably no other technique of intrusion will ultimately bring on more of a battle royal between the forces promoting its general acceptance and the forces that consider it a vicious instrument for invading privacy (Brenton, "The Privacy Invaders," Coward-McCann, Inc., 1964).

A. TWO-WAY MIRRORS AND SECRET MONITORS

Two-way mirrors—devices which are mirrors from one side but clear windows from the other side—are used by more than half of those Federal agencies which use polygraphs. These two-way mirrors are placed in the polygraph examination room to permit observance of a polygraph interview without the subject's knowledge. These same agencies often use concealed instruments to record the conversation between subject and polygraph examiner. Army, Navy, and Air Force witnesses testified that the subject would not be informed that these devices were installed unless he specifically asked about them (hearings, pt. 2).

As justification for using two-way mirrors Army Provost Marshal General Butchers testified:

It is my experience in 36 years in the Army that all of the soldiers that go into the CID (Criminal Investigation Division) know that they are monitored and "Big Brother" is watching * * * (hearings, p. 206).

Congressman Henry Reuss expressed the hope that—

* * * the day will never come when American citizens, as an incident of their citizenship, have to be aware of the fact that the room is bugged and the mirror is a device to enable "Big Brother" to see them * * * (hearings, p. 241).

When the Defense Department learned that the military services were using secret looking and listening devices without the subject's knowledge, Deputy Secretary of Defense Cyrus Vance issued, on April 27, 1964, the following memorandum which ordered that:

No examination with the aid of a polygraph shall be conducted without advising the subject to be interviewed (1) that he has a right under the fifth amendment to the Constitution or, as appropriate, article 31 of the Uniform Code of Military Justice to refrain from doing anything that may tend to incriminate him; (2) that the polygraph examination will be conducted only with his prior, written consent;

(3) whether the area in which the polygraph examination is to be conducted contains a two-way mirror or comparable device, and (4) whether the examinations will be monitored or recorded in whole or in part by any means (appendix III, p. 36).

General Butchers pointed out that the two-way mirror is especially valuable in watching a polygraph operator's conduct and technique. "In case of females being examined," General Butchers continued, "It is absolutely essential that you have some way of controlling or monitoring the examination" (hearings, p. 206).

Both the Central Intelligence Agency and the Postal Inspection Service informed the subcommittee, however, that they do not use two-way mirrors in any polygraph examination room.

The Department of Defense is the only Federal agency which has taken a small forward step to remove some of the objectionable procedures surrounding polygraph examinations. No other Government agency warns individuals about two-way mirrors and hidden microphones used while an individual's innermost secrets are disclosed in polygraph examinations.

B. THE POLYGRAPH "CONFESSION"

Polygraph chart interpretation, according to the panel of private practitioners and to other polygraph "experts," depends to great measure on creating a so-called norm for an individual and then watching for any deviations. Presumably, the deviations indicate emotional stress, and perhaps even deception, on the part of the person being examined. In order to bring this theory into operation, however, current polygraph practice requires that the subject be asked the questions in advance of hooking him onto the machine. During this preexamination routine, the subject is requested literally to bare his soul on each question, so that he will be "clear" when he is put on the polygraph. According to the polygraph people, the questions are then asked with the preface: "Aside from what you have already told me, have you ever * * *"

In order to be "cleared" on the polygraph, the subject often discloses information to the polygraph examiner which, while not relevant to the case under investigation, incriminates the individual in another matter. According to George Lindberg of John Reid & Associates, "We have confessions of murder and homicide also occurring in our laboratory which are not at issue and they are not disclosed" (hearings, p. 68).

Conversely, Defense Department officials testified that every piece of derogatory information, whether related to the investigation at hand or not, is turned over to the proper authorities for their action. Representatives of the Central Intelligence Agency testified that the polygraph examiner reports all derogatory information to a top security official who decides whether it will be passed on to the appropriate officials.

The polygraph technique forces an individual to incriminate himself and confess to past actions which are not pertinent to the current investigation. He must dredge up his past so he can approach the

polygraph machine with an untroubled soul. The polygraph operator and his superiors then decide whether to refer derogatory information to other agencies or officials.

C. "VOLUNTARY" POLYGRAPH EXAMINATIONS

All the agencies in the Federal Government using the polygraph claim that the polygraph examination is voluntary. No one can be given a polygraph test, the agencies informed the subcommittee, unless the individual signs a statement that he has been informed of his rights to refuse the test and that he has "freely and voluntarily" submitted to the examination (hearings, p. 282).

Despite these paper procedures, there are indications that the polygraph examination is really not as voluntary as the agencies contend. The Metropolitan Police Department of the District of Columbia informed the subcommittee that "departmental regulations require members to obey the order of a superior officer and it is possible that an officer could be cited for refusal of an order to submit to an examination" ("Use of Polygraphs by the Federal Government" [preliminary study], p. 82). Testimony by Army, Navy, and Air Force witnesses indicated that a refusal to take the polygraph examination would be noted in the individual's investigative file. Navy officials went even further and informed the subcommittee:

Weight given to the data and to the refusal to submit to the investigation can only be assayed in light of the particular investigation. It is safe to say that this office will realize that some subjects refuse to submit to an examination on the basis of moral scruples which they consider valid. In other cases, a refusal may be considered a tacit admission of guilt (hearings, p. 242).

Admiral Taylor explained that refusal to take a polygraph examination would be considered only a tacit admission of guilt by the naval investigator, and "only where there was strong circumstantial evidence pointing to the fact that his reasons for refusal were to avoid any possibility of aiding the investigation" (hearings, p. 253). Army regulations specifically state that "indication will *not* be given to an individual that refusal to submit to an examination will be construed to mean a tacit admission of guilt" (Army Regulation 195-10. Emphasis added).

As long as a notation is made in any official file that an individual refused to take a polygraph test, the examination is in no way "voluntary." The refusal too often is taken as a presumption of guilt; the file notation which follows an individual throughout his career often casts a dark shadow on his future.

VIII. THE GALVANOMETER

The great majority of the hundreds of "lie detection" devices used by Federal agencies are polygraphs which measure respiration, blood pressure, and the galvanic skin response. Some of the devices used or planned for use measured only the flow of electricity across the skin as sweating increased—the galvanic skin response. These devices do not show the results of the single measurement on a moving graph as do the polygraphs. They note the changes on a dial which must be read hurriedly by an interrogator while he is questioning a suspect.

Mr. Cleve Backster, a witness, introduced an article from the November 1956 issue of *Bus Transportation* entitled "Electronic Marvel Weeds Out Dishonest and Unfit Applicants" (exhibit 2C, hearings, p. 142). The article referred to an "electronic evaluator" which, through "two little ring contacts placed on the fingers of the job applicant," records "extremely minute physiological changes which take place whenever a topic is mentioned which causes the subject any emotional disturbance whatsoever." The article asserts that no questions need be asked when this device is used; "just the mention of a particular topic, such as a past arrest, will cause a reaction on the machine. * * *" Using this process, the article claimed that Backster was able to predict that a particular trucking job applicant would be a "90-percent general desirability risk, an 80-percent permanency risk, and a 40-percent risk in accident probability." During the course of the hearing, Mr. Backster admitted, however, that it was "not the most accurate article" (hearings, p. 116). He contended the gadget he used was a galvanometer which recorded on a moving sheet and also had an attachment to measure and record respiration.

Mr. Fred E. Inbau, professor of law at Northwestern University and co-author of a book on "lie detection," informed the subcommittee:

It has been our experience over the years that used alone it [the galvanometer] is practically valueless in cases at large. It is the least reliable indicator of any on the polygraph, and to rely upon that one alone is just as foolhardy an undertaking in my judgment (hearings, p. 24).

A. THE POST OFFICE AND THE GALVANOMETER

The Post Office Department's postal inspection service relied exclusively on galvanometers for 13 years (hearings, p. 470), and during fiscal year 1963 the agency owned 15 of the gadgets (appendix II, p. 29). The Department's training requirements to qualify galvanometer operators were rather simple. When the postal inspection service started using the machines, two conferences were called at which reading matter and a handbook published by the manufacturer of the galvanometer were disseminated. According to Mr. Francis W. Baleiko, a postal inspector from the Chicago postal

region, the manufacturer of the machine attended the training conference and conducted the session. There were no courses in human physiology or psychology. Instead, the postal inspection service attempted to select potential operators who had some familiarity with these subjects, and who had previously taken University courses in these areas. Mr. Baleiko pointed out, however, that not all of the potential operators actually had the requisite background (hearings, p. 489).

Apparently the postal inspection service began to realize the absurdity of using the galvanic gadget only after the subcommittee's investigation got underway. In December 1963, the 15 galvanometers in the postal inspection service's possession were either destroyed or turned over to the General Services Administration for disposal. One of these machines was picked up by the 13th District Office of Naval Intelligence, Seattle, Wash., but the subcommittee has been given assurance by Navy Department officials that this was a mistake, that the galvanometer had never been used in the detection of deception, and that it has been destroyed (hearings, p. 507).

B. U.S. ARMY GALVANOMETERS IN VIETNAM

In late February 1964, an Associated Press story stated that the U.S. Army was using portable "lie detectors" in military operations in Vietnam and Thailand and that a pocket-sized "lie detector" would be used to interrogate Vietcong suspects. The small gadget referred to is a simple galvanometer with a built-in dial manufactured and sold in Japan as a toy. Army officials in Washington denied the gadget was being used in Vietnam military operations, but subsequent investigation revealed that the Provost Marshal of Vietnam had displayed to the AP reporter the Japanese-made galvanometer, stating: "We hope to test this machine in the field later. I believe it will work." Army officials later informed the subcommittee that no tests of the Japanese gadget have been authorized, nor are they developing a pocket-sized "lie detector." There are, however, five Army polygraph operators stationed in Vietnam using the standard, commercial three-penned polygraph (hearings, p. 284).

C. BOMBS, BAGGAGE, AND THE FAA

During 1963, officials in the Federal Aviation Agency considered the possibility of "a setup where a passenger would place his hand(s) on electrodes while answering a query as to whether he was carrying explosives aboard the aircraft in his luggage or on his person" (hearings, p. 186). Presumably the reaction on the galvanometer dial attached to the electrodes would show whether the passenger was lying about bombs in his baggage. Following an investigation, however, the FAA decided to drop their proposed "lie detection" program using galvanometers.

The Federal Government's continued use of the galvanometer clearly demonstrates the lack of any critical appraisal of lie detection practices. Although competent researchers and responsible polygraph practitioners have long agreed that galvanometers, used alone, have absolutely no value in detecting truth or falsehood, the fact remains that one Government agency continued to employ these gadgets for years and others have recently given serious consideration to using similar devices.

IX. RESEARCH

As stated earlier, the polygraph measures three physical reactions of the person being tested. Although psychologists can measure many more reactions—including salivation, eye movements, skin temperature—the polygraphs which are used today for the detection of deception have not reached this level of sophistication. Witnesses testified that there has been no attempt on the part of polygraphers to take advantage of the many things the psychologists have learned in the past two decades (hearings, p. 289).

Not one agency which appeared before the subcommittee could prove that the polygraph is a reliable and valid device for purposes of "lie detection." This conclusion was also reached in a study titled "Assessment of Lie Detection Capability," written in 1962 by Dr. Jesse Orlansky, of the Institute for Defense Analysis. The report concluded:

There can be no doubt that the measurement of physiological responses in the context of a structured interview provides a basis for the only detection of deception by objective means. Extensive research by physiologists and psychiatrists shows that humans exhibit many physiological responses in stressful situations; however, such research was not performed to explore its relevance to lie detection. Thus, we do not know at present the increment in effectiveness which the polygraph brings over an interrogation without a polygraph (hearings, p. 427).

The IDA report also stated:

Objective data and not testimonials are required. The simple fact is that the necessary data have not been kept and that an impartial appraisal of the polygraph has not yet been accomplished (hearings, exhibit 25, p. 435).

The Office of Naval Intelligence told the subcommittee that the polygraph is considered "to be an invaluable investigative aid. An accuracy rate of 70 percent is considered the optimum" (Use of Polygraphs by the Federal Government [preliminary study], p. 62). During the course of the hearings with the Navy Department, however, Rear Adm. Rufus L. Taylor, Assistant Chief of Naval Operations for Intelligence, candidly told the subcommittee:

I have misgivings about this thing too. What I feel to be a lot of pseudoscientific nonsense * * * has been discussed here. It is the avoidance of this pseudoscientific nonsense that we have tried to pursue in our use of the device (hearings, p. 243).

Other witnesses expressed widely divergent views. A number of Federal agency representatives—including the other military services and the Post Office Department—contended that the polygraph

changed

worked. The Central Intelligence Agency testified that the polygraph was a "useful tool" as an aid to investigations and interrogations. But all agencies admitted that the Federal Government has not taken the effort to keep the vital statistics needed to answer the basic question: Does the polygraph work?

There is some evidence that the polygraph technique works in the laboratory. Dr. Joseph F. Kubis and Dr. Matrin T. Orne testified they have achieved as much as 80 to 90 percent accuracy in their laboratory studies. But the scientists admitted this does not mean the machine works in actual practice.

Central Intelligence Agency officials, when confronted with the lack of research on these basic questions, candidly admitted they had missed this opportunity 16 years ago when their polygraph program was initiated.⁵ Agency representatives stated, however, that as a result of the subcommittee's inquiry such a research program was being planned.

The Federal Government has spent more than \$300,000 for research projects on various phases of the polygraph machine and polygraph interrogation (appendix I, p. 27). Included in these research contracts are studies to determine the value of the polygraph in "counter-insurgency" situations (such as Vietnam), experiments to expand the basic polygraph instrument by including additional sensors, studies to develop a wireless form of polygraph (Department of Defense appropriations for 1963, hearings, House Appropriations Committee, 87th Cong., 2d sess., pt. 5, p. 174), and attempts to add a computer to the polygraph for purposes of objective measurement. These contracts all relate to expanding the use and the instrumentation of the polygraph device. However, none of the research is the basic work necessary to prove scientifically that the polygraph technique is an effective tool for interrogation purposes.

Almost 12 years ago the Atomic Energy Commission studied the use of polygraphs at the Oak Ridge operation to ascertain the real effectiveness of its use. The study concluded that the "polygraph is not infallible and that positive reactions can be evaded not only by a subversive who has been trained to 'beat the machine' but by a percentage of people who will lie about the most unimportant things and who cannot be detected." As a result, the AEC decided to discontinue the use of the polygraph at Oak Ridge (Hearings, p. 166).

Despite this early study, polygraph testing continued to grow in the Federal Government. It was not until 1962 that the Defense Department took the initiative and contracted with the Institute for Defense Analysis for an "Assessment of Lie Detection Capability." Unfortunately, this report was immediately classified "secret" and stored in Pentagon safes. This valuable \$50,000 study was made public on May 13, 1964, only after the Foreign Operations and Government Information Subcommittee requested its declassification (hearings, p. 425).

The report pointed out that some 200,000 polygraph examinations had been given by Federal examiners, but no attempt had been made to analyze the results to determine the validity and reliability of the polygraph procedure. There has been little research to improve even the accuracy of the three instruments used in the polygraph machine.

⁵ Cleve Backster, of the Backster School of Lie Detection, New York City, informed the subcommittee that he was a full-time employee of the Central Intelligence Agency in 1949 and that he helped set up that Agency's polygraph technique and training program (hearings pp. 120, 162).

There appears to be merit in the Institute for Defense Analysis' comments on the following methods for determining the validity and reliability of polygraph examinations.

The validity of the polygraph procedure—that is, the extent to which the test measures what it is supposed to—can be determined by comparing polygraph data with independent data. The polygraph procedure would have a high degree of validity if a large number of persons who had been found to practice deception during the examination were later proved by independent means to have been lying. There would be a low degree of validity if those judged to be truthful during the examination were later found to be deceptive or if those found to be deceptive were later found to be truthful. Careful compilation of the information from each Federal polygraph examination and from the followup investigation could develop the information necessary to determine the validity of the polygraph procedure.

Among other tools, researchers also could use the raw polygraph material to determine the reliability of the procedure; that is, the extent to which the test produces consistent and reproducible results. It would be possible to compare the results achieved by two or more polygraph operators working independently on the same case. Two or more tests of the same person, taken by the same examiner, could be examined. Various parts of one examination could be compared to other parts. These research procedures, applied under careful conditions to the many thousands of Federal polygraph examinations, could provide the material necessary to determine reliability of the polygraph procedure.

Federal investigators have given thousands upon thousands of polygraph tests, yet there has been no attempt to determine the validity of the procedure and no attempt to find out whether the polygraph operator really can detect falsehoods. No statistical proof has been compiled despite thousands of cases; no scientific proof has been produced despite thousands of opportunities.

APPENDIXES

I. FEDERAL GOVERNMENT RESEARCH AND STUDIES ON THE USE OF POLYGRAPHS

On April 15, 1964, the Foreign Operations and Government Information Subcommittee asked each Federal agency using polygraphs as "lie detectors" for a list of studies and research projects on the subject. Only the Defense Department and the Atomic Energy Committee provided unclassified lists of research or studies. The AEC study is printed at page 166 of the subcommittee's hearings. Following is the Defense Department's letter listing that agency's research studies. The major DOD study, prepared under contract by the Institute for Defense Analysis, is printed at page 419 of the subcommittee's hearings.

ASSISTANT SECRETARY OF DEFENSE,
Washington, D.C., May 27, 1964.

HON. JOHN E. MOSS,
*Chairman, Foreign Operations and Government Information Subcommittee,
House Committee on Government Operations, Washington, D.C.*

DEAR MR. CHAIRMAN: I have been requested to respond to your letter of April 15, 1964, to the Secretary of Defense, which requested a list of studies involving the polygraph sponsored by components of the Department of Defense since 1950.

The reported pertinent studies, divided according to the sponsoring component, are as follows:

OFFICE OF THE SECRETARY OF DEFENSE

IDA Technical Report No. 62-16, "An Assessment of Lie Detection Capability," July 31, 1962, Contract SD-50, Task 8, \$50,000. (This is an approximate figure based on an estimated portion of the undivided IDA contract.)

DEFENSE ATOMIC SUPPORT AGENCY

Contract of January 8, 1952, Russell Chatham, Inc., Oak Ridge, Tenn., \$7,000.

DEPARTMENT OF THE ARMY

A. *Studies of reports completed since 1950*

1. *The use and evaluation of a personnel discriminator in counterinsurgency.*—Research Memorandum 63-1. Prepared by Mr. Andrew R. Molnar and Mr. Adrian H. Jones of the Special Operations Research Office, American University, under contract to the Army. Completed in September 1963. Cost: \$3,566.

2. *Testing the transistorized detector set.*—File Code MPCDA 62-55. Prepared by the U.S. Army Military Police Board, Fort Gordon, Ga. Completed in 1962.

3. *The lie detector and its use in the Army.*—File Code JAGJ 1959/5266. Prepared by Capt. Dennis A. York, Office of The Judge Advocate General. Completed in July 1959.

4. *Testing the B. & W. lie detector.*—File Code 56-12. Prepared by the U.S. Army Military Police Board, Fort Gordon, Ga. Completed in 1956.

5. *Military application of polygraph technique.*—File Code ORO-T-5(EUSAK). Prepared by Mr. George W. Haney of the Operations Research Office, Johns Hopkins University, under contract to the Army. Completed January 26, 1951. This study was a subtask of an overall ORO project and was not funded or costed separately.

B. *Studies in process*

1. *Studies in the detection of deception.*—File Code DA-49-193-MD-2480. Two research reports, The Effect of "Lying" in "Lie Detection" Studies and The Effect of Perceived Role and Role-Success on Detection of Deception, prepared by Mr. Lawrence A. Gustafson and Mr. Martin T. Orne of Massachusetts Mental Health Center and Harvard Medical School under contract to the U.S. Army Medical Research and Development Command. This contract terminates August 1, 1964. Cost: \$28,825.

2. *Personnel discrimination device.*—File Code USALWL 05-B-63. Study being performed by the U.S. Army Limited War Laboratory, Aberdeen Proving Grounds, Md. Completion date not yet determined.

3. *Prisoner of war operations in a theater of operations during the period 1965-70.*—File Code USACDC CMPA 61-2. Study by U.S. Army Combat Development Command Military Police Agency. Estimated completion date June 30, 1964.

DEPARTMENT OF THE NAVY

A. *Completed study*

Detection of deception.—Contract No. N6onr-180, Indiana University, February 15, 1952, project director, D. G. Ellson—\$100,000.

B. *Study in process to improve methodology relative to certain polygraph components*

Psychophysiology associated with interrogation procedures.—Project director, Dr. Leon Otis, Stanford Research Institute—\$37,880. Contract No. NONR 4129(00). Expected completion date June 14, 1965.

DEPARTMENT OF THE AIR FORCE

1. *Fordham University*

Initial contract AF 30(602)-2270, awarded March 1960, by the Rome Air Development Center, is a cost-reimbursable type in the sum of \$24,953. The contract is complete and resulted in Report No. RADC-TR 62-205 entitled "Studies in Lie Detection, Computer Feasibility Considerations" by Joseph F. Kubis.

A second contract AF 30(602)-2634 was awarded March 1, 1962, which is now nearing completion. This is also a cost-reimbursable contract in the approximate sum of \$46,000. The principal investigator is Dr. Joseph F. Kubis.

2. *University of Georgia*

Initial contract AF 30(602)-3380 awarded February 1964 by the Rome Air Development Center in the approximate amount of \$25,000 is a cost-reimbursable contract. Completion is expected in early 1965. The principal investigator is Dr. H. Zimmer.

(Both of these studies were awarded on a competitive solicitation of universities considered competent.)

3. *Hebrew University, Jerusalem, Israel*

This grant (AF-EOAR Grant 63-61) awarded by the European Office, Aerospace Research, Air Force Office of Scientific Research. The grant was \$2,475 and the study was completed October 31, 1963, in a report "Effects of Three Levels of Realistic Stress on Differential Physiological Reactivities." The principal investigator was Dr. S. Kugelmass.

Please let me know if you desire further information.

Sincerely yours,

(Signed) NORMAN S. PAUL,
Assistant Secretary of Defense (Manpower).

II. SUMMARY OF FEDERAL POLYGRAPH USE

In response to the subcommittee questionnaire, dated June 11, 1963, 19 Federal agencies reported that their policies permitted the use of polygraphs in carrying out Government business. The replies of these 19 agencies, broken down by their constituent units which use the device, are shown in tabular form at the end of this appendix. The following narrative explains the terms used in the table and provides a general analysis of the data.

A. PURPOSES FOR USING POLYGRAPHS

1. *Security*.—Cited by 14 of the 19 agencies, the most frequently reported purpose for the Government's use of polygraphs involves security matters. In this context security ranged from investigation of security leaks to operational uses in intelligence and counterintelligence activities.

The number of defense organizations included among the 19 users underlines the role the instrument plays in the many-sided efforts to safeguard the Nation's security. Each of the military services was accounted for, with the Intelligence Corps and the military police both reporting polygraph use within the Army, and the Marine Corps and naval intelligence answering the roll within the Navy Department. The Office of Special Investigations was the sole reported Air Force user. Civilian components of the Defense Establishment also were well represented. The Central Intelligence Agency reported extensive polygraph use, as did the National Security Agency. Also within the Defense Department, the Defense Atomic Support Agency and the Defense Supply Agency acknowledged use of the instrument. Several nondefense agencies also indicated that their activities in the security field involved use of polygraphs.

2. *Criminal*.—Investigation of criminal law infractions was listed by 10 agencies as an area in which polygraphs are employed. Private citizens as well as Federal employees came within the scope of such

investigations. The Agriculture Department, for instance, has considered the results of polygraph tests conducted outside the Government in investigating cases of alleged fraudulent transactions with the Agricultural Marketing Service.

3. *Misconduct.*—Investigation of employee misconduct was a reason given by eight agencies for utilizing polygraphs. This category included offenses not considered to be criminal violations.

4. *Personnel screening.*—The Central Intelligence Agency and the National Security Agency indicated that polygraph testing is included as a routine part of preemployment personnel screening. The armed services also reported a similar use during fiscal 1963 in connection with the program of enlisting Cuban refugees. This was a unique situation, however, since the military normally does not employ the device in recruitment or induction processing.

5. *Medical measurements.*—The Health, Education, and Welfare Department reported that three of its bureaus—the National Institutes of Health, the Public Health Service, and St. Elizabeths Hospital in the District of Columbia—used polygraphs for medical purposes. As a device which measures pulse rates, respiration rates, and blood pressure, the polygraph has been used to record the reactions of patients under anesthesia.

The device also has found use in cases involving patients with mental or neurological disorders. More frequently, it has been employed on animals undergoing experiment.

B. EXTENT OF POLYGRAPH USE

Except for the personnel screening category, the user agencies declared that polygraphs were not used in every case. The Atomic Energy Commission, for instance, said that the device was involved in processing only 1 of 29,300 security clearances processed during fiscal 1963. Similarly, the machine was employed in 0.14 percent of the FBI investigative matters handled in fiscal 1962.

The frequency of polygraph use in Air Force investigations varied from once in every 43 cases in 1959 to once every 18 cases in 1962. The Internal Revenue Service, which restricts polygraph tests to employees who request them, reported such tests were used in fewer than 10 cases in the last 10 years.

Other agencies indicated that investigative techniques affected the extent of polygraph use. The Defense Atomic Support Agency said the device is used normally "to gain information not otherwise attainable by other investigative techniques." The Coast Guard replied that polygraph tests are administered when "there is conflicting evidence, [or] the subject requests an examination, or it appears that an examination would materially aid the investigation." The Post Office Department limits the device to "cases of more than average importance where the investigation is at a standstill because the inspector cannot prove a suspect guilty or eliminate him from suspicion even though he has exhausted all normal investigative techniques."

Several agencies referred to the polygraph as an investigative "tool" or "aid" which was used "seldom" or "on rare occasions."

In the area of personnel screening, the CIA answered that "all applicants and employees are afforded polygraph examinations as part of security screening procedures." The NSA advised that polygraph

interviews are a required part of preemployment processing for all civilian applicants. After becoming a NSA employee, however, a person is subjected to such a test only in connection with matters "extensively investigated but difficult to resolve." In the past, polygraph examinations have not been required of military personnel before their acceptance for assignment to NSA.

C. POLYGRAPH TESTS CONDUCTED DURING FISCAL 1963

The Federal Government conducted 19,796 polygraph tests during 1963, according to the answers to the subcommittee's questionnaire. And this amount did not include the thousands of tests which the CIA and NSA gave to "all applicants and employees," since the agencies claimed the number of tests must be classified as "security" information.

The information compiled by the subcommittee showed the Army to be the heaviest Government user of polygraphs. During fiscal 1963, the Army conducted roughly 12,500 tests or more than half of all those reported by the Government. Screening of Cuban enlistees, a situation presumably unique to the period reported, accounted for 3,494 Army tests with the polygraph. The Federal Bureau of Investigation reported 2,314 tests.

D. POLYGRAPH TESTS REQUESTED DURING FISCAL 1963

Not all Government units using polygraphs maintain their own specialized staffs and facilities to carry out the tests. On some occasions, agencies do not have their own equipment or operators available at the scene of investigations.

During fiscal 1963, these conditions led to 322 polygraph tests being requested by Federal agencies. The Post Office Department accounted for 134 requests while the Secret Service requested 110 tests.

A followup on the subcommittee's questionnaire indicated that a great majority of these tests were performed by other Government agencies (hearings, p. 507).

E. POLYGRAPHS OWNED BY THE FEDERAL GOVERNMENT

A total of 512 polygraphs or other so-called lie-detection devices were reported as owned by the Federal Government at an estimated acquisition cost of \$428,066. This does not include the CIA and NSA which claimed that the number and acquisition value of the polygraphs they possess is classified as security information.

The Army led the statistics in this department, possessing 261 devices which cost an estimated \$182,700. The Navy Department was next with 86 machines, including 9 owned by the Marine Corps, followed by the Air Force with 72 and the FBI with 48. The Post Office Department reported they own 17 "lie detection" devices, 13 of which were acquired more than 10 years ago and employ only a one-phase, skin-resistance detection procedure. The Post Office Department stated that disposed of these one-phase instruments in the current fiscal year (hearings, p. 468).

F. AUTHORIZED POLYGRAPH OPERATORS WITHIN THE GOVERNMENT

Federal agencies reported 639 employees are authorized to conduct polygraph tests. Their salaries during fiscal 1963 amounted to slightly more than \$4.3 million. However, administering polygraph examinations is only one of many assigned duties to the great majority of these Federal workers. For example, the FBI reported that the 46 special agents authorized to perform polygraph tests spend an estimated 6 percent of their time on such activity. Accordingly, the FBI contended that only 6 percent of the agents' \$616,667 annual salaries—or \$37,000 per year—can be directly attributed to work involving the polygraph. On this same point, authorized Army military policemen devote less than 5 percent of their time to polygraph activities, averaging 1.8 tests per month for each examiner. Post Office Department inspectors reportedly average less than 3 percent of their total effort with the device and the Secret Service attributes less than 1 percent of the total operators' salaries to work involving the machine.

The National Security Agency and the CIA are the only organizations indicating that handling polygraph tests is the primary duty of any employees.

Numerically, the Army again was highest, reporting 358 polygraph operators on its rolls in fiscal 1963. The Navy Department followed with 106 examiners—86 assigned to naval intelligence and 20 to the Marines. Next on the list was the Air Force with 73 authorized operators.

One more these figures do not include CIA and NSA, which claim they are exempted by statute from disclosing information regarding the number and salaries of their employees. CIA claims as authority 50 U.S.C. 403(g),¹ and NSA claims as authority section 6 of Public Law 86-36 (50 U.S.C. 402 note).²

G. OTHER ANNUAL COSTS

More than \$56,000 a year in costs related to polygraph use was reported by the 19 agencies. This figure is a bare minimum, as such costs were very sketchily estimated, due to widely varying record-keeping. Intended to be included in this category were training and travel expenses of polygraph operators, maintenance of the polygraph machines, and similar recurring costs. In addition, the Air Force reported an expenditure of \$24,953 during fiscal 1961 for a contract with Fordham University (New York) on studies in lie detection. In addition, the Defense Department reported spending nearly \$300,000 for other research contracts relating to use of polygraphs (appendix I, p. 27).

¹ 50 U.S.C. 403(g) states: "In the interests of the security of the foreign intelligence activities of the United States and in order further to implement the proviso of section 403(d)(3) of this title that the Director of Central Intelligence shall be responsible for protecting intelligence sources and methods from unauthorized disclosure, the Agency shall be exempted from the provisions of section 654 of Title 5, and the provisions of any other law which require the publication or disclosure of the organization, functions, names, official titles, salaries, or numbers of personnel employed by the Agency: *Provided*, That in furtherance of this section, the Director of the Bureau of the Budget shall make no reports to the Congress in connection with the Agency under section 947(b) of Title 5."

² SEC. 6. (a) Except as provided in subsection (b) of this section, nothing in this Act or any other law (including, but not limited to, the first section and section 2 of the Act of August 28, 1935 (5 U.S.C. 654)) shall be construed to require the disclosure of the organization of any function of the National Security Agency, of any information with respect to the activities thereof, or of the names, titles, salaries, or number of the persons employed by such agency.

H. SAFEGUARDS FOR INDIVIDUALS

Included in the subcommittee questionnaire were several queries designed to reveal the steps taken to safeguard the rights of individuals who undergo polygraph tests. In this regard the agencies were asked what relative weight is accorded polygraph test results or refusals to be so tested, whether the use of polygraphs is subject to review, whether tests results are available to the individual, whether an avenue of appeal exists, and whether an individual's physical and mental condition are considered.

1. *Effect of refusals.*—In response, every agency provided assurances of one form or another that polygraph tests are given only with voluntary consent from the person to be tested. Even in the employment screening programs of the CIA and the NSA, where polygraph tests approach the point of being mandatory, applicants may refuse to submit to polygraph testing. Whether a refusal would dim a job applicant's chances is not clear. The CIA simply said that refusals would be "considered along with other information developed * * *" while the NSA indicated an applicant's refusal would require "more exhaustive investigation."

A number of agencies expressly declared that refusals do not prejudice the outcome of an investigation. The Air Force, for example, stated "no inference is or may be made from * * * refusals" while the Army military police assured that "failure to volunteer for an examination is not construed as a tacit admission of guilt." Similarly, the Defense Atomic Support Agency said that a refusal "cannot be construed as an admission or even a partial admission of guilt" and the Post Office Department asserted the refusals cannot form the "basis for any recommendation."

While the Marine Corps went along with most agencies in saying a refusal "is not considered as proof or evidence of facts sought to be confirmed," the Office of Naval Intelligence thought otherwise. "It is safe to say," stated ONI, "that this Office realize [sic] that some subjects refuse to submit to examination on the basis of moral scruples which they consider valid, in other cases a refusal may be considered a tacit admission of guilt."

The Defense Supply Agency also had some doubts about refusals. "While only limited significance is attached to data developed by the polygraph test," DSA said, "in a clear-cut 'did-you-or-didn't-you' situation refusal * * * is considered as an unfavorable reflection on the credibility of the individual's statement."

A member of the District of Columbia's Metropolitan Police Department can be ordered to take a polygraph test, and be subject to disciplinary action if the order is disobeyed, but for any other suspect a refusal "can be given no weight as to guilt or innocence."

With the exception of the District of Columbia Police Department, all agencies reported that refusals by employees to take polygraph tests are not noted in their personnel records, although such matters might be mentioned in investigative reports.

2. *Weight accorded polygraph test results.*—No agency admitted attaching great significance to the results of polygraph examinations, but there were indications that such tests influence at least the course of investigations.

The Atomic Energy Commission reported that polygraph test results alone were not conclusive but if they were at variance with the findings

of field investigations, additional fieldwork would be carried out to resolve the discrepancies. The Defense Atomic Support Agency and the General Services Administration stressed that they attached no weight to such test results without confirmation by subsequent admissions.

The results are not used by the National Security Agency in "reaching any finding" but only to "identify areas in which the individual should be questioned further." In a similar vein the National Aeronautics and Space Administration said the device is used "for formulating additional investigative coverage."

A balanced statement on this point was issued by the FBI, which said the "polygraph can be helpful to implement an interrogation and provide investigative direction but it must not be relied on solely or used as a substitute for logical investigation."

The Internal Revenue Service seemed inclined to give the individual being tested the benefit of the doubt. "Where such test is favorable to the subject, it might be given considerable weight," IRS said. "When the test is unfavorable, it would simply be considered with all other information * * *"

The polygraph was felt to be "an invaluable investigative aid" by the Office of Naval Intelligence, which also cautioned that "an accuracy rate of 70 percent is considered optimum."

3. *Review of polygraph use.*—Almost all of the 19 agencies indicated that use of polygraphs is subject to review by authorities higher than those persons immediately involved in handling investigations.

One reported exception to this review practice was the CIA. That Agency apparently considers a system of review for each instance of polygraph utilization as unnecessary since the Director of Central Intelligence has established the policy that "all applicants and employees will be afforded polygraph examinations as part of security screening procedures."

Likewise, polygraph tests are a required part of the National Security Agency's preemployment processing of civilian applicants, and there is no process to review each applicant's case to determine whether the testing is appropriate. However, there is a system for reviewing the decision to test NSA employees.

While the Defense Supply Agency maintains a review process for all recommended tests in criminal investigations, security operations are handled differently. The use of polygraphs in DSA security matters is decided, without subsequent review, by the intelligence officer in charge at the field activity concerned or at DSA headquarters in Washington.

4. *Availability of results to individuals tested.*—Five agencies—Central Intelligence Agency, Defense Supply Agency, Department of the Air Force, National Security Agency, and the Federal Bureau of Investigation—indicated they do not make known the results to individuals undergoing polygraph examinations. All other agencies using the machine said they either routinely advise the individual tested of the results or provide the information upon request.

5. *Appeals of polygraph test results.*—A number of agencies reported that they have no system permitting the appeal of adverse polygraph test results. Most of these agencies reasoned that an appeal limited to the results of polygraph tests is unnecessary since no action is taken against individuals solely on the basis of such examinations; however,

these agencies went on to say that any administrative action resulting from an investigation would be subject to appeal.

The District of Columbia Metropolitan Police Department answered that the right of administrative appeal does not apply in its uses of the machine "since all criminal cases must ultimately be presented to a court of law and the results of polygraph examinations are not admissible in these courts."

But a sizable number of agencies and their components said they provide a means of appeal, usually by conducting a new test with a different operator. Agencies allowing an appeal or reexamination of some sort are the Army, the Marine Corps, the Coast Guard, the Internal Revenue Service, the Secret Service, the U.S. Information Agency, and the U.S. Park Police of the Interior Department.

6. *Consideration of physical and mental conditions.*—Each agency reporting the use of polygraphs, and all of their affected units, informed the subcommittee that consideration is given to the physical and mental conditions of individuals to be tested.

A few agencies, including the Air Force, the Commerce Department, the Defense Atomic Support Agency, the National Security Agency, and the State Department, said they obtain professional medical advice when there is a question of physical or mental suitability to undergo polygraph tests.

While most other agencies simply indicated that consideration is accorded, few further details were volunteered. The Post Office Department, for example, noted that "susceptibility tests are given to determine * * * mental suitability." Similarly, Naval Intelligence said: "It is well understood the physical-mental conditions of many subjects will render them unsuitable as testing subjects either on a temporal or permanent basis."

The U.S. Information Agency was slightly more specific, stating that the matter "is left to the professionalization of the [polygraph] operator."

I. QUALIFICATIONS OF GOVERNMENT POLYGRAPH OPERATORS

In order to ascertain the qualifications of the polygraph operators within the Federal Government, the subcommittee asked those 11 agencies that employed polygraph operators for a breakdown of the minimum requirements for the operators. Included among the criteria were age, education, grade or rank, years of investigative experience, any character investigation or agency check, and type of special polygraph training.

1. *Minimum age.*—Although most agencies have set 25 years as the minimum age for a polygraph operator, the District of Columbia Metropolitan Police Department allows a policeman aged 21 to conduct the polygraph tests. The Coast Guard minimum age is 22, while CIA "prefers" their operators to be 30 years old. There is no minimum age requirement in the FBI, but all examiners must be special agents and the minimum age for such an agent is 23 years.

2. *Educational requirements.*—The educational requirements for polygraph operators in the Federal Government vary from agency to agency. The minimum requirement is a high school degree, although an Army military policeman must have 2 years of college education before becoming eligible to perform polygraph tests. CIA, NSA,

FBI, Office of Naval Intelligence, and the Secret Service all require a college degree.

3. *Grade or rank.*—The minimum grade or rank requirement for polygraph operators varies greatly throughout the Government. The District of Columbia Metropolitan Police Department has no special requirement, while the Central Intelligence Agency requires its polygraph operators to be a GS-11 (with base annual salary of \$9,004). The FBI requires its polygraph operators to be a special agent, which has the grade of GS-10 (\$8,450). Other grade or rank requirements include: Army Intelligence, E-5 (\$4,738); Army Military Police, warrant officer (\$6,632), NSA, GS-11 (\$9,004); and Post Office Department, PFS-13 (\$12,639).³

4. *Investigative experience.*—Three agencies—the District of Columbia Metropolitan Police Department, the FBI, and the Marine Corps—have no minimum requirement for years of investigative experience. The remainder of the agencies employing polygraph operators vary in their requirements from 1 year to 5 years.

5. *Agency check or character investigation.*—All prospective polygraph operators within the Federal Government must be given either an agency check or a background investigation prior to approval as an operator. NSA reports that all applicants for polygraph operator must pass a polygraph screening test.

6. *Training program.*—The majority of agencies that employ polygraph operators train them at the Army Provost Marshal General School, Fort Gordon, Ga. The Coast Guard and the Post Office Department also make use of two private sources of instruction. CIA requires polygraph trainees to take an internal academic course for 5 weeks plus an additional 4 months on-the-job training. The FBI also conducts an internal training course and advanced training seminars.

7. *Other requirements.*—No one agency can be compared with any other in their "other requirements" for authorizing a polygraph operator. The requirements range from a thorough understanding of communism (NSA), foreign language fluency and physical ability to travel extensively (CIA), to emotional stability and lack of distracting scars or impediments (Air Force).

III. DEFENSE DEPARTMENT MEMORANDUM PERTAINING TO POLYGRAPHS

THE DEPUTY SECRETARY OF DEFENSE,
Washington, D.C., April 27, 1964.

Memorandum for—

The Secretary of the Army.
The Secretary of the Navy.
The Secretary of the Air Force.
The Chairman, Joint Chiefs of Staff.
The Director, National Security Agency.

The following instructions are effective immediately throughout the Department of Defense:

No examination with the aid of a polygraph shall be conducted without advising the subject to be interviewed (1) that he has a right under the fifth amendment to the Constitution or, as appro-

³ Salaries derived from tables found on p. 13415, Congressional Record, Aug. 6, 1963.

The Federal Government's use of polygraphs

Agency	Purpose	Tests administered during fiscal 1965	Tests required during fiscal 1965	Polygraphs owned	Acquisition cost	Authorized examiners	Salary costs during fiscal 1965	Other annual costs 1965	Age	Education	Grade or rank	Minimum qualifications for polygraph examinees						Use subject to higher review	Results evaluable to source	Test results subject to appeal	Federal regulations governing use
												Years of investigative or character investigation	Agency check or character investigation	Training program	Other requirements						
1. Agriculture Department 2. Army Control and Disarmament Agency 3. Intelligence	Criminal Security and personnel screening	0 13,094	0 0	0 138	\$152,700	0 132	\$796,585	\$15,270	25	High school	E-4 (staff sergeant)	3	Yes	Army Military Police School, Fort Gordon, Ga. (7-week course)	1. 3 years of superior to outstanding performance 2. Language proficiency 3. General intelligence test 4. Passed intelligence course	Yes	Yes	No	No		
4. Military police	Criminal	14,400	0	118		205	983,300		25	2 years, college	Warrant officer	1	Yes	do.	1. U.S. citizen 2. No court convictions 3. No court convictions involving moral turpitude 4. Passed criminal investigation course	Yes	Yes	Yes	Yes		
Atomic Energy Commission Air Force	Security and personnel screening	41,922	0	72	\$2,157	72	64,766	\$3,307	37	High school	E-4 (staff sergeant)	3	Yes	Army MP school	1. U.S. citizen 2. No court convictions 3. No court convictions involving moral turpitude 4. Passed criminal investigation course	Yes	Yes	No	No		
Criminal Intelligence Agency	Security and personnel screening	(*)	0	(*)	(*)	(*)	(*)	(*)	30	College degree	GS-11	1	Yes	Internal 1 week's leadership training	1. U.S. citizen 2. No court convictions 3. No court convictions involving moral turpitude 4. Passed criminal investigation course	No	No	No	Yes		
Commerce Department	Security and personnel screening	0	2	0		0							Yes								
Defense Department	Security and personnel screening	140	0	3	3,440	3	18,018	1,384	9	High school	GS-11	9	Yes								
Defense Supply Agency	Security and personnel screening	0	7	0		0							Yes								
National Security Agency	Security and personnel screening	(*)	(*)	(*)	(*)	(*)	(*)	(*)	25	Bachelor's degree	GS-11	12	Yes	Completion of accredited course not less than 6 weeks and 100 hours on-the-job training	1. U.S. citizen 2. No court convictions 3. No court convictions involving moral turpitude 4. Passed criminal investigation course	No	No	No	Yes		
District of Columbia Metropolitan Police	Criminal	390	0	3	3,100	6	29,425	60	21	High school	No special requirement	No set period	Yes	Army MP school	None	Yes	Yes	No	No		
General Services Administration	Security and personnel screening	0	10	11		0							Yes								
Health, Education and Welfare Department	Criminal and misdemeanor	0	0	11		0							Yes								
National Institutes of Health	Criminal and misdemeanor	(U)	0	8	20,000	0							Yes								
Public Health Service	Criminal and misdemeanor	0	0	48	38,425	46	12,016,607	125	30	College degree	Special agent	No set period	Yes	Internal 2 weeks' training	1. U.S. citizen 2. No court convictions 3. No court convictions involving moral turpitude 4. Passed criminal investigation course	Yes	Yes	No	No		
Interior Department	Criminal and misdemeanor	2,314	0	0		0							Yes								
Justice Department	Criminal and misdemeanor	0	0	0		0							Yes								
National Security Agency	Security, criminal, and misdemeanor	0	0	0		0							Yes								
National Aeronautics and Space Administration	Security, criminal, and misdemeanor	1,200	0	77	62,535	86	756,525	5,460	25	College degree	FC-9	1.5	Yes	Internal course (6 to 8 days)	History of meaningful interrogation experience	Yes	Yes	No	Yes		
Navy Department	Security, criminal, and misdemeanor	822	0	1	13,900	20	112,474	390	20	High school	E-4	No set period	Yes	Army MP school	No court convictions involving moral turpitude	Yes	Yes	No	No		
Office of Naval Intelligence	Security and personnel screening	338	0	17	5,300	15	217,940	1,100	30	High school	E-4	5 to 8 years	Yes	Army MP school	History of meaningful interrogation experience	Yes	Yes	No	No		
Post Office Department	Criminal	124	0	0		0							Yes								
State Department	Security, criminal, and misdemeanor	0	17	0		0							Yes								
Treasury Department	Criminal and misdemeanor	171	18	9	12,140	13	74,210	133	22	High school	E-4	1	Yes	Army MP School or New York Center of Lab Detec-	Selected on basis of maturity and soundness of judgment	Yes	Yes	No	Yes		
Internal Revenue Service	Criminal and misdemeanor	0	0	0		0							Yes								
Secret Service	Criminal and misdemeanor	6	0	4	4,380	2	18,166	50	25-30	College degree	GS-10/GS-12	3	Yes		Demonstrated interest and aptitude	Yes	Yes	No	No		
U.S. Information Agency	Security and personnel screening	10,795	322	512	425,065	630	4,524,015	24,200					Yes								
Total																					

1. A special process available for adverse personnel actions but not solely for polygraph test results.
2. Internal Revenue Service.
3. Secret Service.
4. U.S. Information Agency.
5. Total.
6. Same as Army (Civil Intelligence Corps and Military Police are attached to DASA).
7. Not a field requirement.
8. For example, General School, Internal testing camp, or private institution.
9. Internal unit or external institution.
10. No statistics maintained.
11. Only \$37,000 attributable to polygraph work.
12. Member Admin Information maintained under 54 CFR 101.1

priate, article 31 of the Uniform Code of Military Justice, to refrain from doing anything that may tend to incriminate him; (2) that the polygraph examination will be conducted only with his prior written consent; (3) whether the area in which the polygraph examination is to be conducted contains a two-way mirror or comparable device; and (4) whether the examination will be monitored or recorded, in whole or in part, by any means.

CYRUS VANCE.

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B. JUDICIAL DECISIONS RELATING TO POLYGRAPHS

- Aetna Insurance Co. v. Barnett Brothers*, 289 F. 2d 30, 24 Georgia Bar Journal 286, November 1961.
- California Insurance Co. v. Allen* (Texas), 235 F. 2d 178.
- Com. ex. rel. Hunter v. Banmiller*, 169 A. 2d 347, 194 Pa. Super. 448.
- Frye v. United States*, 293 Fed 1013 (D.C. Cir. 1923).
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- McCain v. Sheridan*, 324 P. 2d 923; 160 C.A. 2d 174.
- Mickelson v. Homeland Ins. Co. of America*, 132 F. Supp. 670.
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- People v. Schiers* (California), 324 P. 2d 981. Evidence—admissibility of lie detector evidence. 33 *Tulane Law Review* 880, June 1959.
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- Sheppard v. Koblitz* (Ohio) 187 N.E. 2d 40. 77 *Harvard Law Review* 358, December 1963.
- Stape v. Civil Service Commission of City of Philadelphia*, 172 A. 2d 161, 404 Pa. 354.
- State v. McNamara* (Iowa) 104 N.W. 2d 568. Lie detector results admissible or prior stipulation. 21 *Maryland Law Review* 176, Spring 1961.
- State v. McNamara* (Iowa) 104 N.W. 2d 568. Lie detector tests—effect of prior stipulation of admissibility. 46 *Iowa Law Review* 651, Spring 1961.
- State v. McNamara* (Iowa) 104 N.W. 2d 568. 6 *South Dakota Law Review* 136, Spring 1961.
- State v. Valdez* (Arizona) 371 P. 2d 894. 15 *Alabama Law Review*, 248, Fall 1962.
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- State v. Valdez* (Arizona) 371 P. 2d 894. 20 *Washington and Lee Law Review* 173, Spring 1963.
- State v. Valdez* (Arizona) 371 P. 2d 894. 65 *West Virginia Law Review* 76, December 1962.

V. SUBCOMMITTEE AUTHORITY

The use of polygraphs by the Federal Government was investigated by the Foreign Operations and Government Information Subcommittee pursuant to the Government Operations Committee's duty of "studying the operation of Government activities at all levels with a view to determining its economy and efficiency." The subcommittee

received the following letter of authorization from Chairman William L. Dawson:

CONGRESS OF THE UNITED STATES,
COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, D.C., March 12, 1964.

Hon. JOHN E. MOSS,
Chairman, Foreign Operations and Government Information Subcommittee,
House Office Building, Washington, D.C.

DEAR COLLEAGUE: In April 1963 I directed the Foreign Operations and Government Information Subcommittee to study and analyze the use of polygraphs within the Federal Government. It is my understanding that the subcommittee has compiled a great deal of information on this subject and now intends to hold hearings.

I am sure the subcommittee will fully explore this area. Please report your findings, with recommendations for action, to the full committee as soon as possible.

Sincerely,

WILLIAM L. DAWSON, *Chairman.*

The following witnesses were heard in 7 days of public hearings.

Private polygraph practitioners, April 7, 8, and 9, 1964:

Cleve Backster, Backster School of Lie Detection, New York, N.Y.

Fred E. Inbau, Northwestern University School of Law.

John E. Reid, John E. Reid & Associates, Chicago, Ill.

George Lindberg, John E. Reid & Associates, Chicago, Ill.

Army witnesses, April 10, 1964:

Maj. Gen. Ralph Joseph Butchers, provost marshal general,
Department of the Army, accompanied by—

Col. Robert E. Sullivan, commandant, U.S. Army Military
Police School;

Lt. Col. Nicholas D. Rudziak, chief, Military Police Branch,
Protective Services Division, Provost Marshal General's Office,
Department of the Army; and

CWO Thomas Raymond Beck, chief, Polygraph Committee,
Department of Specialized Instruction, Fort Gordon, Ga.

Navy witnesses, April 10, 1964:

Rear Adm. Rufus L. Taylor, Assistant Chief of Naval Operations
for Intelligence; accompanied by—

J. M. Barron, Office of Naval Intelligence.

Air Force witnesses, April 10, 1964:

Col. David I. Walsh, chief, General Investigations Division,
OSI, Air Force.

Scientists, April 29 and 30, 1964:

Dr. H. B. Dearman, psychiatrist, Johnson City, Tenn.

Dr. Joseph F. Kubis, professor, Department of Psychology,
Fordham University.

Dr. John I. Lacey, chairman, Department of Psychophysiology-
Neurophysiology, Fels Research Institute, and professor of
psychophysiology, Antioch College, Yellow Springs, Ohio.

Dr. Martin T. Orne, senior research psychiatrist, Massachusetts
Mental Health Center and associate in psychiatry, Harvard
Medical School.

Post Office, May 13, 1964:

Henry B. Montague, Chief U.S. Postal Inspector; accompanied by—

Francis W. Baleiko, postal inspector, Postal Inspection Service.

Marlin W. Brown, Director, Mail Loss and Depredations Division, Bureau of the Chief Postal Inspector.

Three of the seven days' hearings included both morning and afternoon sessions. The hearings have been printed in four parts, totaling 511 pages and containing 34 exhibits. Other information, material, and documents pertinent to the inquiry are contained in the committee's files.

