

Polygraph

JOURNAL OF THE AMERICAN POLYGRAPH ASSOCIATION

Volume 6

December 1977

Number 4

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PUBLISHED QUARTERLY

POLYGRAPH LEGISLATION AS OF 1977

By

Clarence H. A. Romig

One of the most often expressed concerns of polygraph examiners the past few years has been the increasing numbers of laws involving the polygraph. Seldom do two or more examiners meet without some discussion about this state or that one enacting a licensing law, or that an anti-polygraph bill was on the floor of a legislature or in some committee. How laws are legislated, the purpose of some legislative committees and the current status of polygraph laws will be the topics discussed in this article.

Thirty-four states have laws that regulate the use of the polygraph. Twenty-one of these laws have been enacted to safeguard the welfare of all the citizens by providing guidelines for the use of the polygraph by trained and licensed examiners. Fifteen states have enacted laws that are often considered anti-polygraph legislation. Three of these fifteen states (Oregon, Massachusetts and Michigan) also have licensing statutes in order to better provide protective legislation for their citizens. There is no federal legislation circumscribing the use of the polygraph.

The Legislative Process

The legislation of laws by the fifty states is quite similar to the process used by the federal government. Although there are no federal level polygraph laws, the federal legislative process will be described for the sake of simplicity. The legislative process, the turning of an idea into a law, is a rather lengthy one.

A law is created when a bill is approved by the House and the Senate and then signed by the President. But in practice the process is much more complicated. Someone has to write the bill. Usually a staff member of a congressman will have this task. His efforts may be eased with the aid of a congressional bill-drafting office. Lobbyists or other special interest groups often draft and provide bills for a congressman to introduce. All bills must be introduced by a congressman.

The introduction takes place when the congressman hands the bill to the Clerk of the House or Senate. Copies of the bill are printed and made available to the public. Then the majority leader of the Senate or the Speaker of the House assigns the bill to a committee that has jurisdiction over the matter the bill affects. There is no subject that would not find an interested committee.

Most bills do not become law. During the last federal congressional session almost 20,000 bills were introduced. Less than 750 were enacted into

The author is an Associate Professor in the Department of Criminology at Indiana State University, Terre Haute, Indiana 47809. He is also a Member of the APA, and an Associate Editor of this journal. [Ed.]

law. Some legislative observers estimate that over 100,000 federal and state bills are drafted nationwide annually.

Sometimes bills are assigned to more than one committee at the outset or are transferred to one committee after another. One committee may be interested in legal or civil rights matters, and another may consider appropriations aspects only.

There are at least thirty-eight congressional standing committees. They are the heart of the legislative process and the majority of the work is done by them. The committees are divided into specialized subcommittees. The committees and subcommittees have professional staff members who assist the members by gathering and drafting legislation.

The committee chairman decides which subcommittee will handle a particular bill. Committee chairmen, who gain these positions through seniority, have considerable influence in determining which measures will or will not become law. They can use political pressure to get their favorite bills passed, as well as to have others tabled. The subcommittee that is assigned a bill will usually hold hearings on legislation before taking any action. The hearings offer interested people a chance to provide subcommittees with their views on the legislation. After hearings have been held on a bill, a mark-up session will be held where the bill is changed to agree to the views of the majority of the committee members. Whenever many changes are recommended, the subcommittee will produce its own version in what they call a "clean bill."

The marked up bill needs to be approved before it is sent to the full committee for consideration. The full committee may approve the bill or it may hold additional hearings and another mark-up session. After the bill is approved by the committee a report is publicized. The report will describe the purpose of the bill, discuss the reasons why the committee is in favor of it, and the ultimate cost of the recommended legislation. Frequently there will be a part by part analysis of the bill, as well as the views of individual committee members or of a dissenting minority opinion.

The entire Senate or House next receives the committee approved and reported bill. But the process of arriving at a vote in the full chamber is different in each body. In the Senate the committee can ask for unanimous consent of the Senate for passage of the bill by placing it on the consent calendar. When there is no expressed objection the bill can be passed with little or no debate.

When there is objection, the bill is placed on the Senate's calendar of business. As the bill comes up in turn on the calendar, the Senate will debate the bill. Here is where the Senate can be bogged down for long periods in debate over a single bill. Here also is where amendments can be added to the bill, whether the amendments relate to the bill or not. After the amendments have been acted on, a non-recorded voice vote of the Senate is taken. A majority vote approves the bill which is then sent to the House.

After a committee approves a bill to be considered first by the House, it is placed on one of the five House calendars. Before any bill is considered by the House, the Rules Committee must issue a "rule." The Rules Committee

decides if and when a bill will be voted on, the amount of debate on the bill, and if any amendments can be proposed during consideration of the bill. A bill passed by a majority vote is sent to the Senate. One that has originated in the Senate is returned for the Senate to agree to any changes made in the House. Both Houses must pass a bill in identical form before it can be sent to the President for his signature.

After the bill has been approved by Congress it becomes law automatically, if after ten days the President takes no action. The President could veto the bill and return it to Congress, or he could sign it into law. Both Houses would have to vote by a two-thirds margin to overrule a presidential veto. With a failure to override the veto the legislation automatically dies.

Congressional Oversight Committee

Polygraph examiners were very much aware of congressional subcommittee hearings into the federal government's use of the polygraph in 1965 and 1974. Those hearings were not held to legislate new laws, rather they were "oversight" hearings which can be held to investigate conditions, situations or topics falling within the jurisdiction of the various committees or subcommittees. Such hearings can be initiated at the request of the public, certain special interest groups, or congressional or governmental sources. Any report of conclusions or recommendations resultant from oversight hearings do not have the binding effect of law, but they may provide the impetus and publicity for future legislation.

An excellent report of a typical oversight committee investigation was provided by Ansley in the March 1976 issue of this journal. One can read there that a committee or subcommittee publication of a report might reflect the opinion of a minority of members because the majority are absent when the drafted report is voted upon and publicized.

Current Status of Polygraph Legislation

The use of the polygraph is regulated by the laws of thirty-four states and by internal regulations of the Department of Defense, Treasury Department, Justice Department, Postal Inspection Service and the Central Intelligence Agency. Since 1959 twenty-one states and the Federal Government have enacted legislation or regulations that outline prerequisites for examiners, provide protection for examinees and over see polygraph activities within their jurisdictions. Sixteen states have legislated minor restrictions on the use of the polygraph in the areas of pre-employment and periodic employee testing.

The Restricting Legislation

Contrary to frequently expressed opinions, neither the polygraph nor polygraph examinations are illegal in any state. Laws applicable to the polygraph in sixteen states prohibit or limit polygraph examinations that are of the pre-employment or periodic examination type when the examination would be a condition of employment or of continued employment. These laws have the commonalities of brevity and ambiguity. Some laws expressly exempt law enforcement agencies, drug dispensers or national security matters.

Table 1 is a listing of the laws that limit the use of the polygraph as a condition of employment, the statute titles, specific words limiting the use, and, as available, exemptions and penalties. To date, a record has not been found that a suit had been filed to ascertain the constitutionality of the obviously discriminatory prohibition against pre-employment and periodic testing. Nor has a record been found at the state level that an Attorney General, other than that of California, has been asked to rule on the legality of circumventing the ambiguous language of the prohibiting statutes. In 1971 the California Attorney General issued a formal opinion that the California law did not "prohibit the employer from requesting the employee to submit to such an examination." [See editor's note.]

The Licensing Legislation

The polygraph licensing legislation in force in 1977 is listed in Table 2. Table 3 provides a quick-reference summary of the most commonly observed criteria cited in the licensing legislation.

Features observed in all the licensing legislation were that a license would be required, fees were expressed, renewal periods were prescribed, a revocation authority was specified, and a penalty was provided for violations of the statute.

Twenty states specified that minimum ages of applicants be from a low of 18 years through a high of 25. Nineteen laws prescribed the polygraph instrument should measure no less than the pneumo and cardio tracings, and four of these states now require 3 channels, adding electrodermal response recordings. Being conviction-free or without a conviction for moral turpitude was also required by all twenty-one states.

Additional comparisons can be readily seen in Table 3.

Department of Defense Regulations

In 1976 the Department of Defense issued new instructions about the use of the polygraph that substantially parallel state laws. All polygraph examiners of the Army, Navy, Marine Corps, Air Force, and National Security Agency must have been cleared by polygraph examination, as well as a background investigation to assure that they meet the following and other prerequisites prior to assignment for polygraph training: Age: 25; have a baccalaureate degree, two years investigative experience; and be free of criminal conviction.

The Department of Defense Regulations require satisfactory completion of the Polygraph Course at the U.S. Army Military Police School, which is a fourteen week course of instruction. Each trained intern then serves no less than six months under the supervision of a certified examiner and must conduct at least twenty-five examinations with a high degree of proficiency prior to certification to examine alone.

Formal refresher training is required every two years. Eighteen polygraph cases must be examined semi-annually to maintain certification.

Refresher training of three weeks is required if certification lapses. Similar provisions govern the supervision of polygraph programs in the Central Intelligence Agency, Customs Bureau, Drug Enforcement Agency, Federal Bureau of Investigation, Postal Inspection Service and the Secret Service. All federal polygraph examinations are reviewed by a quality control office for each agency.

Summary

The vagaries of the political arena have provided this nation with twenty-one state licensing statutes and sixteen laws that limit the use of the polygraph as a condition of employment or continued employment. The increased number of licensing statutes reflect a growing professionalism of the examiners and an increased confidence among the public and their legislators.

The licensing statutes are not standardized, yet they serve as a focal point for professional improvement. Concomitant to the increasing number of licensing laws is the growth of a profession that is seeking challenges and striving for excellence.

* * * * *

[Editor's Note:

This is the third of a series of articles published in alternate years since 1973 concerning polygraph legislation in this country.

The reader should understand that laws are changed frequently and are not always well publicized. For this reason it is requested that when legislation is signed into law or amendments are enacted, the editor and the author of this article should be so advised in order that the readership can be informed by updated articles.]

TABLE 1
POLYGRAPH REGULATING STATUTES, PENALTIES, AND EXEMPTIONS

State, Statute and Date	No employer may "_____" any prospective employee or employee to take a polygraph examination ...	Penalty	Exempted
Alaska Ch. 36, Sec 23.10.037 1964	"request or suggest"	fine up to \$1,000 and/or up to 1 year jail	policemen or prospective policemen
California Ch. 3, Art..3, Para 432.2 1963	"demand or require" but may request or permit	none stated	any governmental entity or agency
Connecticut Pub. Act. 488 after 1966	"request or require"	fine of \$250 to \$1,000	state or local government & police departments
Delaware Sec. I, Ch. 7, Title 19 Subchapter I:705 1966	"require, request or suggest"	fine of up to \$500 and/or up to 90 days jail	law enforcement agencies
Hawaii Ch. 378 HRS Para 378-21 & 22	"require"	fine of up to \$1,000 and/or up to 1 year jail	
Idaho Sect. 44-903 & 904	"require"	misdemeanor	all law enforcement agencies
Maryland Ch. 724, Para 95 1966	"demand or require"	misdemeanor; fine not to exceed \$100	federal, state or sub- division of government
Massachusetts Ch. 797 1959, amended 1963	"subject ... or causes"	fine of up to \$200	law enforcement agencies

TABLE 1 (continued)

State, Statute and Date	No employer may "_____" any prospective employee or employee to take a polygraph examination ...	Penalty	Exempted
Michigan Act 295, Sect. 26 1975	"require"	misdemeanor, fine of up to \$1,000	refers only to "employees," not applicants
Minnesota Sect. 181.75	"request or require"	misdemeanor	police
Montana Title 41 Labor Para 41-119 & 41-120 1974	"require"	misdemeanor	public law enforce- ment agencies
New Jersey Ch. 114, Para 1 Sect. 2A: 170-90.1 1966	"influence, request or require"	"is a disorderly person."	none stated
Oregon Ch. 249 1963	"require"	fine of up to \$500 and/or up to 1 year in jail	none stated
Pennsylvania P.L. 872, Sect. 666.1, 1969	"require"	fine of up to \$500 and/or up to 1 year in jail	public law enforce- ment agents; drug dispensers
Rhode Island Gen. Assembly Jan 1964	"require or subject ... or causes"	fine of up to \$200	law enforcement agencies
Washington Code 49.44.120 1965, amended 152:1	"require"	gross misdemeanor	public law enforce- ment; drug dispensers; and for national security

TABLE 2
POLYGRAPH LICENSING STATUTES IN
FORCE IN APRIL 1977

<u>STATE</u>	<u>STATUTE</u>	<u>DATE</u>
Alabama	Act. No. 2056	1971
Arizona	Title 32, Chapter 27, Polygraph Examiner	1976
Arkansas	Act 413	1967
Florida	Chapter 493, Florida Statutes	1967
Georgia	Georgia Polygraph Examiners' Act Amended 1970, 1973, 1975	1968
Illinois	Detection of Deception Examiner Ill. Rev. Stat., Ch. 38, Sect. 202-1 to 30	1963 1967
Kentucky	Detection of Deception Examiner Act, Ch. 329, amended by Senate Bill No. 245	1962 1970
Massachusetts	Chapter 147, General Laws as amended, Sections 22-30	1972
Michigan	Forensic Polygraph Examiners' Act Amended 1975, Senate Bill No. 674	1972
Mississippi	Polygraph Examiners' Act, Senate Bill 1987	1968
Nevada	Chapter 648, NRS	1969
New Mexico	Act (67-31-1 to 67-31-14); Laws 1963	1963
North Carolina	Article 9A, Chapter 66, Gen. Stat. of N.C.	1972
North Dakota	Chapter 43-41, North Century Code	1965
Oklahoma	Chapter 140, 68, S.B. No. 39	1971
Oregon	Chapter 608, Polygraph Examiners' Act	1975
South Carolina	Polygraph Examiners' Act S-996	1972
Texas	Texas Polygraph Examiners' Act S.B. 740	1965
Utah	Detection of Deception Examiners' Act Amended	1973 1976
Vermont	V.S.A. Chapter 45, Section 1	1975
Virginia	Code of Virginia, Sections 54-729.01 through 54-729.018; 54917 (1975) and POR 22	1968 1975
Department of Defense	DOD Regulation 5210.48, Amended 1977	1974

TABLE 3 - 1
THE LICENSING LEGISLATION

NOTE: A vacant space indicates no specific mention of this item in the statute.

	Alabama	Arizona	Arkansas	Florida	Georgia	Illinois	Kentucky	Massachusetts	Michigan	Mississippi	Nevada	New Mexico	North Carolina	North Dakota	Oklahoma	Oregon	South Carolina	Texas	Utah	Vermont	Virginia
License Required	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Persons exempted from license	b1	b3	b4	b	b	b3	b1	b	b2	b4	b		b	b			b2		b3	b1	b1
Renewal period in years	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
Application Fee \$	60	50	60	25	50	50	20	750	100	50	25	100	50		60	50	50	60			50
State Examination	X	X	X		X	X			X	X	X	X		X	c	X	X	X	X		X
Examination Fee \$	30		20						50		e	e		25	20	50		20			
Annual Fee \$	30	35	25	50	25	25	15	450	50	25	75	50	^a 200	10	25	50	50	25	25	20	30
Internship License	X	X	X	X	X	X	X		X	X			X		X	X	X	X	X	X	X
Internship Period in Months	6	6	12	12	6	6	18		6	12			k3		12	²⁰⁰ Exam	12	12	¹⁰⁰ Exam	12	6
Internship Fee \$	30	5	30	10	25	10			25	30			25		30	35	25	30	10	20	25
Background Investigation				X			X		X		X		X						^{as} ^{nec}		X
Formal Education	h	h	h	h	h	g			h	h		f	f		h	h	h	h	^g _i or		h
Polygraph School Required	k1	X	n1	X	X	X	Xj			k	l		k	m	k2	X	k	^k or o	X	X	X _c

TABLE 3 - 2

	Alabama	Arizona	Arkansas	Florida	Georgia	Illinois	Kentucky	Massachusetts	Michigan	Mississippi	Nevada	New Mexico	North Carolina	North Dakota	Oklahoma	Oregon	South Carolina	Texas	Utah	Vermont	Virginia
Grandfather Clause	X	X	X	X	X	X	X		X	X	X				X		X	X	X		X
Instrument prescr.; Channels required	2+	3+	2+	2+	any 2	2+	2+		2+	2+		3+	2+ or PSE	2+	2+	3+	2+	2+	3+	2+	2+
License to be Displayed	X	X	X	X	X	X	X			X	X		X	X	X	X	X	X	X		X
Reciprocal Agreements	X	X	X	X	X	X			X	X	X			X	X	X	X	X	X	X	X
Revocation Authority	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Appeals Channels Stated	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X
License Violation Penalty (maximum)	d4	d7	d4	d3	d	d2	d1	d3	d	d4	d	d	d	d2	d4	d	d4	d4	d	d5	d6
Non-Resident License required	X	X	X	X	X	X	X		X	X			X	X	X	X	X	X	X	X	X
Surety Bond in Thousands	5	5	1	5				5		5	2		5				5	5			
Citizenship	X		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X			
Minimum Age	25	18	21	21	21	21	18	25	18	21	21	25	18	21	21	18	21	21	18		21
Character Statement	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
References								X			X										
Conviction Free	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Honorable Discharge (military)				X		X	X						X	X					X		
Fingerprints				X	X		X		X	X	X		X			X			X		X
Photograph				X	X	X				X	X		X						X		

TABLE 3 (continued): SYMBOLS

- X - Specifically cited in statute
- a - Fees are for two years
- b - Municipal, County, State and Federal law enforcement agents exempted
- b1 - License required, but fees are waived for official police authorities
- b2 - License required by private and local government examiners; federal agents not mentioned
- b3 - License not required by doctors, psychiatrists or psychologists conducting research
- b4 - Governmental agencies may pay the fees required by the act
- c - Exam waived if g, h, and k1 are satisfied
- d - Misdemeanor penalty
- d1 - Fine from \$20 to \$500
- d2 - Fine from \$25 to \$500 and/or 6 months jail
- d3 - Fine from \$100 to \$1,000 and/or 1 year jail
- d4 - Fine from \$100 to \$1,000 and/or 6 months jail
- d5 - Fine up to \$1,000 and/or 6 months jail
- d6 - Fine from \$100 to \$500 and/or 12 months jail
- d7 - Fine from \$300 to \$1,000 and/or 6 months jail
- d8 - Fine of not more than \$1,000
- e - Application fee covers cost of examination
- f - High school graduate
- g - Baccalaureate degree
- h - Baccalaureate degree waivable with 5 years investigative experience
- h1 - Baccalaureate degree or 50 hours with 5 years investigative experience, Baccalaureate only from 1980 on
- i - High school graduate and 4 years investigative experience
- j - Two years internship or experience
- k - Either graduate from polygraph school and have 6 months internship, or have 12 months internship without school
- k1 - Graduate from polygraph school and have 6 months internship
- k2 - Polygraph school waived if either 6, h, or state exams are satisfied
- k3 - Either graduate from polygraph school or 3 years internship
- l - Two years experience
- m - Specialized training as approved by Attorney General
- n - Polygraph school waivable by 5 years investigative experience
- n1 - Polygraph school waivable with 12 months internship
- o - State lists specifically the acceptable schools

A SURVEY OF THE EFFECT OF THE POLYGRAPH IN SCREENING

UTAH JOB APPLICANTS: PRELIMINARY RESULTS

By

Gordon H. Barland, Ph.D.

The purpose of this survey is two-fold. First, it is to determine the rejection rate of nonpolice job applicants who are given a polygraph examination. Previous research has centered upon police applicants, and has generally shown that 30% to 50% of those police applicants who had been cleared by all other screening procedures, including background investigation, were disqualified from employment as a result of admissions of wrongdoing, made during the polygraph examination. There is no information currently available to determine what the rejection rate is for persons applying for nonpolice jobs such as warehousemen, truck drivers, cashiers, etc.

The second purpose is to determine the cause of rejection for those persons who are not hired. To what extent were such applicants disqualified because of the admissions of wrongdoing they had made to the polygraph examiner, and to what extent were they rejected on the basis of the examiner's decision of deception, unsubstantiated by admissions? The latter category is of particular interest to those persons who are concerned with the increased possibility of "false positive" errors predicted by the statistical argument known as conditional probability.

Procedure

The same consists of every pre-employment screening examination conducted by Polygraph Screening Service of Salt Lake City, Utah during the calendar year 1977. The preliminary results reported in this paper are the first 400 nonpolice job applicants, January 1 through September 9, 1977.

Immediately following each examination, a special form (Figure 1) was filled out, detailing the information acquired from the subject. The subject was then assigned to one of four categories by the examiner, depending upon the amount of significant information elicited from the subject. The examiner also indicated on the form what the results of the chart interpretation were; e.g., truthful to all test questions (no deception indicated, NDI). If the examiner concluded that the subject was deceptive or was withholding information to one or more of the questions on the examination, the subject was categorized as deceptive. When the results of the examination were explained to the subject, if he admitted that he had lied or withheld significant information to the question(s) indicated by the examiner, the exam was categorized as confirmed deceptive (Dc). If the subject denied having withheld information, or if he gave an alternative explanation for the physiological

The author is an APA Member who is in private practice in Salt Lake City, Utah. He is also an Associate Editor of this journal [Ed.].

Polygraph Screening Service is located at 565 E. 4500 South, Suite A-110, Salt Lake City, Utah 84107.

responses, such as by claiming to be very nervous, the exam was categorized as unconfirm deceptive (D_u). The exam was labelled inconclusive if the examiner was unable to render a decision of truth or deception to at least one of the questions on the test.

Approximately one week after the exam was conducted, the employer was contacted in order to find out whether the subject had been hired or not; and if not, why not. A sample completed form is shown in Figure 2.

Results

Table 1 shows the relationship between whether the subject was hired or not, versus the examiner's decision.

TABLE 1

Polygraph Examiner's Decisions Versus Whether Applicants Were Hired

Employer's Decisions	<u>Examiner's Decisions</u>					
		Incon- clusive	Truth- ful	Confirmed deceptive	Unconfir- deceptive	Total
	Hired	4	200	45	51	300
	Not hired: admissions	3	17	25	14	59
	Not hired: chart interp.	0	0	0	1	1
	Not hired: both charts & adms	0	0	1	5	6
	Not hired: misc.	6	15	6	7	34
Total	13	232	77	78	400	

Of the 400 applicants in this sample, 300 (75%) got the job and 100 (25%) did not. Thirty-four applicants were not hired for reasons not related to the polygraph. For example, it sometimes occurred that two or more applicants were considered for only one opening; even without the polygraph some would not have gotten the job. In other cases, the person would have been hired, but he accepted a job with another employer. Excluding those 34 applicants, 66 of 366 applicants (18%) were actually rejected by the employer. Moreover, 59 (89%) of the 66 applicants actively rejected by the potential employers were rejected on the basis of their own admissions to the examiner, NOT on the basis of an examiner's unsubstantiated opinion of deception.

Of particular interest to civil libertarians is the fate of the 78 applicants who were found deceptive on the polygraph, but who did not admit deception. Fifty-one (65%) were hired. Fourteen (18%) were rejected on the basis of what they had already told the examiner during the pretest interview. Only one applicant was rejected on the basis of the examiner's conclusion. An additional 5 (6%) were rejected by the combination of the examiner's conclusion and the pretest admissions, neither one of which, alone, would have disqualified the applicant from employment. Seven (9%) were not hired for reasons other than the polygraph.

It is interesting to note that not all persons who were concluded to be deceptive, and who then admitted it, were rejected. In fact, 45 (58%) of the 77 confirmed deceptive applicants were hired in spite of their admissions. That is, the applicant thought that his background would disqualify him from employment, so he tried to conceal certain aspects of it. However, their admissions were not considered that serious by the employer.

It is also of interest to note that 17 (7%) of the 232 persons concluded to be truthful by the examiner were nonetheless rejected by the employers on the basis of their admissions during the pretest interview.

Discussion

The preliminary data reported in this survey indicate that the statistical concept of conditional probability which is often used to argue against the use of the polygraph in screening situations is overly simplistic. There are many forms that argument might take, depending upon what assumptions are made by the proponent. The assumptions and reasoning most widely published may be summarized as follows:

Assumptions:

1. If 5% of all job applicants are "guilty" of something so serious that they should properly be rejected for the job, and
2. If the polygraph technique is 90% accurate,

Then:

- a. Of every 1,000 job applicants, 50 are "guilty" and 950 are "innocent", since 5% of the applicants are assumed to be "guilty."
- b. 45 of the 50 "guilty" applicants will be properly identified as deceptive by the polygraph examiners, since the polygraph is assumed to be 90% accurate.
- c. 95 of the 950 "innocent" applicants will incorrectly be identified as deceptive by the examiner, since there is an assumed 10% error rate.

Therefore:

Of the 140 subjects identified as deceptive by the examiner, 95 (68%) are actually "innocent," and may be erroneously denied employment.

If the assumptions are correct, then the use of the polygraph in most screening situations should certainly be abolished in order to prevent gross injustice. However, the data reported in this survey contradict the simplistic logic of the conditional probability argument. The proponents usually assume that only about 5% of all persons being screened have engaged in work-related acts so bad that they should properly be rejected for the particular job they are seeking. The data reported here suggest that the true figure is closer to about 18%, which reduces the theoretical false positive error from 68% to 34%. More importantly, the survey clearly shows that the overwhelming majority — about 90% — of those job applicants who were rejected, were rejected on the basis of their own admissions, not on the basis of the polygraph charts per se.

Many proponents of the conditional probability argument assume that most or all persons called deceptive by the examiner are rejected for the job. That appears reasonable, since it would be seemingly illogical for an employer to spend money on polygraph examinations if he did not intend to act upon the results. One of the unexpected findings of this survey was that this assumption is false. Well over half of all persons judged deceptive by the polygraph examiner were nonetheless hired, regardless of whether they admitted withholding information or not. Many employers use polygraph examinations not so much to decide whether to hire an applicant, as much as in deciding what position to put him in. For example, if an applicant is found to be an alcoholic, he may be hired as a dock worker rather than a driver.

Conclusions

There are two major, if tentative, conclusions based upon the preliminary data reported above. First, the rejection rate for job applicants is much higher than usually assumed in previously published examples of the conditional probability argument, namely, about 20% rather than about 5%. Second, most of the persons rejected for employment following a polygraph examination were rejected on the grounds of their own admissions rather than on unsubstantiated conclusions by the examiner. Only a very small proportion (less than 10%) of those applicants judged deceptive, but who did not admit it, were rejected by the potential employer for that reason.

There are several factors which may limit the generalizability of these results. The sample reported here is but the preliminary results of a study still in progress. It is possible that hiring practices are affected by seasonal changes such as the number of applicants available for jobs, the average age and experience levels of job applicants, etc. Thus, the percentages reported here are subject to change as the study progresses. Because the polygraph firm utilized in this study does not recommend whether applicants be hired or not, the results may not be typical of those firms that do make such recommendations. The polygraph firm used in this study does not extensively question applicants found to be deceptive; hence the proportion of confirmed deceptive subjects may be smaller than some other polygraph firms. Finally, the polygraph firm used in this study appears to place more emphasis on chart interpretation than many polygraph firms; hence the proportion of persons reported to be deceptive may be higher than would otherwise be the case.

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PRE-EMPLOYMENT SCREENING SURVEY

Date of Exam: _____ File Number: _____
Requested by: _____ Company: _____
Phone Number: _____ Examiner: _____
Subject: _____ Position sought: _____
Sex: _____ Age: _____ Race: _____

1. Significant pretest information:

2. Significant first chart information:

3. Significant second chart information:

4. Confirmatory admissions:

Self report: No derog Much derog
 Suitable _____ Unsuitable? _____
 Some derog Highly derog
 Suitable? _____ Unsuitable _____

Chart Interp: NDI _____ Confirmed DI to: _____
 INC _____ Unconfirmed DI to: _____

Date of call: _____ Time: _____ By: _____ Talked to: _____
Was subject hired or not? _____ If not, why not: _____

Hired _____ Not hired: Adms _____ Charts _____ Both _____ Other _____

PRE-EMPLOYMENT SCREENING SURVEY

Date of Exam: 5/13/77 File Number: B-P-161-267
Requested by: Frank Company: XYZ
Phone Number: 262-8423 Examiner: G H Barland
Subject: Bruce F Position sought: Salesman
Sex: M Age: 19 Race: C Prev. Exam: No.

1. Significant pretest information: His actual name is "S h", but has taken the name F informally without having been approved by the courts. Has 1 other job that he prefers over XYZ which he has an ap with & doesn't know what he would do if the other job came thru after he took the XYZ job, but that he would probably stay at XYZ. Quit his job at Sears due to being dissatisfied with the working conditions. Was fired from his job at Dee's 2 yrs ago due to giving unauthorized discounts. He does not feel that Sears & Dee's will give
2. Significant first chart information: him good recommendations. Missed a total of 7 da. last yr. from work. Has worked under the influence of marijuana 3-4 xs last yr & felt that the marijuana had no effect on his work ability. Has drunk 2-3 beers
3. Significant second chart information: while working on construction jobs & that his drinking is not as bad as it used to be. Said he had not taken more than \$100 worth of merchandise in the last 2 yrs from employers.
4. Confirmatory admission:
Admitted that he may have taken up to \$200 in merchandise without paying for it.

Self report: No derog Much derog
 Suitable Unsuitable? XXXXXX
 Some derog High derog
 Suitable? Unsuitable

Chart Interp: NDI Confirmed DI to: Q#8, Theft of merchandise
 INC Unconfirmed DI to: _____

Date of Call: 5/16/77 Time: 1:45 By: Man Talked to: Manager
Was subject hired or not? No If not, why not: Theft of merchandise.

Hired _____ Not hired: Adms XXXX Charts _____ Both _____ Other _____

HOW THE GUILTY REVEAL THEMSELVES

By

Warren D. Holmes

When I was a young policeman, an old time Detective told me, "I can always tell when they're lying, they blink like a mackerel looking at a baracuda, and they shake like sugar cane in a hurricane." I can remember thinking, "Damn, is that all we know about interrogation and lying — there's got to be more to this." Yet after thousands of years of human evolution, that was the state of the art at that time. Not only in my town but all over the world. To make matters worse, no worthwhile information had been written about the subject of lying by those interested in human behavior. We just kept perpetrating our ignorance.

But things changed in the 40's and 50's. A small army of men began to learn about lying. The newspapers called them the "lie-box men." What those pioneers in our profession learned, they passed on to others. Now thousands possess that knowledge. For the first time in the history of man, these so-called lie-box men created a controlled environment for analyzing those who were suspected of lying. In contrast to old time Detectives, the early pioneers in lie detection were more sophisticated in their approach and became more sensitized to the nuances of lying. For the first time, a catalogue was developed. A catalogue outlining human manifestations of lying based on the empirical collection of data from thousands of polygraph examinations administered all over the nation. What a contrast there is between what we knew just thirty years ago, and what we know today.

The criminal can no longer hide in the deepest recesses of his mind, nor is he going to con anybody as easy as he did thirty years ago. For now, we are in possession of a catalogue as to how people lie, and we add to that list everyday. If only every police officer in the United States could be a polygraph examiner for just two years, what a difference it would make in combating crime.

Our greatest contribution is the fact that we are the only scientific discipline in history to document how human beings lie. The purpose of my paper is to in some small way, add to that catalogue.

I have always believed that our profession should utilize a three-fold approach to determining truth or deception. One is case analysis, two is subject analysis, and three is chart analysis. Of course, there is another school of thought which does not recognize any other criteria for determining truth besides pure instrumentation. I respect that opinion, but I cannot discount my own life experience. I have found that case analysis and subject analysis are a valuable adjunct to determining truth or deception. I do not consider case or subject analysis unscientific. In my opinion, the collection of data from observation of thousands of persons in a controlled environment,

The author is an APA Member who is in private practice in Miami, Florida. An expert on interrogation, he has often been a featured speaker at polygraph and law enforcement seminars. This paper was delivered at the APA Seminar in Las Vegas in August 1977. [Ed.]

conforms to the scientific method. Our field provides a gold mine of empirical truths. For example, a polygraph examiner would be foolish to ignore the contention of a child less than 10 years of age, who claims that Mr. Brown who owns a corner drug store got her behind the counter and played with her pee-pee. Independent research in several states indicates that the child is telling the truth 99% of the time.

How many times have you heard the remark, "I didn't steal the money but I feel morally obligated to pay it back." Any experienced examiner will tell you that you better have darn good polygraph charts if you clear a person who makes that statement.

In our field in most instances, we deal in what is probably true rather than what is certainly true. Therefore, anything that enhances probability has probative value. In those instances, where case analysis, subject analysis and chart analysis all support one another, we come closest to establishing what is certainly true. On the other hand, all three analyses act as a check and balance against one another. If you have in your hands a non-emotional liar, it is the case analysis and subject analysis that keeps you from being fooled.

A polygraph examination is an extension of case and subject analysis. The pre-test interview provides verbal manifestations of guilt and the test provides physical manifestations of guilt. A polygraph examination, in my opinion, is directly relevant to the personality structure of the person being tested. It makes a difference if the subject being tested is a person who lies for a living as some salesmen do, or the subject is a farmer from Kansas. For this reason, I have always placed a lot of emphasis on subject analysis. It should be noted at this juncture, that proper subject analysis cannot be done in a laboratory utilizing simulated crime situations. To be valid, subject analysis must involve real crime situations and the interview of the suspect must be in depth. It is incumbent upon the present day polygraph examiner to become sensitized to the typical devices of persuasion utilized by the guilty.

I have been making notes on verbal manifestations of guilt for many years. The points I'll make in this address have been well documented. I have empirical faith that certain utterances emanate from guilt because I have heard them innumerable times from people whose guilt was later confirmed. The selected examples I will use are some that I thought you might not be acquainted with. In the case of the more experienced examiners, I'm sure that you are acquainted with them all. But at least there has to be some benefit derived from knowing that an examiner 3000 miles away has had the same experience. In the case of the new examiner, I hope that I will give you something that you can use out on the firing line.

Actually, there is nothing original in the way man lies or defends his position. The guilty lie in a pattern established over generations of cultural influences. What you see in a polygraph situation are the same arguments that have been employed for thousands of years in political debates, and in the disbursement of propaganda. For example, a diversionary tactic frequently resorted to in politics and propaganda is the "red herring" or

false issue, which sometimes is used to draw away attention from the real issues. We see this everyday in a polygraph office where a suspect wants to argue about how he was treated by the police, rather than to discuss the validity of the evidence against him. They will use this red-herring argument to a point of absurdity. If the police weren't letter perfect in their behavior, that automatically makes the suspect innocent. The suspect feels that an injustice has been done to him, therefore, despite his guilt, he is justified in not confessing. In other words, the suspect projects his guilt on the parties responsible for the possible error. The suspect who employs the red-herring technique ties up the interrogation by constantly arguing an issue which had nothing to do with his actual guilt or innocence.

During the pre-test interview, particularly in a larceny investigation, you generally ask the suspects questions about their financial obligations. You want to know their rent payments, car payments, finance company payments, etc. The suspect becomes very indignant and says to you, "I don't think that I should have to answer those questions." Now, if he went to a department store to buy a lawn mower on time, he'd have to answer all those questions on a credit form. But now that his reputation is at stake, he refuses to answer the questions. On the surface, his refusal doesn't make sense, except when you understand the red herring tactic. He throws up a roadblock by design. In effect, what he's saying under his breath is: "You see how much trouble I'm giving you. You're not going to push me into any confession." If suspects only knew how revealing their comments are to an experienced interrogator, they'd run out of the room. Thank God we can't prove that the polygraph is 100% accurate, or we'd all be out of business.

A typical con man's statement is the following:

"You know Mr. Holmes, if I'm going to steal anything, it will be a million dollars, and not a lousy hundred dollars."

That statement has bothered me for twenty years. I'm convinced, now, it is generally made by the liar. I do know that the statement is a lie, even if it's made by a basically good person. If he hasn't got the personality make-up to steal a hundred dollars, he's certainly not going to steal a million. Besides, people generally steal commensurate with their position in life. The bank president embezzles millions, and the store clerk steals fives and tens. This statement is generally made by the con artist — an image maker. He makes this statement to impress you with the idea that he has a price, but he doesn't want to be classified as a petty thief. He wants to give the impression that he doesn't want to insult your intelligence by contending that he is devoid of larcenous thoughts, but since the case in question involves a theft less than a million dollars, that automatically excludes him as a suspect. Ironically, if you say to the person who makes that statement, "You mean to tell me that you've never stolen anything in your life?" Invariably, he makes admissions to at least some petty thefts which proves his initial statement was a lie.

Another tactic is an argumentative fallacy known as "argumentum ad ignorantim." In this particular fallacy, we assume that failure to prove one side establishes the opposite side. We face this fallacious argument everyday in the polygraph profession. The suspect knows that you can't

prove his guilt, therefore, he must be innocent. They substitute legal innocence for actual innocence. The tip-off to this particular fallacious argument is the fact that the suspect, rather than offering actual proof of innocence, is constantly emphasizing the negative aspects of the police case. It has been my experience that when people argue, they lead from strength. The innocent always emphasize proof of innocence. The guilty, lacking this actual proof of innocence, can only feel strong attacking the police case. Most confessions are obtained when you have proven your case. But sometimes, that's not even enough. You have to be absolutely correct in the presentation of your evidence against the suspect. If you analyze the case wrong, he feels justified in not confessing until you get it right. I learned this lesson a long time ago, which lead me to the conclusion that guilty people deny things specifically, and, innocent people deny things inclusively. I worked on a case where a man killed a woman after raping her in an upholstery shop. He strangled her to death. We assumed at the time that the ligature used to strangle the woman was a piece of mattress ticking, found near her neck. The suspect was repeatedly accused of strangling the woman with a piece of mattress ticking. During one period of the interrogation, I walked out of the polygraph office and sat in the observation room to watch the homicide men interrogate the suspect. The suspect repeatedly asserted that he did not strangle the woman with the mattress ticking. It dawned on me that he wasn't denying the crime, he was simply denying the implement used in the crime. I walked back in the office and apologized. I told him I understood why he wasn't telling the truth because we were wrong. I said, "You didn't use the mattress ticking to strangle that woman, what did you use?" And with that he said, "I used an electric cord." He showed us where he hid the cord in a box in the upholstery shop. Analogous to this, is a situation where you are accusing a person of stealing a specific amount of money, and they keep saying, "I didn't steal the \$286.00." And then it dawns on you that they're not denying the stealing, they're just denying the amount. Later on, you find out that they didn't steal the \$286.00, they stole \$265.00. The guilty deny things specifically where they feel safe -- where they are actually telling the truth. If you notice that a person is very specific in their denials, without extrapolating from that point, that generally is a good sign of guilt.

A favorite political argumentative technique is to extend and exaggerate an opponent's position in such a way as to make it easier to attack. Your adversary then forces you to debate the exaggeration, rather than the precise evidence against them. In a polygraph test, we see this tactic employed in many different ways. For example, if you ask a person if he or she has ever taken a polygraph test before, and they say, "Yes, but I don't think it works on me because the last time I was tested, I was told that I even lied to my name." The person who makes that statement is deliberately exaggerating the prior test results to undermine that particular test and make it appear absurd.

Another favorite tactic in debate, and one employed by the guilty, is the fallacy known as "argumentum ad hominum." This is a fallacious argument based on the assumption that anything which discredits a person, discredits his argument. This is a favorite tactic employed by the guilty when they attempt to discredit their accuser, assuming that this undermines the validity of the accusation against them. The suspect refuses to discuss the merits of the case, but persists in repeating the same statement, "That woman's lying about me to save her own ass, she's nothing but a whore and a drug user."

Another favorite argument technique employed by the guilty is called, "petty-fogging." This is a technique where the guilty party concentrates his attention of petty issues rather than relevant material. The guilty employ this tactic, attempting to tie up the interrogation by arguing over fine distinctions and trivial points, rather than debating the evidence against them.

Another favorite tactic of the guilty is called, "poisoning the well." Specifically, poisoning the well means precluding or discounting in advance, evidence which is contradictory to the position one takes in an argument. When a subject walks into a polygraph room and he tells you that he doesn't believe in the polygraph because he has heard that they are not admissible as evidence, he is in effect, poisoning the well. In between charts, I like to ask a person,

"What are the thoughts that run through your mind as I'm firing the questions at you?"

Many guilty persons respond,

"Oh, I thought the question was stupid."

"What question was that?"

"Oh, the question did I steal the \$500."

The person who makes this statement is poisoning the well by insinuating that the procedure is wrong, and it's absurd to even assume the possibility they stole the \$500. It is obvious that he anticipates flunking the test, so he poisons the well in an attempt to negate the validity of his polygraph test results.

Another tactic employed by the guilty is called, "repeated assertion." An eminent sociologist once said, "It is easier to believe a lie that one has heard a thousand times, than to believe a fact that one has never heard before." Adolf Hitler employed this tactic in his propaganda. Many guilty people will not enter into the spirit of the interrogation, they simply keep saying, "I'm innocent, I'm innocent." They believe that if they repeat the assertion long enough, they're going to convince somebody that they're actually innocent.

Another defense mechanism employed by the guilty, I call "Testing the Water" tactic. The guilty have prepared speeches, and rehearsed answers. They can't wait to try them out. If you're like me, you have a set pattern. When you interview a suspect, you like to do things in a chronological order. The suspect who employs this particular defense mechanism is not going to let you do things your way. He just can't wait to test your reaction to it. You can hardly get his name and age before he gets into his story. If he gets the impression that you think he is lying by the questions you ask, he then accuses you of being prejudiced, and uses this as an excuse not to take the test. This is all done by design.

In pre-employment testing, there is a different twist to how subjects employ testing the water tactic. How often are you asked for directions to various addresses after you have completed your examination and the subject is walking out of your office. I wondered about this after it became obvious that many of the people who lie on a test, rather than asking you the test results, ask directions. They analyze your demeanor and your degree of helpfulness. Thereby, gaining some indication of whether or not they passed the test. In effect, they're testing you. Many lying subjects have another purpose for asking directions. They condition you to help them, thereby, enhancing their chances of passing the test.

A clever ploy used by many guilty subjects I call the, "You Don't Understand" tactic. Many liars will attempt to block in depth questioning by making the statement to the interrogator, "You wouldn't understand ..." or "You don't know how these things work ...". This technique is employed to summarily dismiss the interrogator, and to prevent a logical analysis of the subject's story. These statements are generally made by petty crooks who view themselves as big operators in the drug scene. You hear these statements made most of the time by informers, and those offering testimony in exchange for immunity. When you point out to the subject that part of his story just doesn't make sense, he refuses to go into further detail by simply claiming, "You wouldn't understand." In essence, he wants to tell his story, but he doesn't want to be questioned. He knows that in depth questioning will tear his story apart. You have to be very careful when you run a confirmation test on an informer, or one offering testimony, in exchange for immunity. There is an old saying that every fabricated story hangs on a thread of truth. His story may consist of 25% truth, and 75% lies. He is more difficult to detect in his lies because he justifies his story on the basis that part of it is true.

Another tactic employed by the guilty is the use of "The Third Person Gimmick." It seems typical of the boisterous, braggadocio liar to use, what I call, the "third person gimmick." He comes on like thunder, and for example, will make the following statements: "People will tell you that Harry Brown is no thief." "I want you to know that Harry Brown is no liar." "Harry Brown is an honest man." He makes all of these statements, rather than simply saying, "I didn't steal the money, and I'm not lying." In essence, he performs an act of detachment. It's like he's talking about another person, standing across the room. By talking in the third person, the suspect creates an image whereby, he makes himself and others, witnesses in the defense of Harry Brown. By talking about himself in the third person, he sugarcoats his denial. It is not enough to simply say, "I didn't do it." He has to create a sacred image. The suspect who uses the third person gimmick, finds it easier to defend a detached image than the person who is sitting directly in front of the interrogator.

Still another common tactic is one I call, "Lying by Referral." Many persons who intend to lie on the test, or during the pre-test interview, are much more fearful of a polygraph examiner than detectives, lawyers, and etc. For this reason, they try to block an in-depth interview. They don't want you to analyze each statement they make. They attribute to you a power of detection even though they are not attached to the polygraph instrument. They

want to keep your conversation nice and tight, without elaboration. For example, if you say to them, "I see that you were arrested for grand larceny before, what was that case all about?" They respond, "Oh, that was nothing, the case was thrown out. You can check the court records if you want." That is lying by referral. The person was legally innocent, but not actually innocent. The ones who are actually innocent, take relish in discussing the case. The liar doesn't want to discuss the case because he fears you will detect that he simply beat the rap. Another example of lying by referral is as follows:

"How do you explain the fact that two weeks after you had a \$1000 shortage in your teller cage, you're wife deposited \$800 in a savings account in another bank?"

The suspect says,

"Oh, do I have to discuss that again, I told the F.B.I. all about that, ask them."

In this instance, the suspect doesn't want to have to lie all over again, and he's afraid of you. So he refers you to another agency so that you will have to make an analysis second-hand. Another example of lying by referral is,

"I want you to tell me everything you did between 7:00 and 11:00 P.M. last night."

The liar responds,

"Oh, that's all covered in the statement I made to the police yesterday. You can check with them."

Once again, this is an example of where the suspect hopes he fooled the police, but doesn't want to try his luck with you.

A large number of tactics which I'm sure are familiar to you, come under the heading of, "Loop Hole Lying & Non-Responsiveness." There are two expressions which I first read about in John Reid's book, which are, "To the best of my knowledge", or, "Not that I remember." I call this loop-hole lying. The person who makes these remarks in response to a question, has a subconscious fear that perhaps he's responding wrongly, or it's a deliberate attempt to qualify the negative response. He leaves himself an out where he can later say, in face of contrary evidence, "Well, I did qualify my answer." This technique is a little bit more subtle than those who are non-responsive to the questions by utilizing such "thinking time" expressions as, "Who me?", or by repeating your question back to you. The brazen liar frequently answers a question with a question. For example, "Do you want me to tell a lie on myself?" "Are you stating that I'm a liar?" "Why should I do that?" These questions are asked to put the interrogator on the defense. Another form of non-responsiveness is lying by identification. For example, if you ask a suspect, "Did you ever steal anything from the warehouse?" He may reply, "I'm the warehouse foreman, I'm bonded, besides, you can't steal from the warehouse." By responding in this fashion, he cloaks himself with a position which makes it appear that he is automatically excluded from the

possibility to commit theft. He never did answer your question.

I think it's important to distinguish between the psychological defense mechanism of suppression and the deliberate conscious effort to be evasive. Suppression is evident in those instances where the suspect is non-responsive to even the most innocuous questions. The suspect finds the memory of the crime a painful experience. He thus clouds all memory recall, thereby blocking out any specific memory of the crime. This person is evasive to even non-threatening questions. There is no effort on part of the suspect to pit his will against that of the interrogator. The suspect who is using the defense mechanism of suppression, may be unaware of his non-responsiveness, even to the questions of a less threatening nature.

In contrast, the deliberately evasive suspect uses selective memory. He will discuss at great length those areas where he feels safe. When he comes to a pertinent point, there is a marked difference in his behavior. He glosses over and treats lightly those areas threatening to him. This is all done by design to limit inquiry which will reveal his guilt.

It's rare that a guilty party is prepared for a thorough indepth interview. They think up a story and hope that they will be able to tell it without a dissecting evaluation. The guilty tell their story in general terms without any specific details. The guilty want to defend the smallest amount of ground. It's easier to lie in general than specifically. In contrast, the innocent offer infinite details, and tell their story in such an animated way that you say to yourself, "Damn, nobody could make that up." When you listen to an innocent person, you can sense that he is reliving an actual experience. The innocent sound and look like they're telling the truth. The guilty, on the other hand, put on contrived emotional reactions. They overreact to a point where it's obvious that they are play acting. If they are not guilty of over-reacting, they are guilty of under-reacting. Their manner of speech belies what should be the logical, emotional display.

With good liars, their guilt is not revealed without thorough inquiry. In-depth interviewing is a real art, and the master detective knows how to set up responses which will tell him if the suspect is telling the truth or lying. For example, in an assault case, a question I always ask — and I assume you do also — is "Why is this person telling this story about you?" Invariably, the guilty respond, "I just don't know." Or, they use a defense tactic of "argumentum ad hominum," where they smear the accuser to a point of overkill. The innocent respond to this question by entering into the spirit of speculation. You can see that they are genuinely puzzled, and they've given the matter a lot of thought. They share with you, without defensiveness, their thoughts. The guilty don't have to think about it, they already know the answer.

It's interesting that the guilty have two extreme reactions to the accuser. Either they say nothing derogatory because they don't have the heart to do so knowing the accuser is telling the truth, or they go into a tirade of denunciation without even attempting to analyze the motives of the accuser. The innocent are understandably angry at the accuser, but will make a genuine effort to figure out the basis for the accusation.

In armed robbery cases, you hear the following dialogue,

"That woman is lying."

"Wait a minute, after the robbery she was taken to the police station and she went through hundreds of mug shots and she picked your picture out. Now, she may be mistaken, but she is not deliberately lying about a person she doesn't even know."

"She is lying."

In this instance, you see a classic example where the guilty won't even give the accuser the benefit of the doubt.

In armed robbery cases with co-defendants, the astute interrogator sets up the following dialogue:

"You say you didn't hold-up the 7-11 store?"

"Yes."

"Do you know Rodney Smith, the other man arrested in this case with you?"

"Yes, I've known him for about five years."

"Are you in the same cell?"

"Yes."

"Have you and Rodney discussed this case?"

"No."

"You mean you claim you're innocent, and you haven't even asked Rodney who was with him when the 7-11 store was held up?"

"Oh, he says he's innocent too."

"Do you believe him? Have you pumped him to get the truth?"

"No, I think my lawyer should do that."

Needless to say, it's hard to conduct an objective polygraph test after this dialogue.

Of all the areas of inquiry, I think that going over a suspect's alibi, affords the greatest opportunity to observe manifestations of guilt. The following dialogue is typical:

"Where were you on July 18th, around 3:00 P.M. when the 7-11 store on 7th avenue was held up?"

"I was working."

"Where?"

"At Calder's Roofing Company."

"Does the foreman keep a worksheet of specific jobs you work on each day?"

"Yes."

"Do you punch a time clock in and out?"

"Yes."

"Do you get paid by check?"

"Yeah."

"How long have you been out on bond in this case?"

"About 5 months."

"When is your trial coming up?"

"Monday."

"Monday?"

"Have you been out to Calder's to pick up copies of the records to indicate that you were working on the day of the robbery?"

"My lawyer said he was going to do that."

"Have you asked him if he did it?"

"No."

"Have you talked to your foreman, or anybody on the job about testifying for you?"

"No."

"Do you know if your lawyer has contacted any of the witnesses?"

"No."

"You mean to tell me that you have been out on bond for five months, and your trial is coming up in three days, and you haven't done any of these things. You don't know if your lawyer has contacted any of the witnesses?"

"Well, you know how some people are. They don't want to get involved."

You better have darn good polygraph charts if you clear a defendant after this conversation.

There is a saying in psychology that every professed virtue hides a secret vice. Be careful of the person who creates a holier-than-thou image, and is not capable of making any admission against interest. This person is like a sheet of glass. He will not scratch the surface for fear that the entire glass will shatter. He responds in the negative to all threatening questions. He is afraid that if he makes one minor admission, it destroys the image he has created. Or that one minor admission might crumble his entire resistance. In essence, he says to himself, "If I'm going to lie, I might as well lie all the way. If they're going to accuse me of lying, let them accuse a saint."

The really clever liar uses two tactics. One, he admits everything you can prove, and nothing you can't prove. For those things you can prove, he doesn't implicate himself, but offers a plausible explanation. For example, he won't deny that he was on 7th avenue yesterday, around the time of the hold up. But he will contend that he was in that area to get a hair cut. He knows that if he denied that point and somebody got his license tag number, you will know that he is lying about everything, including the hold up. By making that admission, all he has to worry about now is refuting the witness identification of him. I learned this lesson many years ago when a man by the name of James Ruby Thomas murdered seven women over a two year period. In each case, he always admitted knowing the woman and dating her, even on the day of her death. If he had just one time denied knowing the woman, or denied being at her house on the day of her death, we could have, through witness testimony, convicted him by direct and circumstantial evidence. But he would never lie on these points. And we had no witness who watched him strangle to death any of the seven women.

The second tactic a clever liar uses, is to make a minor admission by design. He does this to ingratiate himself with the interrogator. For example, he will say: "Mr. Holmes, you're right. I did lie on the test. I wasn't going to say this because I was afraid. I didn't steal the thousand dollars but I did take \$50 once. I didn't admit it before because I was afraid you'd think I'd stolen the thousand dollars. Wheee, I'm glad I got that out, because now I have nothing more to hide." By making this admission, he attempts to reconcile the test results. If the admission comes before the test, he does so to create the picture of taking you into his confidence. In effect, saying, "If I told you that, would I lie about the thousand dollars?"

Now in conclusion, it is my opinion that besides the development of the process of identification by fingerprints, the polygraph technique is the greatest tool ever devised for the American Criminal System. What a profound effect it has had on a nationwide basis. The number of guilty unveiled, the confessions obtained, the number of innocents cleared who were unjustly accused, are untold. But to me, the greatest value of the polygraph has been the development of a sophisticated corp of master detectives. We have raised to new heights the approach to the problem of crime. In doing so, we have established a higher level of professionalism in the quest for truth. We are now the lighthouse of objectivity in the American Criminal Justice

System. Needless to say, we must do nothing to undermine that position. We must be careful not to identify with the adversary system of justice which ordinarily places more emphasis on winning than truth. We should not identify with either the prosecution or the defense. In my opinion, our primary concern should be to perpetuate the legacy left to us by the pioneers of our profession — integrity in the quest for truth.

* * * * *

Correction to Volume 6, Number 2 (June 1977) Polygraph:

All or None Law: The principle of neural discharge which holds that in a stimulus response situation, a neuron will respond in its maximum capacity or not at all.

Analysis: The separation of observed psychophysiological responses recorded on a polygraph chart for the purpose of forming an expert opinion. A statement reflecting the results of the evaluation of a polygraph chart.

SENATE HEARINGS ON THE POLYGRAPH

On the 15th and 16th of November 1977, Senator Birch Bayh held hearings on his Bill S1845 which would ban the use of the polygraph in all interstate commerce, would prohibit any specific test that relates to a person's employment or duties and probably would prohibit law enforcement agencies from screening applicants and from screening for special assignments.

As chairman of the Subcommittee on the Constitution of the Senate Judiciary Committee, Senator Bayh was able to hold the hearings when he knew that other members were unlikely to be present. In fact, he held the hearings alone, and no other Senator appeared at any time.

Members of the Subcommittee are:

Birch Bayh, Chairman (D-Indiana)
Howard M. Metzenbaum (D-Ohio)
James B. Allen (D-Alabama)
James Abourezk (D-South Dakota)
William L. Scott (R-Virginia)
Orrin Hatch (R-Utah)

As each witness appeared before Senator Bayh, they were allowed to submit a formal statement. Some read these directly into the record, others used them to speak from, informally. Then, after the presentation, Senator Bayh asked questions. For the questions and answers, we must await the publication of the hearings, which may take some months. Moreover, published hearings are rarely verbatim, but edited.

The publications that follow are the formal submissions. First, we have printed those in opposition to the legislation followed by those who supported it. However, the order of appearance before Senator Bayh was:

David Lykken, for himself
J. Kirk Barefoot and Charles Marino, A.P.A.
C. R. McQuiston, Int. Soc. of Stress Analysts
Trudy Hayden and Arnold Turkus, A.C.L.U.
David Linowes, former Chairman, Privacy Protection Study Commission
Ty Kelley, National Association of Chain Drug Stores
William Krupka, Perry Drug Stores
John Mazzie, American Trucking Associations
Harry C. Hunter, National Association of Convenience Stores
Walter Davis, Retail Clerks International Association
Robert Smith, Privacy Journal

After the submissions, we thought it worthwhile to publish the news-release, by Birch Bayh, published before the hearings. It discloses his clear bias. But then he never said he wasn't. We have also printed the bill.

as presently drafted. We question for example, whether polygraph is banned for the detection of a specific crime in an employment context.

Internal crime, at least half of which is attributed to employees, costs business between fifteen and fifty billion dollars annually. Other estimates indicate that three out of five business bankruptcies result from employee theft; that three out of four employees handling money or merchandise steal from their employers. The Senate Select Small Business Committee reported recently that thefts of goods in transit in the United States were in the multiple billions of dollars per year, and that the national economy would no longer afford thefts on such a scale.^{6/}

White collar and blue collar crime in business and in industry challenges integrity and threatens economy. To combat extensive drug thefts, the U.S. Drug Enforcement Agency has recommended polygraph use for initial hiring and monitoring of drug store employees. The transportation industry has switched to containerized shipments in order to avoid losses, only to find that entire containers are now being stolen or hijacked. Securities thefts from Wall Street firms have reached such alarming proportions as to undermine the financial integrity of brokerage companies.

While there have been abuses in our profession, as in any other profession, the polygraph technique is still reliable. When used properly it can be a protective device which safeguards against blatant costly crime. Commercial polygraph examinations can deter or eliminate internal theft. This result aids not only the business obligation to protect the company and stockholder but also the consumer interest to pay lower retail prices.

To the extent that any federal intervention is warranted, we recommend and would support the federal licensing of polygraph examiners. Such a law could require mandatory registration as well as qualification standards. We believe that such a licensing structure would provide the appropriate regulatory framework to strengthen the quality of polygraph performance. This federal procedure coupled with cooperation and initiative from our organization and other state and regional associations would produce professional standards and the most effective use of the polygraph.

Until the Congress is prepared to consider such legislation, state licensing and limitation can continue to supervise polygraph use. Fifteen states have decided to limit the use of the polygraph. Twenty-one states have enacted laws to license and supervise polygraph examiners. Two states have decided to both limit and license. The Subcommittee in determining whether this legislation is necessary should consider these various state efforts. We believe the Subcommittee will conclude that total prohibition is an unwarranted and extreme approach.

Polygraph validity and reliability will be another major issue addressed during these hearings. While the reliability of certain other lie detection devices ranging from the Psychological Stress Evaluator (PSE) to rapid eye

^{6/} Senate Select Committee on Small Business Report No. 93-276.

movement analysis may be unproven, there is no question that polygraph accuracy has been established. The APA believes that no reputable scientist will disagree with the basic psychophysiology upon which the use of the polygraph is based.

The technical expertise and control procedures of qualified polygraph examiners assure with high accuracy that nervous, anxious, angry, and even unstable individuals are not incorrectly identified as untruthful. Objective validity studies in simulated crime situations in various psychophysiological laboratories have established the accuracy of the polygraph in the 85% to 95% range. Moreover, in a recent District of Columbia case Dr. Martin Orne, a prominent psychophysiologicalist and premier figure in polygraph research, testified that field polygraph examinations could be expected to exceed the accuracy of laboratory tests.

Further testimony before this Subcommittee may focus upon the abuse of the polygraph by certain employers. Self-appointed polygraph "experts" may claim deficiencies in instrumentation and techniques. We ask you to demand specifics in accusations and we urge you to demand credentials from these supposed experts. Regardless of their educational attainments, how many real life examinations have they conducted, observed, or analyzed?

Polygraph accuracy is not the controversy. Most proponents of this legislation would be just as strongly opposed if the polygraph were 100% accurate. Nevertheless some witnesses appearing before this Subcommittee may attempt to claim that all errors in polygraph examinations result in injustice to applicants or employees. We urge the Subcommittee to carefully scrutinize any evidence that may support such a conclusion.

Commercial polygraph examinations are used extensively by many major and well known enterprises as well as many local, small businesses. Polygraph examinations are expensive, and time-consuming, but they have been clearly justified on the basis that they are more accurate, more specific, and certainly less offensive than any other investigative procedure currently available. Indeed, there have been several instances where employee organizations, even labor unions, have requested polygraph examinations in preference to any other routine investigative procedure.

The right to individual privacy will be the key issue focused on during these hearings. We believe that this issue requires the most careful attention and discussion. Witnesses who will address this Subcommittee later will insist that the right of personal privacy takes precedence over all other rights in America.

Arguments have been made that this bill is necessary in order to curtail unnecessary invasions of an employee's "right to privacy". Not only do these arguments ignore an employer's countervailing need to protect himself and the consuming public from the crippling and inflationary effects of epidemic employee theft, but they also assume that there is some universally accepted legal definition of privacy and that this definition encompasses the private use of polygraphs in an employment context. In contrast, learned commentators on this legal issue agree that there is no consensus as to what exactly constitutes an individual's "right to privacy." Richard Parker, a

professor of Law at Rutgers University, has stated that "[T]here is no consensus in legal and philosophical literature on a definition of privacy."^{1/} Professor Arthur Miller, in a widely-praised book on the issue, admits that privacy is "difficult to define because it is exasperatingly vague and evanescent."^{2/} What isn't "vague" is the fact that when the Supreme Court has held a particular activity to be an invasion of an individual's constitutionally protected privacy interest, there has uniformly been found some "state action" in the activity at issue.^{3/} Perhaps the best statement of this crucial distinction between state action and the interaction of private citizens appears in the Supreme Court's decision in United States v. Cruikshank, "The Fourteenth Amendment prohibits a state from depriving any person of life, liberty, or property without due process of law; but this adds nothing to the rights of one citizen as against another."^{4/} Since no state action is involved in the use of polygraphs by private employers, no constitutionally-protected individual privacy right is impacted.

Moreover, any argument that federal prohibition of the use of polygraphs to curtail theft is necessary to protect defenseless employees against omnipotent employers clearly ignores the realities of the modern employer/employee relationship. First, no employee is "coerced" into submitting to polygraph tests. Their use in the employment context is purely consensual. Second, labor, the most vocal proponent of federal prohibition, is well equipped to secure its demands and limit polygraph use through the collective bargaining system. Finally, if a state determines that there is a privacy interest which it wishes to protect in this context, it may through legislative action or through its courts' decisions create a civil damage remedy for invasion of what that state has determined to be a valid privacy right. It is interesting to note that while there is already extensive state regulation of polygraph testing, no court, state or federal, has held that the use of polygraphs to curtail employee theft constitutes the tort of invasion of privacy.

Perhaps the most effective rebuttal to any argument that federal prohibition of polygraph use by employers is necessary to protect an employee's hypothetical "privacy right" arises from an examination of the inevitable consequences of such a prohibition. Without the protection of polygraph testing, an employer must by necessity resort to prior work records, arrest records, credit records, and numerous other types of records in screening prospective employees. Not only would this entail inordinate expense to the employer which inevitably means increased costs to the consumer, but the necessity of resorting to such voluminous and varied material must inexorably

^{1/} R. Parker, "A Definition of Privacy", 27 Rutgers Law Review, 275, 275-76 (1974).

^{2/} A. Miller, The Assault on Privacy, at 25 (1971).

^{3/} See, e.g., Roe v. Wade, 410 U.S. 113 (1973) (State Blanket prohibition of abortion unless life of mother jeopardized by pregnancy ruled unconstitutional), Griswold v. Connecticut, 381 U.S. 479 (1965) (State prohibition of use of contraceptives by married couples ruled unconstitutional).

^{4/} 92 U.S.C. 542, 554 (1875).

give rise to a far greater potential for the invasion of any legitimate privacy interest an employee might have. If both polygraph testing and the use of such data compilations were both proscribed, an employer would have no effective mechanism to screen employees or control employee theft. This would inevitably mean that employees will be able to conceal disqualifying information: a drug firm will be unable to prevent employment of a narcotics addict; a bank would be unable to prevent employment of a convicted embezzler as a cashier; and, most importantly, the consuming public will continue to pay prices inflated to cover theft.

We appear today with full confidence in the utility and reliability of the polygraph technique. We believe that the impartial evaluation by this Subcommittee will conclude that S. 1845 is a harsh and unnecessary approach to regulation by the Congress.

Of Counsel

AKIN, GUMP, HAUER & FELD
1100 Madison Office Building
1155 Fifteenth Street, N.W.
Washington, D. C. 20005

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TESTIMONY OF JOHN MAZZEI

ON BEHALF OF AMERICAN TRUCKING ASSOCIATIONS, INC.

November 16, 1977

Mr. Chairman:

My name is John Mazzei. I am the Director of Security Control for Transcon Lines, Inc., 180 Talmadge Road, Edison, New Jersey. I also serve as President of the Security Council of the American Trucking Associations, Inc., which consists of motor carrier security experts concerned with reducing losses resulting from theft, pilferage and hijacking of goods transported by motor carriers.

American Trucking Associations, Inc., is the national trade organization for the trucking industry representing all types of motor carriers. Basically, they classify into common carriers, which offer their services to the general public and contract carriers, which transport goods for a limited number of specified firms and conduct their operation to fit the particular needs of the shippers with which they contract. The industry also includes private carriers, firms which transport their own goods in their own vehicles.

On behalf of the American Trucking Associations, Inc., I want to thank you for this opportunity to express our concerns relating to S.1845. Should

give rise to a far greater potential for the invasion of any legitimate privacy interest an employee might have. If both polygraph testing and the use of such data compilations were both proscribed, an employer would have no effective mechanism to screen employees or control employee theft. This would inevitably mean that employees will be able to conceal disqualifying information: a drug firm will be unable to prevent employment of a narcotics addict; a bank would be unable to prevent employment of a convicted embezzler as a cashier; and, most importantly, the consuming public will continue to pay prices inflated to cover theft.

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this Bill be adopted employers would no longer be permitted to request applicants for employment or employees to take a polygraph examination in connection with their employment.

Our industry understands the importance of protecting the privacy rights of the individual and we certainly support those rights and the work of this Committee toward assuring such protection.

However, we do not support the provisions of Senate Bill 1845 because we believe that, if enacted, the Bill would do more to protect the criminal element and promote thievery, than it would to protect the innocent.

For many years our industry has used polygraph testing as part of the hiring process and we have used such testing in the event of theft and hijacking to determine which employees were definitely not involved in the crime.

We believe that if this Bill is passed as written we will unwittingly hire more people who will steal from us, and we will have a greater amount of theft from current employees. We believe that this would lead to increased costs to shippers, consignees and ultimately to the consumer ... The American Public.

Let me explain our cargo security problem and our use of polygraph as background for our opposition to S. 1845.

The motor carrier industry has been placed in a rather precarious position. On one hand, we are told by government that losses must be reduced or federal security regulations will be imposed; while on the other hand, industry is finding it increasingly difficult to secure background information necessary for sound employment decisions.

As a result of extensive hearings conducted in 1971 on cargo theft in the United States, the Senate Select Committee on Small Business found that direct losses from pilferage, theft and hijacking of cargo shipped by truck in interstate commerce is reaching enormous proportions, increasing to a figure rapidly approaching one billion dollars per year. The Committee also emphasized the severe economic impact of cargo theft on the small businessman and the consumer. The Senate Select Committee estimated the indirect costs of claims processing, non-availability of shipper capital otherwise tied up in claims processing, and crime-caused loss of competitive market position to be between five billion and seven billion dollars.

The bulk of cargo theft in the transportation industry is the result of the cumulative affect of thefts committed by the industry employees. Secretary of Transportation, Brock Adams in his address before the National Cargo Security Conference in Chicago on September 16, 1977, stated that "while hijackings get the headlines and shoplifting the publicity, 70 to 90% of all inventory losses - of goods in stock or in shipment - are attributable to employees who help themselves."

The motor carrier industry has long realized the importance of effective pre-employment screening as a means of determining those individuals whose

recent work history and personal conduct would make them trustworthy and productive employees. We believe the polygraph to be a useful tool in the pre-employment screening process. Former Secretary of Transportation, William T. Coleman seems to agree with this view. In his address to the 1976 National Cargo Security Conference, Mr. Coleman commented on the transportation industry's need to investigate the background of prospective employees. Mr. Coleman stated in part that "This is clearly a sensitive area bearing on an individual's civil rights. Yet, nearly 75% of all property crimes in this country are perpetrated by repeaters. Information on an individual's past criminal record would assist employers in determining whether that individual should be put in a position where the opportunity to steal might prove tempting. This is a management responsibility, yet management has not had access to the information necessary to employment decisions".

The motor carrier industry has found that job applicants expect to be asked questions reasonably related to their past conduct and they expect a prospective employer to verify the information furnished by the applicant. We have also found that employees who are innocent often seek a polygraph test to remove them from the cloud of suspicion.

FBI data shows that an individual with a criminal record will have a much greater tendency to steal property than an individual with no record. The 1975 FBI report "Crime in the United States" examined the extent to which criminal recidivism contributes to annual crime counts. The report states that 74% of all offenders released after serving their prison time were re-arrested within four years. Of those persons released on parole, 71% repeated and 57% of those placed on probation repeated. Of those persons who were acquitted or who had their cases dismissed in 1972, 67% were rearrested for new offenses within four years. Crime categorized as "stolen property" had a recidivism rate of 68%. To expose persons with a recent criminal record to the temptations to commit theft and pilferage associated with handling thousands of dollars of freight daily is not fair to them and will only aggravate the cargo theft situation in the trucking industry.

One of our greatest concerns is that federal cargo security regulation will be imposed on the trucking industry if we do not control our cargo security losses. In a report to the President dated March 31, 1977 Secretary of Transportation Brock Adams summarized industry and government security accomplishments relative to DOT's National Cargo Security Program. Mr. Adams stated that the primary objective of the program is to "deliver the goods in U.S. Commerce intact, undamaged, on time and at a minimum cost to the shippers with a reasonable profit to the carriers." Mr. Adams also commented on the possibility of additional regulation for the transportation industry with respect to cargo security and said that at this time such regulation is unnecessary. However, he did not rule out regulation as an alternative to the National Cargo Security Program for reducing cargo theft losses in U.S. Commerce. Accordingly, the transportation industry is faced with the constant threat of cargo security regulations should it not reduce its cargo theft losses.

The most controversial area surrounding the use of polygraph stems from the question of reliability. No industry-wide statistics are available which show the exact proportion of correct or incorrect interpretations by

polygraph examiners. However, after reviewing a number of experiments conducted within the last few years, we in the industry feel that polygraphs, when handled by experienced examiners, have a greater than 88% reliability. If polygraphs are not used as the sole determinant in terminating an employee or refusing an applicant but are instead used as guides for accumulating pertinent information, then this 88% reliability is satisfactory. The point is that polygraph testing directs investigators to areas of an investigation that should be concentrated on.

We believe that polygraph examinations should be administered by qualified examiners and that those individuals being tested should not be subjected to questioning that does not pertain to requirements of the position being applied for or the incident being investigated. Therefore, we suggest that the Committee look more toward the formation of standards governing the administration of polygraph examinations rather than dismissing their use entirely. These standards could assure that only qualified persons conduct examinations, and that only pertinent questions are asked.

I would like to offer the services of trucking industry security experts in the development of such standards and in any other way that might assist the Committee in its objective of protecting individual privacy rights, without eliminating a very valuable tool, the polygraph, which serves beneficially for employers, employees, and the American consumer.

Mr. Chairman, in closing I would like to express my appreciation for the opportunity to make this statement. I have many years of experience in the security field and in the use of the polygraph, and I will be happy to answer any questions to the best of my ability.

* * * * *

PRESENTATION

By

William M. Krupka
Perry Drug Stores, Inc.

Mr. Chairman and Honorable members of this Committee:

The theft of narcotics and mood changing drugs, as well as general theft among retail pharmacies, is becoming a more serious and critical problem in this country.

While the precise patterns of general pharmacy theft are unknown, some insight into its prevalence can be obtained from Government reports that go back to 1932. It is important to note however, that there has never been an effective security program devoted to protecting pharmacies or their contents, except for programs by pharmacies themselves, or isolated instances where communities have reacted to theft incidents.

Where pharmacy theft incidence has changed over the years, varied interpretations have been offered to explain the changes. The general theme

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Where pharmacy theft incidence has changed over the years, varied interpretations have been offered to explain the changes. The general theme

of such explanations has been to associate the changes with changes in law enforcement effectiveness, criminal activity in general, drug street price changes, economic changes, and more recently, drug addict criminality as a reflection of illegal drug availability. In any event, the suggestions offered in the effort to deter or prevent pharmacy thefts have not proved effective, most especially when it comes to "spotting" an addict on the job in a pharmacy.

Perhaps the most perplexing problem confronting the pharmacy today is identifying the drug addict in his midst. It is virtually impossible for a non-addict to spot a user of "chemicals" by the way he or she looks.

The profit-penalty effects of drug addicts in business are themselves fairly clear cut; addicts steal drugs; steal to pay for drugs and addicts are prone to slack off in their job performance due to the effects of drugs. For example, visualize a jitney operator operating heavy equipment in a drug chain warehouse and having the availability of a source of drug readily at hand. The use of drugs poses serious safety hazards not only for the employer but also for other employees.

Why is it so hard to detect the addict in your employ? One reason is that drug use has spread throughout all social classes. A drug user can be anybody from a long-haired person to a straight person with a white shirt and tie.

An even more fundamental reason is that addicts develop a survival index because they're living in a hostile environment. The drug user is probably the slickest "dude" you ever met ... he can read you like a map ... will ingratiate himself very quickly. After a while the veneer wears off, but by then he or she may have taken you for a bundle.

Perhaps the major social concern of the American public today involves "crime in the streets" - crime affecting people and property in our communities. When we think of crime in the streets, it is usually in terms of rape, muggings, armed robbery, burglary, and other relatively "unorganized" types of crime.

According to official reports released by the United States Department of Commerce, "ordinary crime," defined as burglary, robbery, vandalism, shoplifting, employee theft, bad checks and arson, cost American business \$16 billion in 1972, \$18.3 billion in 1973, \$20.3 billion in 1974, and \$23.6 billion in 1975. The estimated retail loss to drug stores due to ordinary business crime in 1975 was \$660 million dollars.

This loss via ordinary crime, as detailed in the Report on Crime Against Small Business, was based on the following distribution:

Shoplifting	28%
Burglary	23%
Vandalism	20%
Employee Theft	13%
Bad Checks	13%
Robbery	3%

The 23.6 billion dollars reported in 1975 equals \$112.00 lost in purchasing power by every man, woman, and child in the United States.

Some of this crime is indeed committed by professional hoods, who would burglarize either your home or your store or warehouse. But most of this loss stems from retail employees, your friends, your co-workers, shoppers and the general public.

Testifying before the House of Representatives' Subcommittee on special Small Business Problems, Security Consultant Ray McPoland stated that, "the top national experts in retail security estimate that retail shrinkage is 3.6% of sales". That translates to a loss of almost \$25 billion a year (since the retail component is 40% of the \$698 Billion GNP).

McPoland argues that probably twice as much is lost in shrinkage as is made in net profits. Without naming names, he cites these examples:

"A famous national department store declared a $2\frac{1}{2}\%$ net profit over a year ago. In retailing today, that is an average net profit performance. What was not volunteered to the public or the stockholders was that the shrinkage loss was more than twice as high — near 7%".

"Another famous department store which does not deliver even a meager one percent profit, has seen its shrinkage more than double since 1972, to over 5% of sales".

These estimates are based on known criminal acts. It is also the effect of a certain, "Look the other way", morality in this country — a "they won't miss it" attitude, not only among customers and employees actively stealing and pilfering from retail businesses, but also among fellow employees and customers who know of such activities but do not themselves participate. It is something that TIME Magazine has called with accuracy, "the pervasiveness of 'larceny' in everyday life".

Annual losses from inventory shortages in drug stores are approximately 3% of sales or as previously cited, \$660 million. This high level of loss is due in part to the 13% relegated to employee theft. These figures would indicate that the drug store owner has multiple security concerns. Pharmacy drug thefts relegated to this same employee category, and other pilferage, as reported by the DEA FY-73 was 14%, FY-74 was 7%, and FY-75 was 13%.

Employee theft in the United States has become a \$10 million a day cancer. It is up by as much as 50% over last year. It varies from chain to chain, and its percentage of total shrinkage has been estimated at 40 to 80%. A recent report from Montgomery Ward records 3,165 employees apprehended for theft (3% of the total work force).

The sheer volume of employee theft, in terms of lost profit, make it the single most important item of inventory control. Considering a business profit ratio of 2.5%, management must sell a minimum of \$4,000 worth of merchandise for every \$100 lost.

Why do employees steal? Like the proverbial mountain climber, a majority of the employees apprehended for theft admit no other motive than "the stuff was there, and it was so easy I just couldn't resist the temptation", or

simply, "to see if I could get away with it".

WHO EMBEZZLES? Any employee is suspect, but all too often, a person who has gained the trust of the store manager by years of hard work is found to be cleaning out the cash box on a regular basis.

Whether the theft was a one-time \$10 rip-off, or a long-term till-tap netting thousands of dollars, the underlying and disturbing theme is the ease with which the thefts were accomplished. This would indicate not only the prime cause, but also the first step in controlling employee theft: Integrity cannot be taken for granted.

All too often, the biggest crook in the company turns out to be the most trusted employee ... the guy who has been with the company for years ; who knows every aspect of store operations; who is in a perfect position to effectively cover up his crime.

This is the employee who sets up the most lucrative operations; the cooperative efforts that result in short warehouse shipments, cash refund "rings", vendor collusion and kickbacks.

There is absolutely no way to determine when, or if, an employee is going to succumb to temptation. The only route is to take every precaution possible to insure that the people you hire are honest to begin with — and, then do everything possible to keep him honest. A fired employee adds nothing to your company's bottom line. Keeping employees honest can reduce the cost of merchandise to the consumer by a noticeable percentage.

Stopping employee larceny is no easy matter. The retailer prevents employee theft the best he can but the solutions available are far from perfect, so he must accommodate to the problem by passing the cost of this type of "shrink" on to the consumer.

A reality of the times is that Perry Drugs cannot shrink the need to constantly combat crime against its stores. Otherwise, these stores could become paralyzed for being price competitive with other businesses with whom we must, day in and day out, compete for customer loyalty.

It is Perry's responsibility to operate efficiently and profitably. It is responsible to:

1. The many stockholders who have invested their money.
2. Its employees and heads of households.
3. Its suppliers who depend on our sales for growth.
4. The community for the employment and tax base it provides.

Today, better than eight out of ten drug chains use some form of lie detector testing as part of their efforts to curb employee theft. We are one of them.

Faced with this escalating "intramural" theft we have turned to lie detection, screening all employees and corporate officers annually, to root out deceptive practices.

It has become apparent that things must be done to deter dishonesty in the handling of drugs, money, and merchandise by employees. It also has become a must, when specific shortages occur, to do something about them. The polygraph has become the best aid in accomplishing both. The clearing of honest employees, the determination of those responsible, and the establishing of amounts taken by each, are the three (3) basic things learned in the testing.

The polygraph is nothing more than a diagnostic tool, like the electrocardiogram which is used to track the heart beat. A highly qualified examiner can attain a 99% proficiency, much as a competent physician in the use of the electrocardiogram.

By a margin of more than four to one, NATION'S BUSINESS Magazine, August '75 issue, readers answered "NO" to the question of "Outlaw lie detector screening by private enterprise?" Dean R. Williams, Vice President, ZCMI Department Stores, Salt Lake City, among others also vouches for the use of the tests. "We have recovered more than \$60,000 this past year from polygraph tests that elicited confessions after previous denials," he said. "At the same time, we confirmed the innocence of a dozen employees under suspicion."

In 1974 and 1977, Mr. Kenneth A. Durrin, Chief of Compliance Investigations Division of the D.E.A., stated the agency's position regarding the use of the polygraph examination in checking out employees as follows:

"It has been the experience of the Drug Enforcement Administration that extreme care is necessary on the part of drug firms both in initial hiring and in monitoring employees who have ready access to controlled substances. These drugs command an illicit price which is many times their legitimate value and this creates a very attractive temptation. One effective means of weeding out employee applicants who have a criminal background or a history of drug use is the polygraph examination. The use of this type of examination has proven its effectiveness over a period of many years. Firms which utilize this procedure as part of their screening program to minimize diversion are to be commended."

The State Supreme Court of New Jersey, in the case of Garritty vs. State of New Jersey ruled that —

"Pre-employment polygraph is not an invasion into one's privacy and not a violation of a person's constitutional or personal rights BUT a pre-requisite of employment comparable to the pre-employment physical — which obviously is extremely personal in nature."

At least 30 states have passed statutes regulating the use of lie detectors, though nearly half of these statutes pertain only to the qualifications and licensing of polygraph operators, rather than to restrictions on polygraph use in employment situations. Michigan has passed legislation governing both the tests and the technicians administering same, described as Act #295 of the Public Acts of 1972, titled "The Forensic Polygraph

Examiners Act of the State of Michigan." Employers may not require workers to take tests, or require them to sign a waiver of this right as a condition of employment. Penalty: up to \$1,000 plus civil damages to the illegally discharged employee. Nor can an employee be discharged solely for failure of the test "opinion".

While the law of Michigan permits the use of the lie detector, it is possible for a firm to incur significant liabilities if it can be demonstrated that the limits on the use of such tests, set forth in the law, were exceeded.

The crime prevention program the detractors envision as an alternative are a "search for and utilization of other management techniques."

Tax supported law enforcement has not, to date, been able to stem the increasing crime rate, despite its increasing cost to taxpayers. How then can you expect the private business sector to absorb the added costs of more security agents and sophisticated electronic paraphernalia without passing it on to consumers?

At Perry, we feel that polygraph tests are a vitally necessary tool for reducing employee dishonesty and that the use of such tests is especially needed since we deal in large quantities of controlled drug products. Further, it has been amply demonstrated that the tests are extremely useful in protecting honest employees.

Our position is that the policing of polygraph use should be left to the individual states, such as the State of Michigan, which is doing an admirable job. There is currently sufficient federal legislation to protect the employee at the work site. The alternatives to the polygraph, such as an unofficial private police substructure rising across the country via the formation of loss prevention departments and security agents, present a greater threat to the "invasion of privacy" than the polygraph.

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STATEMENT BY TY KELLEY FOR THE
NATIONAL ASSOCIATION OF CHAIN DRUG STORES, INC.

November 16, 1977

Mr. Chairman, distinguished members of this Subcommittee on Constitution. My name is Ty Kelley and I am Vice President - Government Affairs for the National Association of Chain Drug Stores, Inc., (NACDS).

We are most appreciative of the opportunity to appear before this Subcommittee and to present our views on legislation (S. 1845) the Polygraph Control and Civil Liberties Protection Act of 1977 which is the subject of these hearings. With me this morning is Mr. Bill Krupka of Perry Drug Stores which is headquartered in Pontiac, Michigan. He is Assistant Vice President of Corporate Security for Perry. Following my presentation, Mr. Krupka, has a brief statement and we will be pleased to answer any questions that you might have.

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For the Subcommittee's background, let me explain that NACDS is a national trade association. We represent the management of more than 200 corporations which operate in excess of 10,000 drug stores and 1,500 leased pharmacy departments throughout the United States. Our members range in size from four-store operations to companies with over 800 retail outlets. Thus, our opinions this morning reflect both the views of small business and large corporate entities.

Sales-wise, our industry accounts for approximately \$12 billion in total sales. This amount is about 65% of all sales in drug stores and includes one-third of all prescription drug sales in America.

From the outset, NACDS wishes to clearly state that the Chain Drug Industry is fully aware of the growing need to develop a strong national policy that will ensure each citizen's right to privacy, particularly in today's modern society with its tremendous information gathering capabilities. As a matter of fact, this Association has already gone on record in support of legislation which would provide safeguards so that the medical records of private patients would be protected from unwarranted governmental intrusion.

However, with regard to this specific proposal, which falls under the umbrella of the Right to Privacy issue, as major retailers and drug distributors, this industry has grave reservations concerning any measure which would prohibit the use of polygraph examinations in employment situations for firms engaged in interstate commerce.

To more clearly define our position on this matter, permit me to detail for you the Chain Drug Industry's current situation relative to crime and security. At present, the retailing community and, obviously, we are a key component in this area, is waging an all out war against crime. According to the most recent statistics from the Department of Commerce, losses in retailing due to crime exceeded \$7.2 billion in 1976. Of this staggering amount, drug stores suffered losses of more than \$700 million and this figure can be boiled down to an average of about 3 percent of sales due to inventory shortages.

In this regard, leading security experts along with the Commerce Department have stated that this level of losses is nearing the saturation point. Additional losses for most stores simply cannot be tolerated since the average profit margin in our pharmacies is less than 3%. With approximately 50,000 drug stores in operation throughout the United States, the \$700 million in losses can be extrapolated to roughly 14,000 per store.

Why are drug stores such a prime target for crime? In brief, the reason is because of our product mix that we carry. Cosmetics, tobacco, liquor, records, appliances, cameras, watches, proprietary and prescription drugs plus health and beauty aids are all high theft items and our loss prevention people are constantly upgrading the security for these product categories to reduce inventory losses either internal or external.

While we are troubled to a great degree over all crimes against the Chain Drug Industry, our members are most concerned with the problem of internal or employee theft which has been estimated at between 60 to 70% of a store's inventory shortages. The bulk of the remaining losses in a store's

inventory are the result of external theft, more commonly known as shoplifting.

Thus, with employee theft at record levels, and it exists all the way from top management to the hourly employee, it seems highly impractical to legislate a prohibition against the use of polygraph testing. By eliminating this extremely effective investigative tool, NACDS is certain that inventory shortages will increase substantially in a very short period of time with the end result being that consumers will have to absorb higher costs for goods and services to counteract greater internal losses.

Mr. Chairman, our industry employs more than 1 million persons who work in corporate headquarters, regional offices, warehousing facilities and in our drug stores. As we have just stated, employee theft is one of our most pressing problems, and contained within this category is our utmost concern and that is the internal loss of prescription drugs from warehouses and pharmacy departments.

Throughout the years, NACDS and the drug chains have been working in close concert with the appropriate Federal and State agencies toward establishing adequate safeguards for drugs, especially controlled substances. In this regard, we have found that polygraphs, pre-employment screening and other procedures have proven to be invaluable for the purpose of identifying potential security problems in the selection of employees who will be working in and around areas where controlled substances are stored. This also holds true in monitoring employees who are working in close proximity to controlled substances in the event that a shortage occurs. At this point, let me read into the record part of a letter that NACDS received earlier this year from the Drug Enforcement Administration regarding the use of polygraphs in employment situations.

"It has been the experience of the Drug Enforcement Administration that extreme care is necessary on the part of drug firms both in initial hiring and in monitoring employees who have ready access to controlled substances. These drugs command an illicit price which is many times their legitimate value and this creates a very attractive temptation."

"One effective means of weeding out employee applicants who have a criminal background or a history of drug use is the polygraph examination. The use of this type of examination has proven its effectiveness over a period of years. Firms which utilize this procedure as part of their screening program to minimize diversion are to be commended."

In essence, this letter is an adjunct to current Federal Regulations (CFR Title 21 part 1301.90) which provide guidance for industry in the area of employee screening procedures.

Needless to say, we concur with this opinion. In our view, criminal background checks, polygraph examinations and other investigative procedures have been very useful in determining whether or not an individual has a drug abuse history or has committed drug related crimes. Not only do these screening devices help protect drug chains from the risk of thefts, but more importantly,

these tools are helping to stem the unlawful flow of controlled drugs from our warehousing facilities and retail pharmacies into illegal channels.

Let me add at this juncture that, despite the fact that large expenditures have been made in recent years to ensure that controlled drugs are stored in elaborate security areas, the problem of internal loss of these dangerous substances with high abuse potential still exists. As the Chairman knows from his long interest with regard to pharmacy protection against armed robbery, drug stores and warehouses are becoming a primary source for drug diversion as our Federal Enforcement agencies are cracking down more effectively on illegal drug traffic.

According to the Drug Enforcement Administration (DEA) approximately 16.8 million unit doses of controlled substances have been diverted from pharmacies during the first half of Fiscal Year 1977.

In essence, what we are attempting to state here is that a ban on polygraph tests will enhance the spread of drug abuse across the nation since the potential for drug diversion will increase. The economic cost in terms of lost productivity, drug related crimes and federal programs to fight drug abuse is currently estimated in excess of \$10 billion a year. Under this proposal, the costs to fight drug abuse related crimes will skyrocket not to mention the human suffering that is involved.

Obviously, there are many questions surrounding the use of polygraphs which embrace a person's right to privacy, the Constitution of the United States and even the accuracy and reliability of this type of examination. For certain, these questions should be discussed and debated with regard to the perceived need for some sort of legislation.

As to the privacy issue, within our industry, every effort is made to ensure the confidentiality of a test's results. The distribution of any information which evolves from a test is limited to the individual who was interviewed and to those key officials in a company who requested the examination and must review the results. In this connection, a number of states already have laws on the books which limit the dissemination of polygraph test results and we support these types of laws.

Another key argument regarding polygraph tests and the issue of Right To Privacy is that some of the questions asked during an examination have no relevancy to the job or to the work environment. NACDS feels that certain inquiries into a person's life style could, in fact, jeopardize that individual's right to privacy. We do not condone these intrusions and we strongly advocate that standards should be established to eliminate the potential for this kind of abuse. As to the Chain Drug Industry, questions regarding drug use must be asked because of the nature of our business.

Regarding constitutional questions and Right to Privacy, proponents of a total polygraph ban argue that employees or job applicants should not be placed in a situation in which they cannot protect themselves from self-incrimination. NACDS believes that some sort of balance must be maintained to preserve both employee and employer rights. In other words, the employer should have available numerous means, including polygraph tests, to protect his

business while employees should have available as many means as possible to protect themselves from being unjustly accused of a crime.

Relative to the issue of reliability and accuracy of polygraph exams, this questions is also subject to debate. However, the key to the reliability of polygraphs depends to a great extent on the skills of the operator and we will not argue this point. What we will emphasize to the Subcommittee is that certain standards should be established regarding training and certification for polygraph administrators in order to ensure the overall integrity of this highly specialized profession.

Secondly, along this line of the question of reliability and accuracy, NACDS wishes to state that the polygraph test should not be the sole source for pre-employment screening and for an internal investigation. Polygraph examinations should be used along with other investigative techniques to reach a determination.

In order to place this issue of polygraph use in proper perspective concerning the Chain Drug Industry, NACDS recently surveyed our membership on polygraph testing and on legislation which would ban this procedure.

While we would like to have the entire survey inserted into the record for the Subcommittee's review, let me highlight some of the key findings. Polygraph tests are widely utilized for various reasons among our membership. At least 80% of those companies which responded to our questionnaire use polygraphs and an overwhelming 97% of these respondents are opposed to Federal legislation that would prohibit polygraph tests.

All polygraph examiners from this survey are either licensed or certified. And finally, better than 90% of our members who participated in this survey believe that the continued use of polygraph testing is essential to their companies while a majority have found that polygraphs have decreased losses after their initial introduction.

In summary, for the reasons that we have outlined in our testimony this morning, particularly with regard to the adverse effect of this legislation on retailing, the drug distribution system and the increased potential for drug diversion, NACDS strongly urges that S. 1845 not be enacted.

It would seem extremely appropriate that a comprehensive study by undertaken by Government and Industry, along the lines of the Privacy Report, relative to the impact of crime against Business before approving legislation such as the one that is under consideration. According to a 1968 report of the President's Commission on Law Enforcement and Administration of Justice:

"The only comprehensive study of the cost of crime ever undertaken in this country was made by the Wickersham Commission (in 1931). It set forth in detail a conceptual framework for discussing the economic cost of crime and recommended that further studies be made ... However, except in the area of statistics concerning the costs of the criminal justice system, ... the lack of knowledge about which the Wickersham Commission complained 30 years ago is almost as great today."

Thus, if we had a better understanding with regard to the problem of crimes against business, then the appropriate steps could be taken toward reducing losses while insuring an individual's right to privacy.

Thank you.

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STATEMENT OF HARRY C. HUNTER
ON BEHALF OF THE
NATIONAL ASSOCIATION OF CONVENIENCE STORES

November 16, 1977

Mr. Chairman and members of the committee, I am Harry C. Hunter, Executive Director of the National Association of Convenience Stores.

I appreciate this opportunity to appear here today to present the views of the Association on S. 1845. Accompanying me is, Mr. Tom Griffith, President of the Golden Pantry Food Stores, Athens, Georgia. Mr. Griffith owns and operates some 40 convenience stores in Georgia.

The National Association of Convenience Stores is comprised of 525 member companies which operate approximately 27,000 stores in the United States and additionally some 1,500 stores in Canada and Japan. For those who may not be familiar with the term, convenience stores are small neighborhood stores, usually open 16 to 18 hours a day, seven days a week, handling grocery, dairy, deli, bakery, snack foods, and other high demand items. Many companies also have self-serve gasoline outlets. Our largest member operates some 6,000 stores but most of our members are small businesses and operate substantially smaller numbers of stores. With few exceptions, our members are locally owned and operated. As I am sure you recognize, our members' stores basically are in direct competition with the supermarkets, and "convenience" for the consumer in terms of hours and location is the fundamental way we compete. Last year gross sales for the entire convenience store industry totalled 8.5 billion dollars. NACS represents about 90% of the industry in the United States in terms of gross sales.

We strongly oppose enactment of S. 1845, even though we understand and laud the privacy protection motivations behind it. To totally outlaw the use of polygraphs in connection with private sector employment, as proposed in the bill, would needlessly strip our industry of a vital management tool which, in conjunction with other management controls, has enabled us to substantially reduce what otherwise would be staggering inventory and cash losses.

Let me illustrate by briefly citing a few statistics.

Crimes against business costs Americans over \$23.6 billion in 1975, 50% more than in 1971. It is estimated however, that the true costs of all

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Let me illustrate by briefly citing a few statistics.

Crimes against business costs Americans over \$23.6 billion in 1975, 50% more than in 1971. It is estimated however, that the true costs of all

crimes against business, which includes unreported losses, may be approximately \$40 billion.

In the rental sector alone, in 1974, losses due to ordinary business crime, amounted to \$5.8 billion. In some instances, retailers losses from inventory shortages have reached 5% of sales! In 1975, retail losses were estimated to be \$6.5 billion. Current estimates indicate losses in excess of \$7 billion annually! As a total, individual losses to business approach an amount just under 10% of profits and incomes and just over 1% of the Gross National Product. Business losses from criminal activity may well match business gains after taxes, dollar for dollar.

More than 70% of retail criminal losses are due to internal causes, i.e., employee theft. The majority of the employees in the retail industry, (to include convenience stores) are drawn from the lower end of the wage scale. Most of the individuals functioning at this economic level do not possess the education, skill, or motivation to enter other fields. This industry thus fulfills a social need by providing these individuals with a source of livelihood while they are acquiring skills that can benefit their future advancement in the business world.

In the social and psychological environment which prevails, a highly developed work ethic or sense of identification with the objectives of a profit-making organization, operate at a very low-level among the individuals in the retail sales work force. The majority of this work-force is under 25 years of age, single or divorced, and grew to physical maturity during a period of civil unrest in the United States, when traditional institutions, values and ethics were questioned and even discarded by the youth. The early Seventies saw the further breakdown of ethical values and a total disregard for government by law, when the nation's highest office was corrupted and prostituted to the egos of a few ambitious individuals. These events naturally led to further disenchantment with government and deteriorated respect for law. The era of the "rip-off" and "white-collar crime" came into being. As a consequence, the retail sales industry suffers from a high degree of exposure. It is known that those employees who take advantage of retail vulnerability to theft of merchandise and cash are actually a minority of the total group. The extent of the activities of these few is so great however, that the integrity of the total retail sales force is jeopardized and the volume of criminal activities is detrimental to society at large. Many businesses absorb their losses as the "cost of doing business" or pass the costs along to the consumer, resulting in inflationary increases in the total economy and a slowing of the growth that could have been realized. As an illustration of the impact on the economy, if we were to assume total profits in retail sales at 3%, it would be necessary to effect \$231 billion in sales in order to make up for the loss of \$7 billion! This loss of profit ultimately means that growth is slowed, thus fewer jobs are available, and there are fewer chances for advancement. The resulting ripple effect in other industries that are related to retail sales ultimately impacts on the Gross National Product, erosion of the tax base and deterioration of social programs.

There are certainly control systems and procedures available to the retail business manager to prevent losses. Retail audit and accounting

systems, training, personnel management procedures, investigative and deterrent systems, all are part of the loss control systems of a well-managed retail business. No single aspect of management systems represents a total solution. A combined system approach is necessary in order to provide an effective deterrent.

Among the systems available is the personnel screening system. Included in this function is the conduct of background investigation and reference checks. In recent years, this procedure has proven to be less than effective since many employers have adopted the practice of not revealing negative information concerning former employees, as they fear that their exposure as the sources of such information could result in civil court actions against them. Further, recent Federal regulations concerning the releasability of criminal justice history information have rendered it increasingly difficult and costly to obtain information related to prior criminal convictions.

Among the more efficient methods of personnel selection screening is the use of the polygraph and the Psychological Stress Evaluator (PSE) to screen out those potential employees who are unsuitable for a position of trust. Both instruments, properly and professionally used, have proven their effectiveness as investigative tools.

From the standpoint of protection of constitutional rights of citizens and prevention of invasion of privacy, the use of the polygraph and similar scientific instruments to detect the unsuitable employee, is similar in application to the conduct of airport searches of passengers, using sensitive metal detectors and X-ray equipment to identify passengers in possession of weapons and explosives or incendiary devices which might pose a threat or place other passengers in jeopardy. Similarly, the unsuitable employee constitutes a threat to his fellow employees as well as to his employer, and the use of the polygraph or PSE to identify the unsuitable employee and protect other honest, innocent employees from suspicion, is no more of a violation of constitutional rights or of individual privacy than the airport search. In order to avoid the undue delay and cost necessitated by detailed background investigations, the polygraph or PSE represents a viable, economical alternative to determine the employee's suitability for a position of trust.

This type of screening is especially necessary in the convenience store industry where the situation exists that frequently there is only one employee on duty in charge of a store. Close supervision under such circumstances is impossible, thus the exposure of large amounts of cash and merchandise is more critical. Under such circumstances the use of the polygraph or PSE is even more vital as an aid to investigation when cash and inventory losses occur.

To demonstrate the application of the use of such instrumentation, let me briefly describe how one convenience store chain uses this system to prevent losses.

Since early January 1977, the company has developed an internal Personnel Suitability Screening Capability in an effort to reduce inventory shortages and cash losses due to employee theft, as well as turnover, and to serve as an aid to investigation of losses.

Currently there are four Personnel Suitability Analysts employed to perform this function. Selection Criteria for Personnel Suitability Analysts are as follows:

- a. Minimum Baccalaureate Degree in Psychology, Criminology, Sociology, Personnel Management or Industrial Relations.
- b. Minimum of 3 years experience involving extensive employment screening, personnel security investigation, industrial psychology testing, or criminal rehabilitation interviewing.
- c. Must have a good knowledge and understanding of human physiology and psycho-physiological interrelationships.
- d. Must successfully undergo a pre-employment PSE examination and background investigation.
- e. Must have a record free of any criminal history and a driving record free of any serious violations over the preceeding three years.
- f. Must be able to meet and deal with people freely and easily.
- g. Must successfully undergo forty hours of instruction in the principle of psychological stress, instrument functions and operation, examination structure and question formulation and chart interpretations at the Dektor Counterintelligence and Security School.
- h. Must successfully complete six days of training in convenience store operation at the store level under the supervision of a qualified training manager.

Personnel Suitability analysts are based in four major cities in the region in which the company operates its stores. Each is equipped with the Psychological Stress Evaluator, PSE-101, manufactured by Dektor Counter Intelligence and Security, Springfield, Virginia.

Prior to employment, each employee is required to complete a statement that he has been advised that the personnel suitability screening, to include the conduct of a PSE examination is a condition of employment.

The Personnel Suitability Analyst conducts an average two-hour interview of each new employee to verify the employee's education; employment history; medical history; physical limitations; chronic alcoholism; drug addiction; accident history; workmen's compensation claims; and to identify agitators; job-hoppers and professional and amateur thieves as well as determination of permanency intentions. A screening report is filled out by the Personnel Suitability Analyst.

Each employee is required to sign a PSE release form. Each employee is advised that the PSE examination is voluntary. That the screening is conducted to protect honest employees from suspicion of theft by the elimination of unsuitable employees.

The questions to be asked during the PSE examination are reviewed with the employee to insure understanding. The PSE examination is then administered, and the results are evaluated and discussed with the employee. If stress is indicated in any particular area, new questions are formulated, retesting is conducted and results evaluated. The emphasis here is on resolution or obtaining an admission of derogatory information from the employee. If an issue is resolved, or there is no indication of stress in a response to a particular question, the analyst will make a favorable recommendation to hire or retain the employee. In the event that substantial admissions are obtained that reflect adversely on the employee's suitability for a position of trust, the analyst will make an unfavorable recommendation and provide the specific reasons in writing. In the event that there are indications of psychological stress that can not be resolved through admission or retesting, the analyst will defer his recommendation and provide a rationale for his action.

The suitability screening results are submitted to the employee's division manager who reviews the recommendation and makes a decision as to the employee's retention. This decision is confirmed in writing to the Vice President in charge of Loss Prevention, who reviews the total package for quality control purposes, to insure proper managerial action, and that the best interest of the employee and the company are protected.

In addition to the suitability screening, the Analyst also performs a vital function of advising employees of policies and procedures relating to loss prevention. Basically, this consists of advising employees that taking merchandise and/or money is stealing and stealing is prohibited.

Although submission to the PSE examination is voluntary, it is specified as a condition of employment, and all employees are required to submit to the procedure. In the event of refusal to submit to the test, the employee either will not be hired, or if already hired, will be terminated. Test results are revealed to the individual at the time of the examination by the Personnel Suitability Analyst. The only other persons who are made aware of the results are the Division and District Manager; the Regional Manager, the Executive Vice-President and the Vice-President in charge of Loss Prevention. The results of employment screening are never made known to third parties.

There is no economical employment screening procedure which would eliminate or reduce the need for the use of the polygraph or PSE. The next closest procedure would be a detailed background investigation of each employee. At an average cost of \$37 per investigation, and given the annual turnover of an average of 4,400 employees at that company's stores, this would involve an annual expenditure of \$163,000 just for the cost of investigation. Additional personnel would also be required to administer such a program.

The cost of such an effort is estimated by the company to be approximately \$30,000 per year. The use of the polygraph or PSE would still not be eliminated as these methods must frequently be resorted to in order to resolve allegations developed during the courses of investigations, that cannot be resolved by any other means. Currently, the annual cost of this program is approximately \$70,000 plus \$13,000 in capital investment.

The company estimates that inventory loss is reducible by at least 50% through proper employee screening. It is estimated that the use of the Personnel Suitability screening program offers a \$3 return for every dollar spent.

Modern technology has provided law enforcement and private security with the polygraph and the PSE as viable tools to prevent and detect the sources of internal theft which impairs the profitability of the retail sector. Legislation which would deny the use of this technology would result in a chaotic situation which would prevent the retail sector from protecting itself against disastrous deprecations from dishonest employees which could lead to bankruptcy for some, or massively increased operating costs for others, ultimately being passed to the consumer, with resultant acceleration of the inflationary spiral, in turn generating impetus for further internal theft. The ultimate sufferer will be the consumer and the economic growth of our nation. The constitutional rights of citizens will not be enhanced, in fact, the rights of some citizens to protect themselves from loss due to theft will be impaired. These systems provided a scientifically proven means to deter, investigate, detect and develop information necessary to deal with the omnipresent problem of internal theft. Denial of these systems to the retail sector by legislation would be a needless act which can only result in detriment to the economy, the people, and the government.

Mr. Chairman, the National Association of Convenience Stores does not believe that S. 1845 as written adequately balances the various interests and factors involved in this highly complex issue. Accordingly, we strongly urge that the bill not be approved by this Subcommittee.

We appreciate this opportunity to present the views of our Association, and will be happy to answer any questions you or the other members of the Subcommittee may have.

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PRESENTATION OF LT. COL. CHARLES R. MCQUISTON
for THE INTERNATIONAL SOCIETY OF STRESS ANALYSTS

Mr. Chairman - Members of the Committee. I am Colonel Charles R. McQuiston the co-inventor of the Psychological Stress Evaluator popularly known as the PSE or Voice Stress Analyzer. I am an analyst and a fellow of The International Society of Stress Analysts whose membership I represent to this Committee. I am a graduate of the U.S. Army Polygraph School and I have been a polygrapher for 17 years. I am a survivor of the Moss Committee Hearings of 1963 and subsequently the Moorehead Committee, the Abzug Committee and the many bucholic sayings of Ex-Senator Sam Ervin to include his statement that the polygraph is "20th Century Witchcraft."

Each and every time that the use of the polygraph has been attacked the major premise has been that the use of the instrumentation is denying someone of his or her civil rights and this argument has been pushed to the breaking point by one organization in particular at every hearing that I have been involved with over the years. I have not been unduly concerned in the past

The company estimates that inventory loss is reducible by at least 50% through proper employee screening. It is estimated that the use of the Personnel Suitability screening program offers a \$3 return for every dollar spent.

Modern technology has provided law enforcement and private security with the polygraph and the PSE as viable tools to prevent and detect the sources of internal theft which impairs the profitability of the retail sector. Legislation which would deny the use of this technology would result in a chaotic situation which would prevent the retail sector from protecting itself against disastrous deprecations from dishonest employees which could lead to bankruptcy for some, or massively increased operating costs for others, ultimately being passed to the consumer, with resultant acceleration of the inflationary spiral, in turn generating impetus for further internal theft. The ultimate sufferer will be the consumer and the economic growth of our nation. The constitutional rights of citizens will not be enhanced, in fact, the rights of some citizens to protect themselves from loss due to theft will be impaired. These systems provided a scientifically proven means to deter, investigate, detect and develop information necessary to deal with the omnipresent problem of internal theft. Denial of these systems to the retail sector by legislation would be a needless act which can only result in detriment to the economy, the people, and the government.

Mr. Chairman, the National Association of Convenience Stores does not believe that S. 1845 as written adequately balances the various interests and factors involved in this highly complex issue. Accordingly, we strongly urge that the bill not be approved by this Subcommittee.

We appreciate this opportunity to present the views of our Association, and will be happy to answer any questions you or the other members of the Subcommittee may have.

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for THE INTERNATIONAL SOCIETY OF STRESS ANALYSTS

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Each and every time that the use of the polygraph has been attacked the major premise has been that the use of the instrumentation is denying someone of his or her civil rights and this argument has been pushed to the breaking point by one organization in particular at every hearing that I have been involved with over the years. I have not been unduly concerned in the past

because the presentations of this organization have been illogical, ill-prepared and largely based on ignorance. Now, however, I am concerned because this theme is being expressed in the form of Senate Bill 1845 sponsored by Senators Kennedy and Bayh. When I became aware of this bill I immediately expressed my opposition to those Senators and others and Senator Kennedy's reply to my letter really alarms me. I would like to read this letter (see exhibit). I would like to read my reply to Senator Kennedy's letter (see exhibit).

I think that it is most important to define just what civil rights we are talking about. I certainly would like to have defined just what a civil right is and what a privilege is, because if we are talking about a privilege then it is important to establish the relationship between privilege and responsibility. Are we talking about the right to run amok in the streets? Are we talking about the right to yell "fire" in a crowded theater? Are we talking about the right to steal, cheat and lie? I think that it is most important to establish that one person's civil rights end where the other person's nose begins.

Of course, it is a very close and personal affair to me to have Senate Bill 1845 deny me my means of livelihood, because after more than 26 years of service to my county and surviving four shooting wars, I still must earn a living, but that is not the important thing. What is important is that the employers I represent have civil rights also - the right to expect an honest day's work for an honest day's pay without the right to steal everything within sight or reach. An employer has a right to select the best qualified person to fill a position. This latter right has already been very seriously eroded by governmental programs and regulations.

One of the most frightening things to me at the present time is the fact that in 1974 the FBI's crime statistics indicated that for the first time, in-house theft by employees had grown to a greater degree than outside theft. And it has continued to escalate and to spiral and there can be no doubt that if this trend continues, if we allow it to continue, that we are going to bankrupt American industry by in-house theft alone. In 1971 crime in America included a 2% to a 10% loss of the inventory of industry by in-house theft, the highest being with the employer who had 3 or less employees. The lesser percentage occurred in the largest corporations which had excellent security. The U.S. Army has good security and yet the results of the latest total Army inventory, released just recently, showed that the Army lost \$118,000,000 of its listed property. We used to call this moonlight requisitioning - Gentlemen, that is a lot of moonlight. It is important to note that the Moss Committee reports of circa 1963 literally eliminated the Army's use of the polygraph except in cases of National Security.

Almost universally, established mores, present and historical, decree that lying is immoral. The basis for considering it immoral to determine that one is being lied to is completely incomprehensible. What is equally incomprehensible is the fact that this committee, the same group that seems to be implying that immorality of lie detection, will require that persons giving testimony to them must sweat to tell the truth and may be put in jail if they lie. In other words, it is moral to lie, if you do not lie to us. It is understandable that Congress or a court must have the right to expect,

even demand, honest testimony as a basis for their decisions, but is it reasonable that this right be reserved only for elite groups? Does not or should not every citizen have the same right?

It is unrealistic to assume that employers are to have no right to protect the business that employs the employee. The U.S. Department of Commerce considers that employee theft can be a significant factor in the closing of stores and, thereby, the loss of jobs. It is also interesting to note that the labor unions of this country, although they would not like it to be known, are steady users of truth and deception instrumentation. Unions like the Teamsters, the Transit Workers Union, the United Steelworkers, the Atomic Trades and Labor Council, the Painters Locals, the United Optical Workers, the AF of L/CIO, the International Brotherhood of Electrical Workers and the International Association of Machinists have all used "lie detection" extensively.

I believe these unions are concerned with privacy and, certainly, I am concerned with privacy; however, I think privacy has some reasonable limits. I have never in my life known of any two individuals getting together where there was not some invasion of the privacy of each other. That is simply a part of the human inter-relationship — man's inter-relationship with man — and what makes this life so exciting. Man gives up some of his privacy to be able to communicate with other man. This fact is clearly recognized by previous congressional action in legislating the Omnibus Crime Bill. 18 USC 2511 recognizes a complete lack of sanctity of privacy when one person communicates with another.

Perhaps it is not really privacy that is the problem. Perhaps it is because the lie detection examination may be considered an indication that we are not trusted. I think we must recognize that under significant circumstances we are not trusted, whether the lie detection examination is proposed or it is not. Most of us lost our complete faith and trust in our fellow man at a very early age. Unfortunately, trust must be earned. It can be earned quickly, in many cases, with a lie detection examination. If the lie detection examination is not offered or not accepted, the trust must still be earned.

What I have covered up to this point pertains to both the polygraph and the Psychological Stress Evaluator as instrumentation for lie detection.

The polygraph was developed in the late 1920's and, although it has not changed dramatically since then, it has amassed a formidable validity record in dozens of laboratory and field tests. The Psychological Stress Evaluator was developed during the early 1970's and has amassed its own formidable validity record in dozens of laboratory and field tests.

While there is extensive economic competition between the two systems, the new and the old, and each system has its own proponents in about equal numbers, there seems to be no question of the capability of either system to detect deception. There is a difference between the two systems which may be significant to this Hearing. Since the polygraph uses attached sensors, it can detect physiological responses whether or not the subject responds

verbally to an unannounced question. Since the Psychological Stress Evaluator processes information from the oral utterance, the subject cannot be tested upon that to which he does not care to respond. In other words, the subject being tested on the Psychological Stress Evaluator has a word by word protection against unwarranted invasion of privacy.

In the daily conduct of my profession I use stress analysis as an instrumental aid to investigation. The results of my testing are never used as the final factor in a decision to hire or fire an employee. The testing I administer is only one factor of a total employment program or one part of a complete investigation. The testing I conduct is not embarrassing, or degrading or painful, and it is always completely voluntary on the part of the subject. The services I provide cannot be furnished by governmental agencies. I am dedicated to my work and I do it as well as is humanly possible with every consideration given to the rights of other people. I have helped thousands of people by the services I provide. I have been instrumental in freeing persons accused and convicted of crimes they did not commit. I have prevented the firing of countless employees and I have secured the employment of countless deserving people. I have saved lives with the use of my instrumentation. I have been responsible for the solution of hundreds of crimes that would not have otherwise been solved. Now Senate Bill 1845 would remove me from the scene.

In closing, I would like to say that I am reminded of a character in Paddy Chayefsky's powerful story Network. Howard Beale exhorts his TV viewers that quote things have got to change. But you can't change unless you're mad. You have to get mad. Go to the window stick your head out and yell. I want you to yell - I'm mad as hell and I'm not going to take this anymore! Gentlemen - this Hearing chamber is my window and I'm mad as hell and I'm not going to take this anymore!

I shall be watching the work of this Committee with a great deal of interest and thank you for inviting me here to speak.

Exhibit:

C. R. McQuiston
7273 St. Andrews Dr. Lake Worth, Florida 33463

11 October 1977

The Honorable Edward M. Kennedy
U. S. Senate
Washington, D. C. 20510

Dear Senator Kennedy:

Reference is made to your letter of 6 October 1977.

I am very disappointed in the position you have taken in regard to Senate Bill 1845.

The protection of my private property here in Florida rightly belongs to law enforcement agencies and yet I am constantly subject to acts of vandalism and the police are unable to cope with the situation. If these agencies are unable to perform even the basic functions of property protection, how can they provide the services which are needed on a much wider scale to protect our industries and commerce?

The "authority" for these services, along with the right to bear arms, "rightly belongs" to law enforcement agencies in a police state. It is very strange to me how you can show interest in "protecting the private rights of individuals" and at the same time set me and my colleagues - not to mention the employers all over this country - in a special category which has no individual rights!

Senator Kennedy, I have a great deal of respect for you, but I must say that I did not notice one single law enforcement agency leap to your defense as I did in the Chappaquiddick incident.* Senate Bill 1845 would remove my ability to be of service effectively in this case just as it would preclude my services in saving the life of Congressman Paul G. Rogers and his staff early this year through the use of the Psychological Stress Evaluator.

If injustice exists in the utilization of the polygraph and the PSE, by all means, seek to eradicate it, but not by a blanket prohibition such as you suggest!

Respectfully,

C R McQUISTON

C. R. McQuiston

Incl.

cc: Dr. J. W. Heisse, Jr.
ISSA

CRM/mq

UNITED STATES SENATE

Committee on the Judiciary
Subcommittee on Antitrust and Monopoly
Washington, D. C. 20510

October 6, 1977

Lt. Col. C. R. McQuiston
7273 St. Andrews Drive
Lake Worth, Florida 33463

Dear Lt. Col. McQuiston:

Thank you for the letter you wrote me regarding S. 1845 and your concern for the effect this legislation may have on private industry.

I have cosponsored this legislation because of my interest in protecting the private rights of individuals from further erosion. S. 1845 is an attempt to deal with this problem in the area of polygraph abuse which

the Privacy Protection Study Committee identified and recommended for legislative action. This is not to say, however, that I am in any way unconcerned or unsympathetic to the serious problem of inventory loss and employee dishonesty which private industry must deal with on a continuing and increasing basis. This legislation would not in any manner interfere with the use of polygraphs by law enforcement officers during their investigation into specific acts of such business thefts. Rather, an end result of this bill may be to shift these investigations back to law enforcement agencies where the authority rightly belongs.

The Subcommittee on the Constitution has begun hearings on this bill and has received many suggestions and recommendations which the Subcommittee is seriously considering. I shall forward your thoughtful letter to the Subcommittee, and I shall also keep your views in mind when the full Committee on the Judiciary votes on the bill in its final form.

Sincerely,

EDWARD M. KENNEDY

Edward M. Kennedy

Exhibit Submitted by McQuiston

AN ANNOTATED BIBLIOGRAPHY: STUDIES INVOLVING
THE PSE IN NON-DECEPTION SITUATIONS

Lowell A. Borgen, Ph.D.

1. Borgen, L.A. and Goodman, L.I., Parke-Davis Research Laboratories, Ann Arbor, Michigan. 48105
"Voice print analysis of anxiolytic drug effects: preliminary results."
Presented at annual meeting of American Society of Clinical Pharmacology and Therapeutics, Seattle, March, 1976.
Abstract published in Clin. Pharmacol. Therap. 19:104, 1976.

This pilot study was undertaken to evaluate voice analysis as a psychophysiological measure of anxiety for possible application in the clinical assessment of anti-anxiety drugs. Comparisons were made between PSE analysis and four physiological measures known to fluctuate with the state of arousal — namely, heart rate, blood pressure, skin potential, and forearm blood flow. A psychological test, the Stroop Color Word Conflict Test, was used to experimentally induce a mild, acute stress situation. The subjects were eight normal volunteers who were administered double-blind either placebo or ripazepam, an investigational new anti-anxiety drug. Test sessions were conducted before and after one and two weeks of either placebo or drug treatment.

Results from this pilot study indicated that (1) Stroop test was an effective procedure for generating a mild stress state in normal volunteers; (2) PSE analysis of the verbal responses correlated well with the other

physiological responses to acute stress; and (3) subacute treatment with an anti-anxiety drug attenuated both the physiological and the verbal stress responses to the conflict test. Thus, voice analysis with the use of the PSE is a potentially useful technique for the objective measurement of anxiety that may prove helpful in evaluating the efficacy of new anti-anxiety drugs.

2. Brenner, M., Dept. of Psychology, Ohio State University, Columbus, Ohio.
"Stagefright and Steven's law."
Presented at the convention of the Eastern Psychological Association,
April, 1974.

In this experiment Dr. Brenner examined the question as to whether the physiological arousal or stress in a public speaker varies proportionately to the size of the perceived audience. Subjects of the study were 25 college students enrolled in introductory speech class. The subjects individually performed a short, but difficult, poem aloud in an auditorium in which the audience size varied between 0 spectators and 22. The recorded speech samples from subjects were analyzed with the PSE and the resultant charts examined for the presence and degree of square or diagonal blocking.

The results demonstrated that the frequency of vocal stress increased as a function of the audience size. Thus, the PSE proved to have an application in this area of social psychology.

3. Brockway, Barbara F., University of Colorado School of Nursing, Denver, Colorado. 80262.
"Situational stress and temporal changes in self-report and vocal (PSE) measurements."
Presented at the annual meeting of the American Association for the Advancement of Science in Denver, February 23, 1977.

This study examined the situational stress of final examinations among college students. Two groups of students were examined: one group was tested before and eight days after final exams, while the second group was tested at a same time interval without intervening exams. Vocal stress, as measured by the PSE, was compared to the students self-rating of anxiety. A standard series of questions previously announced to the students were answered at each testing session.

Dr. Brockway found that vocal stress, as indicated by PSE analysis, significantly decreased for students after final exam week whereas the control group of students without exams did not show a significant change from their earlier responses. Furthermore, the changes in vocal stress paralleled closely the self-reported anxiety for both groups.

This study suggests that vocal stress, as recorded by the PSE, does depict predictable and self-reported anxiety which is significantly increased prior to and declines following college final exams. The data further suggests that the PSE is useful for intervals of days rather than just in terms of minutes and that PSE measures may not be readily altered by acclimatization to the testing situation.

4. Brockway, B.F., Plummer, O.B., and Lowe, B.M., University of Colorado School of Nursing, Denver, Colorado. 80262.

"The effects of two types of nursing reassurance upon patient vocal stress levels as measured by a new tool, the PSE."

Published in Nursing Research 25 (6): 440-446, 1976.

This experiment compares the effects of two types of nursing reassurance upon patient anxiety or stress as measured vocally by the PSE. Subjects for the study were 23 obstetrical patients who were interviewed by two registered nurses to ascertain their concerns regarding hospitalization. To half of the subjects "knowledgeable" reassurance was given, whereas the remaining subjects received more "superficial" type of reassurance. Except for the type of reassurance given, all other interactions with the patient were held constant between the two groups.

Analysis of the data indicated no significant difference in anxiety or stress levels as indicated by either the vocal stress or in response to a paper-and-pencil questionnaire submitted after the verbal interview. Both types of nursing reassurances seemed to be similarly effective with regard to vocal stress patterns. Vocal stress correlated well with self-reported anxiety.

5. Inbar, G.F. and Eden, G., Dept. of Electrical Engineering Technion, Israel Institute of Technology, Haifa, Israel.

"Psychological stress evaluators: EMG correlation with voice tremor."
Publ. in Biol. Cybernetics 24:165-167, 1976.

This study is an attempt to verify independently the existence of the 8-14 Hertz "micro-tremor" and to investigate its origins. The experimental set-up involved the simultaneous recording of a speech sample by six subjects while recording electrical activity from the muscles of the vocal tract at the same time. With the use of appropriate filters and detectors these investigators were able to show a significant correlation between the muscle activity of the vocal tract, or electromyograph (EMG), and the low-frequency response (8-14 Hz) modulated on the third formant frequency of the voice. They found that the muscle tremor activity consistently preceded the voice tremor by approximately 0.02 seconds. This finding supports the belief that 8-14 Hz "micro-tremor" originates from the central nervous system. Thus, this paper lends strong support to the contention of the PSE manufacturers for the detection of stress from the pre-recorded human voice.

6. Older, H.J. and Jenney, L.L., The Planar Corporation, 4900 Leesburg Pike, Alexandria, Virginia. 22302.

"Psychological stress measurement through voice output analysis."
Unpublished report prepared under contract NAS 9-14146 for NASA
Lyndon B. Johnson Space Center.

The study involved the analysis of tape recordings of selected communications of the Skylab astronaut program. Comparisons were made between two of the NASA missions, Nos. III and IV, which were appreciably different in terms of their duration and some difficulties which developed.

PSE analysis of the recordings from these two missions indicated no significant differences between the two missions as measured by this instrument. Although some statistically significant relationships were found, the technique was not judged to be sufficiently predictive to warrant its use in assessing the degree of psychological stress of crew members in future space missions.

7. Reeves, Thomas E., Vermilion County Medical Health Center, Danville, Illinois. 61832.

"The measurement and treatment of stress through electronic analysis of subaudible voice stress patterns and rational-emotive therapy." A dissertation (unpublished) submitted for the degree of doctor of philosophy, Walden University, April, 1976.

In this doctoral dissertation study Dr. Reeves attempted to determine several different things. First, to compare the effectiveness of PSE in measuring anxiety compared to the anxiety index of the well-recognized psychiatric questionnaire, the Minnesota Multiphasic Personality Inventory, or MMPI. Secondly, to compare the effectiveness of the PSE in measuring stress as compared to the Osgood semantic differential inventory, a standardized psychological test which can measure anxiety. Thirdly, to determine if a specific type of psychotherapy known as Rational Emotive Therapy is a more effective means of psychotherapy, and Fourthly, to determine if patients who are placed on a waiting list for therapy experience reduction in stress while waiting in a fashion similar to those who receive therapy without waiting. Thus, he designed a 40-patient study involving four different experimental conditions with ten patients in each group.

Briefly, he found that the PSE voice analysis responses correlated significantly with responses on the Osgood semantic differential inventory questionnaire and also with the anxiety scale of the MMPI. Also, he found that the PSE was limited in patients exhibiting relatively low levels of stress responses or anxiety levels as measured by the other tests involved. However, he concluded that voice analysis has merit as a measure of anxiety states which could be useful in the treatment of psychological problems encountered by the clinical psychologist.

8. Rockwell, D. and Hodgson, M., Dept. of Psychiatry, School of Medicine, University of California, Davis, California. 95616
"Psychological stress evaluator: a validation study."
Presented at the annual meeting of the Society of Biological Psychiatry, San Francisco, June 10-13, 1976.

Dr. Rockwell and his associates used questionnaire and psychometric measures of anxiety in comparison with the PSE in a two-week double-blind crossover study in clinically anxious graduate students. The marketed tranquilizer, Librium, was compared against placebo in this study. Their results indicated that the PSE did monitor changes in anxiety levels but did not prove valid as a one-shot diagnostic measure. The PSE does reliably identify traits of subjects which are loosely associated with anxiety as it is seen clinically. They suggest that the PSE may be more useful as a diagnostic instrument in patients showing high levels of anxiety.

9. Smith, G. Alan, Dept. of Psychology, Powick Hospital, England.
"The measurement of anxiety; a new method by voice analysis."
Publ. in IRCS (Res. Biomed, Technol., Psychiat. and Clin. Psychol.)
2:1707, 1974.

The purpose of this investigation was to validate the PSE as a measure of anxiety in a variety of ways. It is known that hyperventilation, or rapid overbreathing, increases skin conductance which is one of the measures of arousal typically measured in a polygraph; in the first experiment it was of interest to the study as to whether some hyperventilation would similarly effect the arousal state as measured by the PSE.

During the ten-minute experiment the subjects repeated aloud the numbers one through ten and after 5 minutes into the experiment, they took 6 deep breaths (hyperventilated). Self-rating of tension at the beginning of the experiment, just before hyperventilation and 5 minutes after the hyperventilation was taken as well as continuous recording of skin conductance. These results indicated that the PSE was a valid measure of the states of stress correlating well both with self-reported tension and skin conductance. However, the audio stress response was reduced appreciably if hyperventilation was present.

In a second experiment 15 neurotic patients being treated with a variety of behavioral techniques were used as subjects. Each patient read out twice a list of ten short phrases referring to common-life stresses such as marriage and job including referring to the individual's presenting fears. Voice analysis indicated that those items referring to personal fears of the patients were significantly more stressful than the other items on the list. In addition the general level of stress responding in these neurotic patients was much greater than that found in the earlier experiment involving normal subjects.

Thus, these experiments suggest the usefulness of the PSE in detecting anxiety both in normal individuals and in neurotic psychiatric patients.

10. Smith, G. Alan, Dept. of Psychology, Powick Hospital, Worcester, England.
"Analysis of the voice."
Unpublished manuscript.

The aim of the present study was to investigate the diagnostic claims made for the PSE in regard to the detection of voice stress in neurotic patients. This was done by audio recording of patients while they read out phrases referring to areas of their life which might worry them including areas of particular concern that had previously been relayed to their therapist. In addition, the subjects completed the Eysenck Personality Inventory, a psychiatric questionnaire, which includes in it a subscale to detect patients' denial of their concerns.

A pool of phrases was drawn up referring to common-life stressors, e.g. money, sex, job, fatal diseases. For particular patients some of these stressors were irrelevant; therefore, seven of the relevant ones were selected and to them were added three phrases referring to the particular problems of the patient. These ten phrases were put in random order along with a neutral

phrase "summer and winter" added at the beginning of the list for the purpose of absorbing any initial stress caused by beginning to speak. The patient read out the list twice each time in the same order.

An analysis of responding was done both in Mode 3 and Mode 4. Immediate retest reliability between the two readings of the list was significant at levels of better than .05. The correspondence of the audio stress score with the self-report of the personally high stress items in the list was significant at the .01 level. Examination of the Eysenck lies scale scores indicated that patients of this type frequently denied concern about topics which, in fact, show high stress as measured by the PSE.

The results of the study support both hypotheses (1) that the PSE stress indicators on a phrase read by a patient corresponds very well with whether or not he says he is worried about the topic referred to, and (2) that the degree of this correspondence is low for patients who tend to show a great deal of denial as measured by their own high scores on the Eysenck lie scale.

11. Wiegele, Thomas C., Dept. of Political Science, Northern Illinois University, DeKalb, Illinois 60115.
"Voice stress analysis: the application of a physiological measurement technique to the study of the Cuban missile crisis."
Presented to the annual convention of the International Studies Association, Toronto, February, 1976.

In this comparison Dr. Wiegele examined, through the use of the PSE, six different audio documents of which four were speeches or news conferences of President Kennedy and in relationship to the Cuban Missile Crisis. For control purposes he also examined a presumed low-stress audio document involving the lighting of the White House Christmas tree which occurred shortly after the Cuban Missile Crisis and also a television dramatization of the Cuban Crisis entitled, "Missiles of October", in which the actor portraying President Kennedy read portions of the text of one of Kennedy's speeches.

PSE analysis of these six documents indicated a significant difference in the frequency of high stress response words with the average frequency or percentage of high stress words in the four recordings relating to the crisis varying between five and eleven per cent. By comparison, Kennedy's statement on the lighting of the national Christmas tree had a mean stress response of only 1.2%, and in the "Missiles of October" TV drama, there was zero high stress indicated. Further analysis indicated that the topics of greatest international importance within each of the particular talks tended to show the greatest percentage of high stress word responses. There was very little correlation between the position of the statement within the speech and the amount of stress indicated. Paragraphs with themes of greatest political importance tended to show the highest percentages of square block stress responses.

12. Wiegele, Thomas C., Dept. of Political Science, Northern Illinois University, DeKalb, Illinois. 60115.
"The Psychophysiology of elite stress in five international crises: a comparative test of a voice measurement technique."

Paper delivered at the Edinburgh Congress of the International Political Science Association, August 16-21, 1976.

In this study Dr. Wiegele analyzed, with the PSE, five presidential speeches given regarding critical international crises. These were Truman's speech regarding the invasion of South Korea, Kennedy on the Berlin Crisis, Kennedy on the Cuban Missile Crisis, Johnson on the Gulf of Tonkin Crisis, and Johnson on the capture of the U.S.S. Pueblo.

For each speech a percentage of high stress response words for each paragraph was calculated and an associated theme for that paragraph was determined. The overall average stress level in these five crises speeches varied from a little over 5% of the words of Kennedy's Cuban speech to over an average of 20% of the words in Johnson's talk on the capture of the U.S.S. Pueblo.

Dr. Wiegele concluded that (1) audio stress analysis was a useful technique for evaluating underlying emotional states of presidential decision makers during times of these international crises and (2) that the stress configurations were identifiable and meaningful in terms of the international situations which were explored.

13. Wiegele, Thomas C., Dept. of Political Science, Northern Illinois University, DeKalb, Illinois 60115.
"The psychophysiology of political failure: a presidential case study."
Unpublished manuscript.

Purpose of this study was to examine by PSE analysis two of Richard Nixon's impromptu public speeches which he made following two major political failures: these were (1) his 1962 speech following the loss of the governor's race in California and (2) the farewell speech to his personal staff after he was forced to resign from the presidency in 1974. As a result of the crisis character of the events which preceded these speeches, each was assumed to have created in Mr. Nixon a good deal of psychological stress.

The gubernatorial concession speech contained 42 paragraphs with an overall average percentage of high stress words in all paragraphs at 3.27%. Further examination indicated that 16 paragraphs produced stress percentages that exceeded the percentage of high stress words for the entire speech. The major theme expressed in the highest stress paragraphs related to Nixon's relationship with the press. He actually spent very little time or showed very much stress in relationship to the loss of the election.

In his farewell speech to his staff the percentage of high stress words across all paragraphs was nearly 15%. Of the total of 24 paragraphs 12 had a percentage of high stress exceeding 15% ranging up to 33%. The major theme in the paragraphs of highest stress response related to the personal crisis nature of his loss of the presidency.

Dr. Wiegele concluded that the PSE is a very useful tool for the political analyst researcher allowing him to probe the inner arousal state of

important political figures in an unobtrusive and objective manner.

14. Wiggins, S. L., McCranie, M. L., and Bailey, P., Dept. of Psychiatry, Medical College of Georgia, Augusta, Georgia. 30902.
"Assessment of voice stress in children."
Publ. in J. Nerv. Ment. Dis. 160(6):402-408, 1975.

These investigators examined the recorded speech between two six-year old children undergoing psychiatric treatment and their therapist. One complete hour of therapy was analyzed through the PSE for each of the two children, and the responses were examined for content and a stress evaluation rating scale of either no stress, trace of stress, or definite stress. They found that definite stress was present in 8% of the responses given by one child and 13% for the second child. A trace of stress was indicated in about 40% of the responses for both children with approximately 40% of their responses not showing stress.

From this initial investigation the authors concluded that audio stress can be detected with the PSE in psychiatric patients during the course of therapy and that the PSE could serve as a useful tool for this purpose.

15. Worth, J.W. and Lewis, B., Washington and Lee University, Lexington, Virginia.
"Presence of the dentist: a stress evoking cue?"
Publ. in Va. Dental J. 52(5):23-27, 1975.

In this study 12 patients were randomly selected from a small-town dental practice and were asked a series of structured questions. The series of questions were read to the subjects three times and their "yes" or "no" responses recorded. Two of the six questions involved the patient's dental habits and were expected to produce the areas of greatest stress. The questions were administered the first two times by an experimenter and the third time by the dentist himself. The first questioning was used simply as a familiarizing procedure and was not included in the analysis.

Results indicated no differences between the assumed critical items relating to dental care and the other "Neutral" questions. What did emerge, however, was a somewhat surprising difference in their response of the subjects to the experimenter, whom they had not previously met, and to the dentist whom they were familiar with. It was found that the presence of the dentist himself as the questioner seemed to elicit a greater degree of stress on all the questions than answering those same questions to a previously unknown experimenter. This occurred despite the fact that many of the patients claimed to be not at all stressed by the presence of the dentist in follow-up questioning.

- prepared for the ISSA Seminar, Houston,
Texas
April 27-29, 1977.

* * * * *

TESTIMONY OF
DAVID F. LINOWES, CHAIRMAN
PRIVACY PROTECTION STUDY COMMISSION

Chairman Bayh and members of the Senate Subcommittee on the Constitution:

I am pleased to appear before you today as former Chairman of the now dissolved Privacy Protection Study Commission to discuss S. 1845, the Polygraph Control and Civil Liberties Protection Act. Chairman Bayh, it is especially gratifying that you and your committee have acted so quickly on recommendations my Commission submitted to the Congress and the President on July 12, 1977. While I am aware that your subcommittee has been considering the use of polygraphs for some time, I believe these hearings might be considered an essential part of the implementation of the recommendations proposed by the Privacy Protection Study Commission. Much hard work is ahead for all of us and I welcome this first step.

As you know, the Privacy Protection Study Commission conducted a major study of record keeping in the private-sector employment relationship. The findings are discussed at length in our final report. We also issued an appendix volume on employment records, and I hereby respectfully present copies of both reports so that relevant portions might be included in the record of this hearing.

The Commission considered the question of polygraphs or truth verification devices in the context of its employment project. While there are significant applications of polygraph technologies in other areas, in interpreting our mandate, we did not extend our recommendations to those other areas. Therefore, it is in the context of private-sector employment, both in pre-employment screening and investigations during employment, that I am limiting my testimony here today.

In our final report to the President and the Congress we recommended:

That Federal law be enacted or amended to forbid an employer from using the polygraph or other truth verification equipment to gather information from an applicant or employee.

We also suggest the prohibition of the manufacture and sale of these devices that are designed for use in private-sector employment. There may be uses of these devices in government security or intelligence activities that can be justified, but we did not address them. Prohibiting the manufacture and sale of polygraph equipment was urged to make it clear that such equipment should not be used for employment purposes even if the subject volunteers. In our judgment, there is no such thing as a truly voluntary agreement to take a polygraph test either when an individual is applying for a job or is already employed.

Our recommendation concerning the use of polygraphs is not based on the reliability or lack thereof of such devices. I am aware that other

witnesses are commenting upon their accuracy. Although we received testimony questioning the reliability of these devices, your own witnesses, I am sure, will furnish you with their first-hand evaluations of the technical reliability.

The Commission's recommendation is based upon a deep concern that the use of polygraphs in employment constitutes a severe intrusion into the personal rights that every individual should have. Even if it were shown that the polygraph and other truth verification devices were significantly more reliable than there presently appears to be, our recommendation would still stand.

It is important to examine this recommendation within the framework of our overall approach to the issue of privacy. The Commission's recommendations were not based upon a mere accumulation of abuses or horror stories. We examined each area and attempted to find systemic problems that interfered with an individual's control over records kept about him.

One principal which pervades our report is that the relationship between an individual and an institution is becoming more and more dependent upon the very nature of the record. The rights and benefits afforded the individual is determined by records kept about him. We found that individuals have increasingly less control over the records that are kept about them, and consequently less control in matters that greatly affect their lives. In examining employment and personnel record-keeping practices, we realized that we were treating a topic central to the concerns of many Americans. To a large extent, the kind and quality of one's life is based on obtaining employment adequate to one's needs and ideals. Among all relationship with institutions, the one between the employer and the employee involves the greatest portion of most people's productive lives and has the heaviest impact on our standard of living.

Based on our findings, the Commission concluded that an effective privacy protection policy must have three objectives:

1. to create a proper balance between what an individual is expected to divulge to a record-keeping organization and what he seeks in return (to minimize intrusiveness);
2. to open up record-keeping practices so as to minimize the extent to which recorded information is a source of unfairness in any decision about him (to maximize fairness); and
3. to establish obligations with respect to the uses that will be made of recorded information about an individual (to create legitimate enforceable expectations of confidentiality).

The Commission identified the use of polygraphs as a problem in the employment context which is clearly contrary to the first of these objectives because it deprives an individual of any control over divulging information about himself. The subject does not know why particular questions are being asked, and what the impact of his responses might be. This is of particular importance because what he is disclosing is a physical or emotional reaction

to a question. These reactions are more important to polygraph tests than the content of a particular answer. There is little an applicant or an employee can do to correct or protect against a negative polygraph report. Further, as long as there is no evidence of illegal discrimination or violation of a union or employment contract, an applicant or employee can do very little legally to protect himself. He may not be hired, he may not be promoted, and he may even be dismissed with little or no explanation by the employer. Clearly, if a polygraph is the basis in whole or in part of that decision, there is practically nothing the individual can do to counter the report.

In the Federal Register notice on our December 1976 employment hearings, the Commission stated that we were examining the use of polygraphs as it related to this subject area.

We heard testimony from 12 major employers representing many sectors of American business and industry. Among our witnesses were spokesmen for Cummins Engine Company, Equitable Life Assurance Society of the U.S., General Electric, IBM, Inland Steel, J. C. Penney Company, Ford Motor Company, Manufacturers Hanover Trust Company, Exxon Corporation, E. I. duPont de Nemours, Inc., and Rockwell International. In addition, we heard testimony from the Retail Clerks International and several private investigation firms. We also conducted staff interviews with all of those who testified. We also received written statements or had extensive interviews with a number of other employers, including General Motors, Procter and Gamble, and Abbott Laboratories.

In all our deliberations, we recognized that competing social values had to be considered along with privacy concerns. For this purpose, we examined the extent to which polygraphs are being used by private sector employers and what societal and/or economic harm might result if their use were restricted. Not one employer with whom we were in communication told us that it used polygraph tests in its preemployment screening of job applicants, or regularly administered the polygraph or any similar truth verification test to its employees.

Some employers stated that the polygraph was used in security investigations, but the frequency and approach of those who did were quite interesting. The J. C. Penney Company and Sears Roebuck, Inc., the largest retailers in the country stated that as a matter of policy they never use the polygraph, "for any employment purpose or any other purpose in our company."

Rockwell International, the nation's eleventh largest employer, with a total of 137,500 workers, stated that its use of the polygraph "is very, very limited ..." it probably averaged "no more than two uses per annum." It should be noted that the company is a leader in the aerospace industry where plant security is important.

Manufacturers Hanover Trust Company, the fifth largest U.S. bank with over \$28 billion in assets testified that it has used the polygraph on an average of three to five times per year, and than only under two kinds of circumstances:

1. Where a loss occurs and two employees tell directly conflicting stories; or

2. Where a customer files a claim against the bank alleging wrongdoing on part of the bank, and as evidence to support this claim submits polygraph results of its own employees. Under this circumstance, with the written consent of the bank employee, a polygraph is given to certain employees by the bank. If the bank employee refuses, no retaliatory action is taken, nor is notice of this fact made in the employee's record. However, Manufacturers Hanover went on to state that even under these circumstances they used polygraph reluctantly, and mostly at the employee's request, because they found it "misleading" and "at best significantly inconsistent."

The Ford Motor Company testified that "a polygraph is never used in any employment process. We use the polygraph on rare occasions; I would say perhaps three or four times a year. I can give you a couple of incidents to illustrate.

"An employee, through our internal auditor checks and determines that the employee was involved in embezzlement. We talk to the employee, got an admission from him and his explanation of why he did it. We were concerned whether any other employees were involved or was it a single employee action.

"We asked in this case if he would talk a polygraph. He agreed to [do so]. His answers substantiated that in fact he was the only one involved." Polygraph is viewed by Ford as "a selective tool," but not as an "important tool" ... Ford, the third largest employer nationwide, employs approximately a quarter of a million people (247,000)." Abbott Laboratories, one of the nation's leading drug manufacturers and an industry with great security concerns, employs polygraph on rare occasions. It is "just another tool" in its security control. It did not estimate the frequency of use.

In addition, we heard from firms in the field of private investigations. They similarly stated that their use of the polygraph test is a very small part of their activities. I believe the relevant portions of the Commission's testimony that relates to the use of the polygraph is now in the hands of your staff. In light of the testimony we received, the Commission is not convinced that the continued use of such inherently intrusive devices by employers could be justified by any overriding need for the use of polygraphs in employment.

Since the publication of our draft recommendations in May of this year, we received a limited response from the individuals and companies regarding the recommended ban on the polygraph in the employment context. Of the 15 letters we received, 14 were strongly opposed to the recommendation. However, 13 of those 14 were local branches of the American Polygraph Association. Most of the letters voices objection to what they characterized as the "closed process" that had resulted in unbalanced testimony from "the other side." I should point out that the record clearly attests to the openness of the process, which included published notices in the Federal Register stating our interest in the polygraph. We did not hear from the American Polygraph Association until we received the correspondence to which I referred. The correspondence was supplemented by a personal visit by some of its members to our offices two days prior to the publication of our final report. I expect that the APA witnesses are fully presenting the arguments contained

in their letters to us in their testimony at this hearing. The other letter of opposition was from the Perry Drug Stores, Inc., a chain of drug stores based in Pontiac, Michigan.

Some argue that there is no harm or offensive intrusion if an applicant or employee voluntarily takes a polygraph or other truth verification test. As I indicated earlier, the Commission believes that there can be nothing voluntary about agreeing to take a polygraph exam, particularly when one is applying for a job. If employees do not agree to take a polygraph test to prove their innocence, or their honesty, there may be an assumption that they are less than honest and a cloud of guilt or of noncooperation is created. The failure of an employee to voluntarily take a polygraph test may be interpreted by an employer as noncooperative behavior and therefore an employee may not be promoted or may even be fired. In this regard, the testimony we received from the Retail Clerks International was especially convincing.

Employment and personal records have never been the topic of comprehensive Federal Legislation. Employer's record-keeping practices have, of course, been affected by the statutes directed to other concerns such as health, discrimination, collective bargaining, and workmen's compensation. However, the area now under consideration can have great impact upon an individual's relationship with the institution that employs him, yet there is no Federal policy of law concerning that activity.

This completes my prepared testimony. I appreciate the interest of this committee in our findings, and now shall be pleased to respond to any questions you may have about the work of my Commission.

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REMARKS OF DAVID T. LYKKEN, Ph.D.
PROFESSOR OF PSYCHIATRY & PSYCHOLOGY
UNIVERSITY OF MINNESOTA

I. Introductory Comments

Although the possibilities were being explored in the late 19th century, the first "lie detector" suitable for routine use was invented in the 1920's by a medical student named J. A. Larson who was working part-time for the police department of the city of Berkeley, California. Larson in turn had as an apprentice a high school student named Leonard Keeler who subsequently developed a polygraphic apparatus of his own. In about 1930 Keeler moved to join the newly formed Scientific Crime Detection Laboratory at the Northwestern University School of Law in Chicago. Both Larson and Keeler published extensively, mainly in criminal law and police science journals, and trained numerous disciples. The interest of the U.S. Government agencies in the lie detector blossomed during the Second World War and intensified with the concerns about national security which characterized the subsequent cold war period. The lineage of these developments is difficult to trace but one can reasonably assume that most of the polygraphists now working for the FBI, the CIA, the National Security Agency, the U.S. Departments of State and of

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Defense, inherited their methods and philosophy of interrogation directly or indirectly from the Berkeley-Chicago nexus of Larson, Keeler, C. D. Lee, F. E. Inbau and J. E. Reid. The U.S. Army has for many years operated one of the principle schools for training polygraph examiners. Only a few foreign countries have any significant involvement with the polygraph - Japan and Israel are two examples - and it is hard to escape the impression that this foreign activity resulted mainly from the missionary enthusiasm of American security and military agencies for this technique. The CIA has been carrying suitcase-size polygraphs in diplomatic pouches all over the world for years.

In the United States, the lie detector has been referred to in fiction, films and superficial news accounts for more than 50 years. I saw a TV re-run of an old movie recently in which Keeler himself administered a lie test to an inmate at Sing Sing prison; this test was represented to have proved conclusively what the audience knew all along, that the defendant was innocent of the crime for which he had been convicted. Thus, the lie detector is as American as apple pie and familiar to just about every citizen old enough to read. Naturally enough, most people assume that the test does just what the name implies and that it is very accurate. I have been told by judges, attorneys, and police officials that they had always assumed that the lie detector was "almost infallible". I have talked with three people who each were given lie tests in connection with alleged crimes and who "failed" the test although entirely innocent, people who had such an ingrained faith in the procedure that they believed the erroneous lie test rather than their own minds or memories. One searched his apartment for the stolen money on the assumption that he must have taken it during a "blackout." Another knew his answers to the test questions had been truthful but concluded from the test result that he must be evil and dishonest in his heart, if not in his behavior, and came close to suicide.

Because the lie detector has become part of American mythology, the burden of proof has subtly been shifted from its salesmen and advocates over to the shoulders of its critics, those few scientists like myself who have taken the time to look critically at the claims and practices of the lie detector industry. If none of us had ever heard of such a thing as a "lie detector" before, then I contend that we would all be appropriately skeptical if Keeler or one of his descendants were to describe the procedure to us for the first time. The theory of the lie test, in both of its principle forms, is so implausible that very few psychologists would expect such a test to work with high accuracy. (The lie detector procedure is a psychological test, in which physiological reactions are used as a basis for drawing inferences about the subject's psychological state or reactions. In spite of this, many fewer than 1% of polygraphers in this country have had any training in psychology, in psychological testing generally, or in psychophysiology.) Psychologists have learned to be appropriately modest about drawing firm conclusions from theoretical assumptions. Therefore, I doubt that many of us would want to say categorically that the lie test could work as claimed. But I feel sure that most scientists, after considering the implausibility of this procedure, would at least require very strong and convincing experimental evidence before being willing to accept the claims of the lie detector industry. As we shall see, there now is good evidence available concerning the accuracy of the so-called "control-question" lie test and this evidence confirms what theory would predict. The lie test does better at separating the truthful from the liars

than one could do by flipping coins but not much better; it is not 99 or 95 or even 80% accurate but more like 65 or 70% accurate on the average. Moreover, as theory would suggest, the lie test is strongly biased against the truthful subject; about half of the truthful subjects in the studies I shall describe were erroneously scored as "deceptive" by the lie test.

Nevertheless, extravagant and unsupported claims continue to be made by the industry. At least a dozen schools in this country are busily training polygraphers in courses of instruction that average about 6 weeks duration. More than 4,000 polygraphers are at work in the United States and anywhere from 250,000 to as many as 2 million Americans may undergo the harrowing experience of taking a lie detector test during the next year. Lie detection may soon become the most important branch of applied psychology, whether measured in economic terms or in terms of social impact, although the number of accredited psychologists involved in this industry can literally be counted on one's fingers. I should hasten to add that psychologists are not threatened by or jealous of the success of this thriving industry. This is not a matter of professional rivalry. I believe that the lie detector represents bad psychology and pseudo-science. I know from personal observation that a great many Americans are being victimized, often tragically, by erroneous conclusions based on invalid polygraph tests. I believe that present trends constitute an important threat to some of our basic institutions such as our courts. No knowledgeable person believes that the verdicts of our courts and juries are nearly so accurate, on the average, as the polygraph industry claims to be with the lie test. Most criminal trials and much civil litigation is basically concerned with deciding which testimony is true and which is false. If the lie detector were more accurate than the conclusions of juries, then justice would dictate that we substitute a polygraph for the jury box and retain judges merely to pronounce sentence. Many of our jurisdictions are beginning to allow polygraphers to testify as expert witnesses, to inform the jury whether the defendant is lying or telling the truth, and therefore whether the defendant is guilty or innocent. I believe that this is a very dangerous trend. The lie detector in fact is not very accurate and its results may easily be biased by the expectations or prejudices of the polygrapher. Moreover, in both kinds of situations where the use of lie test evidence in court is now being countenanced or advocated, one can show that the test's average validity will be even less than 70%.

While the control-question form of lie detector test has the serious deficiencies already mentioned, the lie test format generally used in pre-employment screening is still less accurate and even more subject to bias. Although no studies of the accuracy of pre-employment screening tests have been published in the scientific literature, there is every reason to doubt that these methods are any more accurate than, say, using a Ouija board. Since it is hard to see why cost-conscious businessmen would continue to pay for the use of invalid tests, I will offer alternative explanations for their popularity. One is that the lie test is a very powerful form of stress interview, a kind of painless "third degree", which induces many individuals to blurt out all their guilty secrets. Whether or not these revelations may be job-related, when this personal information is reported to the employer he understandably concludes that the test is remarkable effective - even though the procedure may elicit these confessions without having any validity whatever as a test. Second, some polygraphers report alleged "findings" or

conclusions which have no basis in fact but which nonetheless are impressive to the employer paying for the testing. Third, the prospect of having to take a polygraph test serves to intimidate many employees and may this have a deterrent value from the employer's point of view.

I shall stress the implausibility, in accuracy and unreliability of the lie test. In the early 1960's I participated in a symposium sponsored by the Institute for Defense Analyses, an agency of the Defense Department, where among other possible applications of the polygraph we considered the following idea. After applying space-age technology to improve the lie detector, and after changing the name of the device to "truth verifier", the machine might be used to facilitate the highest levels of international diplomacy. We were asked to imagine then-President Kennedy or Chairman Khrushchev addressing the United Nations with the large meter of the Truth Verifier on the wall above their heads. Should either world leader assert or promise anything that he did not believe to be the truth, the meter needle would swing revealingly over into the "lie zone." While this example sounds a bit extreme, I believe that if we in fact had or could develop a method of detecting lying that was as nearly infallible as many polygraphers claim for their present methods, than we should be forced to bite the bullet and walk nervously forward into the Age of Truth. We would have to revolutionize not only the methods of diplomacy but also our criminal justice system, our methods of political campaigning, the press conference, even such basic institutions as the TV commercial. The polygraph test may represent an invasion of privacy and constitute a threat to other human or Constitutional rights but a debate on these issues would take a different form - and might yield a different outcome - if the lie test was or could be highly accurate. It seems to me that one might be able to simplify these ethical or Constitutional considerations by establishing at the outset that the lie detector test is not nearly so accurate as the profession claims and as the general public believes it to be.

Finally, this Committee will no doubt hear claims from professional polygraphers that their methods are 90, 95 or 99% accurate. I do not wish to suggest that all those who make these claims are deliberately attempting to mislead. An old-time polygrapher of my acquaintance once told me that he tried to be "conservative" in his estimates and therefore would claim only to have been correct in 95% of the thousands of lie tests he had given over the years. But I know that in at least 90% of those tests he never discovered whether his verdict had been correct or not. Typically, the only time a polygraph can confirm his results is when the subject makes a subsequent confession. Sometimes this confession occurs during the test, before it is scored, and yet all such cases are counted as successes. Even when the confession comes later, it is reasonable to suggest that subjects who confess may not produce tests which are typical of tests obtained from subjects who do not confess or from those who have nothing to confess. Very few polygraphers have any scientific training or are skilled in the sometimes tricky business of drawing valid conclusions from scientific evidence. One polygrapher testified before the Minnesota State Legislature that he had given over 20,000 lie tests in his career and that he "had never been proved to be wrong"; - he did not say whether he had ever been proved to be right. I suggest, since good scientific evidence is now available, that the opinions of professional polygraphers, based on their personal experience, should not be given great weight by this Committee.

THE THEORY OF THE LIE DETECTOR

It should be established first that there is no particular response or pattern of physiological responses that is characteristic of lying - that all or most people show when they are attempting to deceive but do not show when they are merely afraid or angry or distrustful. The polygraph only provides recordings of various physiological processes which tend to change in response to emotional stress or excitement. The typical polygraph measures breathing movements, the changes in the "relative pressure" in a standard blood pressure cuff wrapped around the upper arm, and changes in the electrical resistance of the skin, changes which are associated with sweating of the palms. Questions, and many other stimuli such as noises or a sudden thought in the subject's mind or a movement of his body, can produce transitory changes in some or all of these on-going measurements, in breathing pattern, in heart rate or "relative blood pressure", and in skin resistance. Observing such changes following a question, the first problem is to determine whether they represent an involuntary response to the question or rather some accidental or deliberate self-stimulation on the part of the subject. While it is very difficult for most people to inhibit their natural tendency to react to significant questions, it is quite easy to artificially augment one's response, by tightening the diaphragm, biting one's tongue, and so on. Assuming none of this is going on, that the changes observed are a response to the question (and to the subject's answer), then it is still impossible to determine with any certainty the nature of the subject's emotional response. He might be guilty and lying or he might be innocent and merely frightened or worried. The question might have made him angry or even amused or merely surprised. All one can tell from the polygraph record, assuming one can rule out movement or self-stimulation, is that the subject was aroused by the question - one cannot identify the nature or source of that arousal.

The Relevant-Irrelevant Lie Test

In the early days of lie detection, the standard procedure was to ask a short list of questions in which relevant or "Did you do it?" questions were intermixed with irrelevant questions, of which an example might be, "Are you sitting down?". If the subject showed relatively strong polygraph reactions to the relevant questions, then it was concluded that he was answering these questions deceptively. Given the limitations in which we can reliably infer from the polygraph record, this test method may seem rather simple-minded and that's exactly what it was. It is reasonable, of course, to suppose that Jones might be more aroused by a relevant question if his answer to it is a lie than he would be if he could answer it truthfully. But even this assumption, which is basic to any form of lie test, cannot always be correct. Many of us have had the experience of truthfully denying some accusation and yet being conscious of feeling guilty, feeling nervous, noticing the heart beat faster, feeling one's face flush. If I were on trial for some serious crime and had to face the jury and deny my guilt, I think I would be considerably aroused whether I was lying or telling the truth.

But, even if by some magic unknown to psychologists we could be sure that Jones would react more strongly if he were lying than if not, the fact

that he gives a reaction of size X to a particular relevant question tells us nothing at all since we don't know how strong a response to expect from Jones under either circumstance. People differ greatly in their physiological responsiveness; a reaction of 10 units might be a large response for Jones but a small response for Smith. Therefore, in testing a new subject, we cannot compare his reaction with those of someone else. The most we can do is to say that Jones responded more or less to one question than he did to another. But the fact that you reacted more strongly, were more aroused by the question, "Have you ever stolen from your employer?" than you were by the irrelevant question, "Is today Tuesday?" is plainly not very strong evidence that your answer to the relevant question was deceptive.

It is now generally admitted by most of the polygraphy fraternity that the relevant-irrelevant test format is unreliable and that the so-called "control-question" test represents the current state of the art. As we shall see, however, the control-question test can only be used in reference to specific situations, as in a criminal investigation where a specific crime has been committed and the relevant questions refer to that incident. Most pre-employment screening tests are fishing expeditions where the examiner has no specific situation of this sort in view. Therefore, most pre-employment screening involves a test format essentially equivalent to the old relevant-irrelevant procedure. As we shall see, the control-question lie test is only slightly less simple-minded than the relevant-irrelevant procedure and we do have good evidence as to its validity. There are no good studies of the accuracy of the relevant-irrelevant procedure, in the employment screening application or in any other. But it is safe to agree with the polygraphers that this old-fashioned method is certainly less accurate than the control-question test currently advocated.

The Control-Question Lie Test

Suppose we knew somehow that Jones' response to a particular question will be about 20 units in size if his answer is a lie but only about 10 units if he is truthful. Then, if we ask that question and observe a reaction of 19 or 22 units, we might reasonably conclude that he was in fact lying. But how could we know in advance these two essential items of information about Jones? Suppose the relevant question is, "Did you commit Crime X?". If we could persuade Jones that he was equally in danger of being prosecuted for an equally serious crime Y, then we might ask him a control question, "Did you commit Crime Y?". Secretly, we know Jones to be innocent of Y but he thinks we suspect him of that one, too. Jones will answer this control question, "No", and the size of his polygraph reaction might provide us with an estimate of how strongly he should respond to the relevant question, about Crime X, if his answer to that one is also truthful. Should he respond much more strongly to the question about X than to the one about Y, then we might tentatively conclude that he was lying about X. But one can see that it would almost never be possible to set up this type of situation in real life, certainly not if most criminal suspects once became aware that the lie test depended on this sort of deception of the subject, trying to make him think that Crime Y was as much a threat to him as the suspicion about Crime X.

Instead of trying to predict how Jones will react if he is answering truthfully, we might instead attempt to formulate a control question which

will provide an estimate of how Jones will react if his answer about Crime X is a lie. Suppose Jones really did commit Crime Y; we know that somehow but Jones doesn't know that we know. Thus, when we ask, "Did you commit Crime Y?" we would then know that his answer was deceptive and therefore we could use his polygraph response to estimate how he ought to respond to the question about Crime X, if his answer to that one is also a lie. If Jones' response to the control is 20 units but his response to the question about X is only 10 units, then we might tentatively conclude that Jones was telling the truth about X. Again, however, one can readily see that it would be almost never possible to realize the conditions required to set up this type of test comparison.

I've described in some detail the two ways in which one might formulate a genuine "control-question" type of lie test. Both methods would make psychological sense, although both methods would certainly lead to error in at least some instances. For example, both methods rely on the assumption that Jones' reaction will always be stronger if he is lying than if not, and I have already argued that this may not always be true. But the most important defect of both these methods is that they could almost never be used. We can seldom expect to be able to convince our subject that he is in equal jeopardy with respect to some other crime, real or imaginary, when we know that he is in fact innocent of that one - but he does not know we know. It would be equally unusual for us to be able to be sure that our subject is guilty of some equally serious crime - but without his knowing what we know. Since these are the only ways in which a genuine control-question lie test might be devised, and since both methods could seldom if ever be used in practice, how do professional polygraphs manage to give thousands of control-question lie tests every year?

It might be helpful now to consider a typical example. Table 1 shows the list of questions used in a lie test administered to a defendant accused of homicide by stabbing. This case was tried in Vancouver, B.C. in 1976. The polygraph test was administered by Dr. David Raskin, one of perhaps half a dozen practicing polygraphers who have actual psychological training. Questions 1, 2, 3 and 8 on this list are essentially irrelevant and do not contribute to the scoring. Questions 5, 7 and 10 are the relevant or critical questions, relating to the homicide, and it is assumed that the defendant would react more strongly to these questions if he is guilty and lying than if he is innocent and merely worried about being convicted of murder. Questions 4, 6, and 9 are the so-called control questions. According to the published writings of Raskin and others, it is assumed that the subject, " ... is very likely to be deceptive to them or very concerned about them" (Podlesny and Raskin, Psychological Bulletin, 1977, 84, 782-799). Based on this assumption, the test is scored by comparing the polygraph reaction elicited by each of the three critical questions to the reaction produced by the adjacent "control" question. If the critical questions produce stronger reactions, the subject is classified as "deceptive". If the control questions yield stronger reactions, the verdict is "truthful."

Looking at the three control questions, the Committee might agree with me that most people will have "hurt someone" or "lied to get out of trouble" prior to age 20, and therefore we might suspect that this subject's "No" answers to these questions were technically untrue. However, of course,

neither I nor Dr. Raskin can actually know that this subject's answers were untrue. One good possibility is that, in this context, the subject interpreted "hurt someone" to mean something serious like the stabbing he was accused of and "trouble" to be something serious like being charged with murder. Question #6 is one that most people could truthfully deny - I've never tried to "seriously hurt someone."

Table 1

1. Were you born in Hong Kong? (Yes)
2. Regarding the stabbing of Ken Chiu, do you intend to answer truthfully each question about that? (Yes)
3. Do you understand that I will ask only the questions we have discussed? (Yes)
4. During the first 18 years of your life, did you ever hurt someone? (No) Control #1
5. Did you cut anyone with a knife on Dumfries St. on January 23, 1976? (No) Critical #1
6. Before 1974 did you ever try to seriously hurt someone? (No) Control #2
7. Did you stab Ken Chiu on January 23, 1976? (No) Critical #2
8. Is your first name William? (Yes)
9. Before age 19, did you ever lie to get out of trouble? (No) Control #3
10. Did you actually see Ken Chiu get stabbed? (No) Critical #3

[Table 1: The list of questions used by D. Raskin in a lie detector test administered to criminal defendant (homicide). If the autonomic disturbance associated with the critical questions tends to be greater than that associated with the paired control questions, the subject would be diagnosed as "deceptive." Since it is assumed that an innocent subject will be more concerned by the control than by the critical questions, larger responses to the critical questions will be interpreted as evidence that the answers to these questions are deceptive.]

This example is a fair illustration of the technique which the most advanced modern polygraphers use to try to solve the problem of devising an adequate control question. If we had proof that this defendant had committed some other murder, but were withholding that evidence until we found out whether he was guilty also of this stabbing, then Raskin might have used the method outlined earlier. A question about the other murder, which we know the defendant committed but which he does not know we know about, would serve as a real "lie control". If he reacted much less strongly to the critical question than to such a control, then we might reasonably conclude that he was truthful about the stabbing. But there was no other murder we might

refer to in this way - there generally isn't. So, instead, the polygrapher asks about some other possible misdeeds, trying to pick things that most people have been guilty of but which this subject may deny. The examiner then proceeds to assume (1) that these control answers are in fact lies, and (2) that an innocent subject will be "more concerned" about these questions than about the critical questions referring to the crime for which he stands accused!

I don't think one has to have a Ph.D. in psychology to see that these are really extraordinary assumptions - that they are in fact unreasonable assumptions. In this particular case, Dr. Raskin concluded that the defendant reacted less to the critical than to the control questions and that he therefore was innocent. Nevertheless, the jury found the defendant to be guilty. The jury may, of course, have been mistaken but there are various ways in which a guilty subject might have produced this result. Some individuals, after extensive police grilling and the like, may develop psychological defenses to specific questions referring to their crime and thus be relatively unreactive to the critical questions. A sophisticated criminal might know enough to tighten his stomach or bite his tongue after each of the three control questions. This will enhance his control responses and thus increase the chances that he will pass the lie test. I think it is especially likely that the hopes and expectations of the examiner can influence the outcome of such a test. An unscrupulous examiner, hired by the defense and aware that he will make a much larger fee if he can testify that the defendant was truthful, would do everything to put the subject at his ease. He would choose strong control questions and ask them in an intimidating way so as to produce a strong reaction. He would ask the critical questions in reassuring tones, trying to minimize reactions to them. And since the scoring of the polygraph charts leaves considerable room for subjective judgment, he would make sure that all ambiguities in scoring were resolved in the defendant's favor. Since it may be so easy to influence the outcome of the test in this way, it is not necessary for the examiner to deliberately intend to cheat. There is considerable evidence that even honest experimenters, doing psychological research, may unconsciously cause their experimental subjects - whether humans or white rats - to behave in the way that the experimenter expects or wants them to behave.

But referring again to Table 1, one can see that we would usually expect a subject to "fail" the control question lie test whether he is guilty or innocent. If I imagine myself in this defendant's position, innocent but nonetheless accused of murder, then I would expect to react strongly to all three of these critical questions - more strongly than I would to the controls which would obviously seem relatively unimportant. And then I would be diagnosed as deceptive and therefore guilty. It should be obvious that these so-called "control" questions are not adequate controls at all. It is not reasonable to assume that the subject's answers to questions such as these are lies. It is not reasonable to assume that an innocent subject will be "more concerned" about such control questions than he will about the critical, "Did you do it?", questions. This "zone of comparison", control-question lie test, which polygraphers claim to be the most sophisticated form of their art, does not make psychological sense. We should not expect such a test to have very high accuracy in general and we would expect it to be biased against

the truthful subject in particular. The experimental evidence confirms these expectations.

The Experimental Evidence

There have been many laboratory studies of the lie detector, mostly using college student subjects and mock crime situations. It should be apparent - and it is generally agreed by both sides - that one cannot estimate the accuracy of the lie test in real life situations, involving important consequences and real emotional concerns, from these laboratory simulations. There have been just three scientifically respectable studies of lie test accuracy in the field. One of these, by P. Bersh (J. Applied Psychology, 1969), reported an average accuracy of nearly 88%. However, Bersh's polygraphers made "global" judgments, based not just on the lie test charts but on everything they knew about the evidence and about the suspect at the time. Therefore we cannot be sure how much the actual polygraph results contributed to the accuracy achieved by Bersh's examiners. It seems possible that their subjective evaluation of the suspect and the evidence against him would have led them to separate liars from the truthful with much better than chance accuracy, using the same kind of intuitive assessment that juries or police detectives rely on. It is possible that the polygraph itself, unsupplemented by the examiner's intuitive judgments, would have yielded much lower accuracies than Bersh reported.

A later study by F. Horvath (Doctoral dissertation, University of Michigan, 1974; J. Applied Psychology, in press) supports the latter interpretation. Horvath was a professional polygrapher affiliated with the John Reid firm in Chicago, who recently obtained a graduate degree and conducted this study under the supervision of trained scientists. Polygraph tests given to 112 criminal suspects were obtained from police files. Half of these had later been verified as to guilt or innocence, either by subsequent confession of the subject tested or by confession of another person, clearing the subject tested. Ten experienced polygraphers independently scored each of these test records, agreeing among themselves about 87% of the time. The average accuracy of their judgments on the 56 verified cases was only 64%, as compared with the chance expectancy of 50% (that is, since half of these cases were verified deceptive and half truthful, one might expect to score 50% correctly just by flipping a coin). On the verified-guilty cases, 77% were correctly classified, i.e., 23% errors. In the case of the verified-truthful suspects, 49% of their polygraph tests were scored as "deceptive."

The most recent field study of polygraph accuracy was also done by a professional polygrapher who, like Horvath, had gone back to the University for an advanced degree. G. Barland (Doctoral dissertation, University of Utah, 1975) himself administered Backster control-question tests to a group of criminal suspects. (Barland's sample was subsequently extended to 102 cases under Research Contract 75-NI-99-0001 with the U.S. Law Enforcement Assistance Administration and it is to this finished study that I shall refer.) Barland's collaborator, Dr. D. Raskin, scored the polygraph charts "blindly", without knowledge of the details of the case, as was done in the Horvath study. The Barland study used as a criterion the consensus of at least 4 of 5 judges and criminal lawyers who later reviewed the completed case files and estimated their confidence in the suspect's true guilt or innocence. On

the criterion-guilty cases, Raskin's scoring agreed with the criterion on nearly 98% - as compared with 77% accuracy for Horvath's 10 polygraphers. The fact that the control-question method does this well - 77% to 98% accuracy in "detecting" lying - is not surprising since most of the tests were scored as "deceptive" in both studies. Horvath's examiners scored 63% deceptive and detected 77% of the liars. Raskin scored 88% as deceptive and detected 98% of the liars. But both the Horvath and the Barland studies show that the control-question test is exceedingly inaccurate in its ability to "detect" truthful responding. In both cases, at least half of the innocent suspects were classified as "deceptive" by the polygraph. This again is just what one would expect since the "control" questions used would seem relatively non-threatening to most people (e.g., "Before the age of 18, did you ever take anything that didn't belong to you?") in comparison to the relevant questions ("Did you steal the \$2,000 from the vault?").

The Lie Test in Employee Screening

Government agencies and businesses resort to the lie detector in two main types of situations. First, and most pernicious in my view, is the situation in which one or more employees are suspected of some job-related crime, theft or sabotage or the like. Instead of turning the matter over to the proper authorities, businesses in this country increasingly are taking the law into their own hands, asking suspected employees to submit to polygraph testing. In a number of cases that have come to my attention, the unlucky employee who "fails" the lie test is then summarily discharged. One can imagine his difficulty in then finding new employment with the sort of reference he can expect from his previous employer. Without indictment, without a trial before a jury of his peers, without a shred of admissible evidence against him, these victims of the lie detector are being punished more severely than many properly convicted first-time felons. An Indiana minister wrote to me about one of his parishoners who, after six years as an accountant at the local bank, agreed to take a lie test after \$2,000 had been found missing from the vault. He "failed" the test and was fired. Community protest led to his being tested again; this time he passed and was re-hired. But the bank, having been well-sold on the lie detector, insisted on a third test. The young man "failed" again and was permanently discharged. When last I heard, he had searched a year in vain for another position in the one line of work which he was trained and experienced. Each time a possibility opened, the inevitable inquiry to his former employer "closed the door in his face."

A supermarket in Lake City, South Carolina was found by the head office to be experiencing unexplained losses. Two polygraphers were sent in to test all 55 employees. Setting up in a local motel, they went to work. The assistant manager of the store was tested by a retired garbage collector from New Jersey who had moved south because of his health. Bored in retirement, he had taken a 6 week course in lie detection and was then employed by a firm calling itself, "Truth Associates, Inc.". Testing completed, the polygraphers reported to the head office that the assistant manager was the culprit responsible for "from 8 to \$10,000" in losses. This victim, Mr. Mack Coker of Lake City, lost his job and his reputation in the small community. His children were taunted in school; "Your daddy is a liar and a thief!" It

happens that both of the men I have referred to here were deeply religious, dedicated members of their church. I suspect that their strong, religion-based morality may have helped insure that they would react strongly to the accusations of the critical questions in the lie test, leading them to be scored as "deceptive". I have seen the polygraph charts obtained in the Coker case and it is my opinion that they do not by any stretch of the imagination support the cruel and damaging conclusion which ended his career as a merchant. The polygraphers had to produce a victim in order to earn their fee and it is my belief that Mr. Coker was merely a scapegoat. I am told that the president of that chainstore stated, "Whenever we have losses in a store, we send in the polygraph and fire somebody and then the losses stop". One imagines that it would be equally effective to require all employees to play Russian Roulette until someone got a bullet in the brain. And about equally fair.

The second application of the lie test in government agencies and business is in pre-employment screening. As we have seen, the technique generally used for this purpose is the relevant-irrelevant method which is even less plausible in its design than the biased and inaccurate control-question lie test. A typical pre-employment question list is shown in Table 2. If any one or more of these questions elicits a stronger polygraph reaction than the examiner thinks is proper, then the subject is considered to be deceptive in his reply to that question. It's as simple - or simple-minded - as that. I can't quote any published research concerned with the validity of this procedure, probably because no serious scientist would consider it worth his time and effort to do such a study. We know that one can do about 20% better than chance using the control-question test; I doubt very much that one can do any better with this alleged test than by using random numbers. Your son or daughter shows an increase in blood pressure when asked in a pre-employment interview, "Have you ever stolen anything from an employer?" This reaction might mean that your child is offended by the question, or that he knows that he won't get the job if they concluded he is a thief, or that he once did take an old desk lamp for his room but it was going to be discarded anyway, or that one of his friends did steal from an employer and your son has been bothered about it ever since he found out. What the polygrapher concludes, and what he will tell the boss, is that your child was deceptive in regard to previous thefts.

One must naturally ask, if this procedure is as phoney and invalid as I am suggesting, why is it that hard-headed businessmen find the polygraph so attractive and are using lie test screening in increasing numbers? I've already indicated that the mystique of the lie detector makes many people react in the polygraph room as if it were a confessional. The polygraphers know this and do everything they can to capitalize upon it. The subject is told in advance of being connected to the magic machine that he or she may do badly on the test if there is anything about any of the questions that bothers him. This often is enough to produce a variety of small confessions. The question list is normally gone through several times with a rest between "charts" and during these rests the examiner will say something like, "You've shown quite a lot of stress here to questions 4 and 6. Can you think of any reason for that? Is there anything you haven't already told me that might clear that up?" This sort of rubber hose leaves no visible mark but it often elicits additional admissions. I recently was visited by a young

Table 2

Typical Question List for Pre-Employment Screening

1. Did you tell the complete truth on your application?
2. Have you deliberately withheld information from your job application?
3. Have you been fired or asked to resign from a job?
4. Are you seeking a permanent position with this company?
5. Have you ever committed any undetected crime?
6. Have you ever been convicted of a felony?
7. Have you ever used marijuana?
8. Have you ever used any other narcotic illegally?
9. Have you ever sold marijuana or other narcotics illegally?
10. Have you ever used marijuana or other narcotics on the job?
11. Did you ever steal merchandise from a previous/present employer?
12. Did you ever steal monies from a previous/present employer?
13. Have you ever used a system to cheat a previous/present employer?
14. Have you told me the truth about your financial status?
15. Are you withholding any information about your health?
16. Has drinking ever interfered with your work?
17. Have you deliberately lied to any of these questions?

woman who is a reporter for our campus paper and who had just taken such a pre-employment polygraph test. She was furious and humiliated, realizing afterwards, when it was too late, that she had blurted out confidences to this stranger that she would normally have shared with no one but her priest. She was so eager to "pass" the test, so concerned to get a clean bill of health from this intimidating machine. While it is impossible to be sure about this, I believe that most of the information contained in the polygrapher's reports to the prospective employers consists of such admissions rather than of references to the actual polygraph results. Some of these admissions may be relevant to the employee's job fitness, some may be merely of prurient interest, others may be exaggerated by the examiner (the subject never gets a chance to refute these claims about what he "admitted") - but they are all calculated to convince the employer that this polygrapher can certainly find out things that his personnel people couldn't get just by an ordinary interview.

Some employers claim that their losses from employee theft decreased when they began using pre-employment or periodic post-employment screening by polygraph. I would like to see independent verification of these claims; attempts to verify the polygrapher's claims about the accuracy of the lie test showed that they were largely based on wishful thinking. But I would

not be astonished to find that superstitious fear of the lie detector did act as a deterrent or that losses go down somewhat if you pass over applicants who admit to prior theft. But what about the human cost of these alleged loss reductions? What about the people who are refused a job not because they have anything serious to confess but merely because an invalid test came up tails instead of heads? - or because they are so emotionally or physiologically reactive that they just can't pass a lie test? - or because they confess to so little that the examiner is suspicious of them? What about all the fear, the humiliation, the embarrassment, the invasion of privacy?

I have been asked by employer's, "What else can I do to cut down these losses?" My first answer to that is that there are a number of other ways they haven't yet tried. They could have employee's homes raided and searched periodically, make everyone submit to a strip-search before leaving work in the evenings. They could try torture or drugs. But those things are an offense to the civil and human rights of the employees and they are against the law. I submit that the use of an invalid test whose power results only from the public's misinformed belief in its magical powers is also an abuse of the employee's human rights and ought to be against the law as well.

My second answer is this: If we can believe industry figures, losses due to employee theft in this country are so enormous that most of the people doing the stealing cannot be what we would normally think of as thieves. Many of these peculators must be normally law abiding citizens who are react to the impersonal, dehumanizing conditions of their workplace in unfortunate but predictable ways. The way to get such people to be as honest on the job as they would be in other situations is to humanize their working conditions, not to go the last step of dehumanization by setting up a lie detector machine at the factory gate. The way to deal with real thieves is to do background checks before they are hired, to check on their references, and then to improve on security measures in the office or plant. And, when something is stolen, the thing to do is to call in the police - not the polygrapher.

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STATEMENT OF TRUDY HAYDEN
Director, Project on Privacy and
Data Collection
American Civil Liberties Union

November 15, 1977

We are grateful for this opportunity to present the views of the American Civil Liberties Union on the subject of polygraphs and employment, and specifically, on the proposed statute, S. 1845, which is before this Subcommittee. The ACLU is a non-partisan organization of more than 275,000 members devoted solely to protecting individual rights and liberties guaranteed by the Constitution.

Our position on the use of polygraph tests for employment purposes is simple: we oppose their use in any circumstances, whether by private employers or government employers, whether administered to employment

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Our position on the use of polygraph tests for employment purposes is simple: we oppose their use in any circumstances, whether by private employers or government employers, whether administered to employment

applicants or to present employees, whether the tests are compelled or "voluntary." Our opposition rests on three grounds:

1. The lack of evidence that the polygraph or any other known "truth verification" device is truly a "lie detector."
2. The subjects and scope of questions contained in polygraph examinations, and the conditions under which the tests are administered.
3. The constitutional and civil liberties implications of polygraph tests.

Based upon these considerations, we are pleased to endorse S. 1845. The bill is an important milestone for privacy rights. We urge the Subcommittee to strengthen its prohibition and report it favorably.

Reliability

This Subcommittee is undoubtedly familiar with previous Congressional reviews of scientific studies pertaining to the reliability, validity and accuracy of the various so-called "truth verification" devices.

In 1974, the staff of the Subcommittee on Constitutional Rights of the Senate Judiciary Committee, after consideration of all available evidence, concluded that "doubt must be cast upon the objectivity, accuracy, and reliability of the polygraph test."¹ In 1976, the House Committee on Government Operations stated, after its own review of the evidence, that the results of research so far undertaken "have done little to persuade the committee that polygraphs, psychological stress evaluators, or voice stress analyzers have demonstrated either their validity or reliability in differentiating between truth and deception, other than possibly in a laboratory situation." The Committee noted similar reservations expressed by the Law Enforcement Assistance Administration and by the Central Intelligence Agency.² We ourselves are unaware of any scientific research which would be likely to allay these doubts. The fact is that there exists no objective evidence to indicate that the polygraph, or any other known device, can separate truth from fiction. That being so, it is clearly unacceptable to allow employers to require that job applicants or present employees "pass" a polygraph test.

The Polygraph's claim to operate as a "lie detector" rests on the assertion - and it is only an assertion - that certain patterns of change in a person's blood pressure, respiration, and perspiration necessarily reflect predictable physiological responses to the emotional turmoil (guilt and fear) which is caused by lying. That theory is extremely shaky. It does not account for situations in which a person may not experience such an emotional response; for example, when the person is not aware that he is telling a lie, or when the person is so "cool" about lying that no feelings of guilt are aroused, or when the person doesn't believe that the machine can detect deception and so feels no fear. More important, it does not account for the myriad of other circumstances that could produce the same physiological responses: heart trouble, a cold, fatigue, psychological problems, the effects of drugs or alcohol, nervousness and tension caused by the stressful situation

of the test itself, or embarrassment, fear, and outrage caused by the examiner's questions. There are even indications that certain biological attributes, such as sex and skin pigmentation, may affect the subject's physiological responses.

Proponents of the polygraph assert that the skillful examiner is able to compensate for these variables and to distinguish between the reaction due to lying and the reaction due to other causes. Thus, it is not the machine that does the detecting, it is the examiner. The accuracy and reliability of the examiner's performance are influenced by several factors. One is training. The 1974 Senate Subcommittee Report noted with some dismay that even the best training program in the profession give only the most perfunctory attention to the study of psychology and medicine, whereas the complexities of the interpretive process required by a polygraph test would seem to call at least for an advanced academic degree in psychology or physiology.³ It is conceded that many, if not most, practicing examiners are poorly trained even by the rather modest "best" standards of their own profession (such as those established by the American Polygraph Association). Indeed, in the majority of states, anyone who buys a polygraph machine can go into business.

A second influencing factor is the examiner's own bias, predisposition, and attitude. As he is paid to protect the employer from employees who would lie, cheat, and steal, or otherwise prove undesirable, it is reasonable to expect that the examiner is predisposed to find indications of deception, to "play it safe," and thus to resolve uncertainties with a negative interpretation. There is of course no way of compensating for the unspoken difference of attitude that may exist between examiner and subject, different cultural or philosophical conceptions of what is "true" or "moral." Neither can one measure or control the examiner's personal feelings toward a particular subject, his gut reaction to an individual's race, sex, style of dress, mannerisms of speech, demeanor. Any of these intangibles can skew the examiner's interpretation.

Ultimately, "lie detection" comes down to a matter of the examiner's judgment, bolstered by the faith of both examiner and subject in the power of a machine to unmask deception. The examiner is the "lie detector." The assertion that a machine, or a combination of machine and human, can reliably, accurately, infallibly ferret out lies is unproved either in theory or in practice. Yet the jobs of hundreds of thousands of men and women each year are made to ride on the results of this supposedly "scientific" method. That is more than unfair; it is cruel.

Intrusiveness

Even if the polygraph or some other device were a truly reliable, objective "lie detector," the nature of the examinations administered to employees and applicants would be argument enough to justify a ban on polygraph testing.

The ostensible purpose of the test is to determine whether the applicant or employee is telling the truth. But the truth about what? Job applicants are asked if they were ever arrested, if they were even questioned

about a theft or other crime, if they ever stole from an employer or shoplifted or committed some other crime without being caught, if they ever saw a fellow employee stealing but did not report it, even if they ever thought of stealing. They are asked about their marital and extramarital relationships, their sexual preferences and practices, their past and present use of drugs and alcohol, debts, gambling, personal problems, fears and feelings. They are asked about their politics and their religion. Not all of these subjects are likely to crop up in the course of a single examination, but the point is, no subject is beyond the pale. Once hooked to the machine, the person must answer any question; if he hedges or demurs, he will be accused of deception.

One reason for the unlimited scope of questions is the "inducement to confess" which is created by the subject's acceptance of the machine's infallibility. Polygraph examiners admit that the effectiveness of the procedure depends in good part upon the strength of a person's belief that any lie or attempt to lie will be detected. The person is thereby encouraged to "tell all," hold nothing back, lest he appear to be telling the lie.

A second reason is the examiner's need to interpret the meaning of the readings on the polygraph. Thus, if the question is posed; "Have you ever stolen from your employer?" and if the machine registers an emotional reaction, the examiner will delve deeper and deeper into the person's thoughts and behaviour to find the explanation for that reaction. (A "good" examiner, at least, will do so; a "bad" examiner would not bother but would automatically "detect" a lie. Polygraphers consider than an examiner's efforts to fully explore any questionable reaction is desirable.)

But we believe that there is a third reason. We believe that the polygraph test has come to be used as an all-purpose screening technique, to weed out - or get rid of - "undesirables." People "fail" polygraph tests not merely for lying, or appearing to lie, but also for telling the truth, if the truth is unpalatable either to the examiner or to the employer. In fact, many employers simply accept the polygrapher's verdict that a particular applicant is "recommended" or "not recommended," without bothering to ask why; they seem satisfied to relinquish their responsibility for making decisions to the "expert" and the machine. As a consequence, the polygraph test becomes a screening procedure, with no rules or standard, the purpose of which is to shield the employer from "troublesome," "risky," or "incompatible" employees. We think it is revealing that one of the major polygraph firms in the country, John E. Reid and Associates, promotes its services with the assertion that "one third of the working population in the United States should not be considered good risks for handling a company's money, merchandise or secrets."⁴ If a third of the work force is presumed to be suspect, this expectation will obviously be reflected in the manner in which polygraph tests are conducted.

ACLU offices all over the country receive scores, sometimes hundreds of calls each year from people who have been embarrassed, offended, outraged by their experiences in polygraph examinations. They protest the extreme intrusiveness of many of the questions, the intimidating, sometimes outright bullying behavior of the examiner, and the indignity and humiliation of their subjection to a dehumanizing procedure. We also hear of frequent instances

in which questions are posed during a polygraph test that would be illegal if they were posed directly by the employer on an application or in an interview; questions which may result in discriminatory hiring practices, and questions regarding personal information whose confidentiality is protected by law or regulation.

We know that employers keep files of polygraph test reports on both accepted and rejected applicants and on current employees - reports which may contain some very intimate information and some very subjective evaluations - and we know that polygraph reports are widely disseminated through credit reporting agencies.

The federal Privacy Protection Study Commission recently called the use of polygraphs and other truth devices by employers "so intolerably intrusive as to justify banning them."⁵ We support the Commission's judgment.

Constitutional and Civil Liberties Issues

Our most important objection to the polygraph is our belief that its use raises serious issues of constitutional rights and civil liberties which would not be overcome even by the invention of a 100% accurate "lie detector" and the imposition of strict controls on the scope and nature of the tests.

We believe that the use of the polygraph to obtain incriminating or derogatory information directly from a person violates the constitutional presumption of innocence, the Fifth Amendment privilege against self-incrimination, and the Sixth Amendment right to confront and cross-examine one's accusers. There can be no better examples of such violations than the routine periodic retesting of employees ("to keep them honest"), or the requirement that employees submit to tests in the investigation of a discovered theft or shortage, or the common pre-employment test question, "Did you ever commit a crime without getting caught?"

We believe that the use of the polygraph to screen employees violates the Fourth Amendment freedom from unreasonable searches, the constitutional right of privacy, and the dignity of the human personality. We object to the method itself, however carefully and fairly the test may be conducted, as an unconstitutional intrusion into the personal autonomy and privacy of the individual. Surely, the attempt to reach into a person's mind against his will must be the ultimate invasion of privacy.

It is sometimes argued that the polygraph test is not a violation of civil liberties when it is voluntary. That is sheer nonsense. Despite the formality, frequently observed, of asking applicants to sign a "free will" consent form before taking a test, the procedure is not voluntary if the employer won't consider anyone who refuses to be tested. Nor is it voluntary when the employee, given the opportunity to "prove his innocence" of a theft, is fired on some other pretext if he refuses a test. In the present state of our economy, no one can seriously maintain that an employer's "request" for a test is voluntary. A choice between a polygraph test and unemployment is obviously no choice at all.

Fortunately, this particular privacy problem is more easily remedied than many of the other invasions of privacy that confront us today. Congress

can act simply and definitely to put an end to all uses of the polygraph or any other "truth" device by all employers.

S. 1845 would prohibit the use of polygraphs and other similar devices for employment purposes under most circumstances. We support the objectives of this legislation. We would, however, like to persuade the Subcommittee to make certain amendments to the bill, which we believe are necessary to implement an effective ban on employment uses of the polygraph.

§247 (b)(1). The Central Intelligence Agency and the National Security Agency would be exempt from the ban on polygraph testing. We oppose this exemption. If polygraph testing is unreliable, intrusive, and an invasion of privacy for employees of other agencies or of private companies, it is no less so for employees of the CIA and NSA.

The 1976 House Report⁶ revealed that the National Security Agency had administered over 3,000 polygraph tests during fiscal year 1973, more than any other federal agency for which figures are available. It is not known how many tests were given by the CIA because that agency refused to reveal those figures. But the CIA did state that the use of the polygraph "is an integral and essential part of security processing ... for Agency employment and operational purposes," so it would seem that tests are routinely given to both prospective and present employees. Further, the agency noted that some 60% of applicants rejected on security grounds from 1963 through mid-1974 were rejected because of information uncovered in a polygraph examination. In view of the CIA's own professed reservations about the establishment of the polygraph's validity,⁷ the injustice to the agency's employees and prospective employees seems especially cruel. In these circumstances, a person stands not only to lose a job, but also to be labelled as a "security risk."

We urge that the exemption for the CIA and NSA be eliminated.

§347 (b) (2) (B). This section permits the use of a polygraph examination if "the employee freely and expressly requests" it and if "the request is not a product of coercion or intimidation by the employer." We oppose this provision. We believe that it would merely open the way for employers to "suggest" that their employees "ask" to be tested. Coercion in such a situation need not be spoken in order to be felt. For practical purposes, few employees will be in a position to resist such a "suggestion." We believe it is futile to attempt to avoid coercion by giving the employee the "right" to ask for a test. In fact, no employee who does sincerely and freely desire to be tested would be prevented from doing so under a statute which did not contain this clause.

Experience with the waiver provision of the Buckley Amendment (Family Educational Rights and Privacy Act⁸) is instructive in this regard. The Buckley Amendment permits students to waive the right to inspect letters of reference written on their behalf. The Privacy Protection Study Commission found⁹ that high schools and colleges have been routinely requesting students to sign such waivers, and have encouraged them to do so by persuading them that only a confidential letter of reference will be taken seriously.

Although the statute gives students a clear choice and forbids coercion by the institution, the reality is quite the opposite. No overt coercion or intimidation is required because the student is in a dependent position vis-a-vis the institution, just as the employee is vis-a-vis the employer both can be made to perceive and understand that it is in their best interests to "volunteer" their cooperation.

§247 (c)(3). The civil remedies provision is one of the most important features of the proposed statute. A major difficulty in enforcing those state statutes which limit the use of polygraphs has been the absence of any relief for a person harmed by a test or by the refusal to take a test. Recently, for example, the New Jersey affiliate of the ACLU participated in a suit on behalf of a woman who was forced to take a polygraph test as a condition of continued employment as a bank teller, contrary to the provisions of New Jersey law. Although the offending employer was fined in municipal court, the employee was left without any recompense for the damage to her livelihood or to her reputation. In a settlement by stipulation, the bank and the firm which administered the test agreed to pay \$5,750 restitution; the bank additionally agreed to expunge all reference to the test from its files and not to mention it in response to enquiries from prospective employers. Humphrey v. First National State Bank, Civ. Action No. 76-24 (D.N.J.). Few suits of this kind have been successful, and, of course, the fact that this case was settled by stipulation leaves other New Jersey victims without a clear right of restitution.

The difficulty of establishing a remedy for the aggrieved individual even in a state which is considered to have a fairly tough polygraph statute should emphasize the importance of this section. The availability of a civil action not only promises material restitution for the injury suffered by the individual, but also serves, along with the criminal and civil penalties provided in (c)(1) and (c)(2), to discourage employers who may be tempted to flout the statute because they believe it is not likely to be enforced. This section gives employees and their unions a direct interest in the strict enforcement of the statute.

We believe that section (c)(3) might be strengthened by expressly providing for actual and punitive damages among the remedies which a court may, in its discretion, impose. Although the availability of such damages is implied in the present language, future controversy on the point might be avoided if they were explicitly mentioned.

Conclusion

It is not difficult to understand why employers might find the idea of the polygraph attractive. From their point of view, it seems like a cheap, simple, and apparently "scientific" method of screening employees. We do not question the right and need of employers to obtain objective, job-related information about the men and women they hire. But the kinds of information obtained in a polygraph test and the manner in which it is obtained are an affront to the constitutional rights and human dignity of the hundreds of thousands of people who are subjected to this humiliating experience each

year. We urge Congress to call a halt to all employment uses of the polygraph and all the other "truth machines."

Attached to this statement is a copy of the ACLU's Privacy Report on the subject of Polygraph testing.

Thank you for the opportunity to appear before the Subcommittee.

Footnotes

1. Privacy, Polygraph and Employment. Staff of Subcommittee on Constitutional Rights, Committee on the Judiciary, U.S. Senate, 93rd Congress, 2nd Session, November, 1974, p. 9. Hereafter cited "Senate Report."
2. The Use of Polygraphs and Similar Devices by Federal Agencies. Thirteenth Report by House Committee on Government Operations, 94th Congress, 2nd Session, January 28, 1976, pp. 12-13. Hereafter cited as "House Report."
3. Senate Report, p. 9.
4. Undated brochure entitled, "The Reid Report."
5. Personal Privacy in An Information Society. The Report of the Privacy Protection Study Commission, July 1977, pp. 238-240. Hereafter cited "Commission Report."
6. House Report, p. 25.
7. Ibid., pp. 13-14.
8. 20 U.S.C. 1232g.
9. Commission Report, pp. 434-435.

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A STATEMENT BY
WALTER L. DAVIS

November 16, 1977

Mr. Chairman and members of the Committee. My name is Walter L. Davis, and I am special assistant to the President of the Retail Clerks International Union. RCIU is a trade union representing approximately 700,000 members in the United States and Canada. The International office is located here in Washington, D. C., and we have approximately 200 chartered local unions throughout the United States and Canada.

Our union has long been concerned with the invasion of the privacy of our members by the polygraph and other technological devices that purport to tell whether or not an individual is telling the truth. We have over the years a long record of supporting legislation which would outlaw the use of such devices. We have urged such legislation at municipal, state and Federal levels and continue to do so. We are here today to give our strong support to the legislation you are considering, S. 1845.

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As the use of the polygraph and other devices have proliferated over the years, our union has encouraged our local unions to negotiate clauses that ban the use of these instruments on our members. In anticipation of this hearing, we took time to do a random sample of the 12,000 contracts the Retail Clerks International Union has in various parts of the country. The sample is representative of a broad cross section of the various phases of the retail industry and a variety of employers, and we feel that the sample was large enough to prove valid.

Our survey was concluded only last week and was based on 154 RCIU contracts covering 90,211 employees and showed these results:

12% of the agreements restrict the use of the polygraph totally, for both pre- and post-employment.

9% restrict the use of the polygraph to post-employment only.

79% have no restriction on the use of the polygraph.

Let me add these important words of explanation. In the collective bargaining process, you must "give" to "get." In effect, in 21% of our contracts, our membership felt deeply enough about the invasion of their privacy to give up something else in order to obtain this particular clause.

One further bit of information we gleaned from our study: None of the contracts in our sample made reference to the Psychological Stress Evaluator, which is a relatively new development.

Why does the Retail Clerks International Union oppose polygraph and PSE testing so vehemently?

We oppose the use of these devices because they are a gratuitous insult to human dignity. Time and again, officials of our local unions have witnessed the unbelievable trauma and emotional upset that use of such devices have caused. Let me cite for you a specific example.

One of our members, Tom Hemmert, found out how true it is that polygraphs make strange readings. One did it to him, and it nearly cost him his job.

Hemmert was working in 1975 at Allied Food Mart in Lima, Ohio, where he was a member of our Local 31. One day there was a \$1,000 shortage. Company security asked employees to take lie detector tests. The local union representative and the store steward told all members that, under the union contract, no one could be required to take such a test. But Hemmert knew he was innocent; he had nothing to hide; so he volunteered to take the test.

What Hemmert didn't know, though, were some assumptions he had been making, deep in his own subconscious, about how the shortage had occurred. He thought it might have taken place outside the store by people not even connected with the supermarket. This was really only wild speculation on his part, but it nearly cost him his job.

While the polygraph operator was rattling off a series of easy questions, he suddenly shot this one at Hemmert: "Do you know who took the money?" Hemmert hesitated. Of course he didn't know, but there was that suspicion in the back of his mind. He answered that he had no idea. But the polygraph caught the hesitation and recorded it. He was immediately suspended.

Local 31 then filed a grievance. There was no settlement at either step one or step two of the grievance procedure, but finally the union representative settled the case with the company personnel manager. Hemmert was reinstated with full back pay, no loss of seniority and returned to his same job classification.

In this case there was a happy ending - because there was an aggressive union able and willing to defend the employee. But what happens in the hundreds of thousands of cases where there is no union? That is why we need a Federal law banning the use of such devices.

As a trade union, we are convinced that such legislation is needed for an even more compelling reason. As I indicated at the beginning, in 20 percent of our contracts, we have bargained away something else in order to win a clause that bans the use of the polygraph. In effect, we are giving up something to get a clause that the Constitution already guarantees. In order to eliminate any confusion whatsoever, S. 1845 should be passed so that we can retain a part of our collective bargaining power that we are now giving away.

I think the House Government Operations Subcommittee put this whole problem in very neat focus. After a sweeping investigation and on the basis of expert testimony, the committee concluded: "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."

Two of the acknowledged leaders of the polygraph industry appeared before that same committee. Under discussion was claim in which the two contended that their system was 99 percent accurate - they actually claimed only one percent error. Congressman Henry Reuss of Wisconsin pressed the two for data to substantiate their claim. Before he had finished, they had sharply reduced their claim for accuracy - finally conceding it was only 85%. Even then, they admitted this figure could not be verified. It is really difficult to understand how anyone can get away with huckstering a device with such an alarming degree of fallibility.

But now a new device has appeared on the scene. It is called this very impressive name: Psychological Stress Evaluator. The phrase itself has an intimidating ring. PSE presumably detects, measures and displays psychological stress without the use of visible sensors. It records the voice of a subject so non-stressed responses show up as wavy lines while stressed responses come out on a straight line. These voice detectors can be used surreptitiously without any body contact and without a subject's knowledge. PSE beats Big Brother at his best.

PSE has reaped a publicity harvest beyond belief. Business must be very good on the basis of the slick and glossy PR job done for it. Some of the hoopla was in Penthouse magazine. It was an interview with an author who had written a book published by Penthouse Press - a very neat combination. Author O'Toole used the PSE to conclude that Lee Harvey Oswald didn't kill President Kennedy. O'Toole based his conclusion on a voice analysis of Oswald's statement that "I haven't killed anyone." Yet, Lee Harvey Oswald is the same man whom many, many people watched kill officer Tippett in the Dallas theater. Isn't Tippett anyone?

Virtually overlooked in the publicity puff for PSE is a report commissioned by the U.S. Army Land Warfare Laboratory. The Army study was titled: "Comparison of Voice Analysis and Polygraph as Lie Detector Procedures."

This report was regarded as classified material by the Army. Under pressure from then Congressman Froehlich, the Army declassified the report, and it was released to the public in 1974. It was a very scholarly document done by Dr. Joseph F. Kubis of Fordham University.

Here are the conclusions of the study. The accuracy of the polygraph examiners was 76 percent. In other words, the examiners were wrong 24 percent of the time. When other individuals examined the polygraph charts without having seen the subjects being tested, accuracy fell to between 50 and 60 percent.

Interestingly enough, when the original polygraph examiners were asked immediately after the test for an opinion, they were right 65 percent of the time based on purely subjective judgments of those being tested.

Here is how the Psychological Stress Evaluator made out: In this particular experiment, three individuals were involved in guilt or innocence, so your chance of being right was one out of three, or 33 percent. Based on individual analysis of the suspects, the PSE came in at 32 percent - less than pure chance. PSE did a little better when three suspects were considered in combination: 53 percent right.

So you take your choice: A polygraph test that's 24 percent wrong or a PSE test that's half right and half wrong.

Our union is unable to say how often the polygraph is used to invade the privacy of the American worker because we lack the resources to make a determination. We must confess also that we have very little knowledge of how widespread is the use of the Psychological Stress Evaluator because it can be used without a person's knowledge. This committee, we believe, should ask the manufacturers of these devices just who is buying them. In turn, the purchasers should be asked precisely how they are being used.

Of this much we are certain: In the guise of catching thieves, the diabolical polygraph and the insidious PSE become the biggest thieves in town. They steal the jobs and the good reputations of innocent men and women.

* * * * *

STATEMENT OF ROBERT ELLIS SMITH
PUBLISHER, PRIVACY JOURNAL

Through the years, man has had an insatiable desire to find out who is lying and who is telling the truth. In this eternal quest for truth, man has consulted the Delphic Oracle, gazed into crystal balls, and constructed a polygraph machine. The polygraph, erroneously known as a "lie detector," has been the source of serious controversy, because of the device's scientific unreliability and its effect on individual liberties.

There is substantial dispute over the reliability of polygraph tests. The qualifications and objectivity of those administering the tests are highly questionable. There are few, if any, objective and fair testing situations. Most examiners will tell you that a "successful" test depends on their convincing the subjects that the machine is infallible. Most examiners use untruths to lead a subject into admissions. Many persons are temperamentally unsuited to the test and an habitual or pathological liar can "beat" the machine.

But even if polygraphs were regarded as totally reliable, I would still oppose their use as lie detectors, just as I oppose the use of wiretaps. Wiretaps, after all, are totally reliable, but they still violate individual privacy.

For a person to decline to subject himself to a polygraph test should not be considered evidence of guilt, nor of concealment. Persons with nothing to hide have much to fear about a polygraph examination, including the indignity of it all. Refusal to submit to a polygraph test is a sign of awareness, not suspicion. The findings of the polygraph exam should not be admissible as evidence in criminal prosecutions. On this, just about every court in the land agrees. (1) Federal prosecutors for years have opposed the introduction of polygraph evidence, whether or not the defense favors it. The Constitution protects the right against self-incrimination, the right to confront witnesses, the right to a fair trial, the presumption of innocence, the right against unreasonable searches and seizures and the right of press speech. Each of these is infringed when the government uses polygraph evidence.

The Constitution, then, protects a criminal suspect from going to jail for "failing" a lie detector examination, or for declining to submit to a test. But what protects a person from losing gainful employment for the same reason? For employees in many parts of the U.S., there is no protection.

There are existing protections in 16 states that prohibit polygraph tests as a condition of employment (2) and two other states severely limit the questions that can be asked in employment tests (3). Major union contracts prohibit the practice and most labor arbitration decisions rule against the test. The State of Maryland not only prohibits polygraphing in employment, but since 1975 has also required employers to notify applicants of this fact. Penalties for violation of these state laws are not extreme and prosecutions of the offense are rare.

Further, most users of the machines operate chains or franchises doing

business in many different localities. Circumvention of the state law is not difficult. For instance, I receive persistent complaints that clothing stores, drug stores and retail record stores in the Washington, D.C. area administer "lie detector" tests in the District of Columbia or Virginia, where they are legal, and only later assign the employee to stores in Maryland, where the tests are illegal.

And that is why federal legislation is appropriate, either S. 1845 or Rep. Edward I. Koch's HR 434 in the House. Nor is there any prohibition against the polygraphing of federal employees. This bill would cover federal employment as well as private employment.

Constitutional Arguments

Polygraph testing seeks to penetrate the inner domain of individual belief, thereby infringing on an individual's rights of free expression, guaranteed by the First Amendment. One's belief, as opposed to one's conduct, should remain inviolate against inquiry by government or employer.

The polygraph test seeks to compel an individual to disclose information about himself despite the guarantees of the First Amendment, which assures the right against self-incrimination, the right to remain silent. Damaging personal information that one normally would not reveal is exposed - even information totally irrelevant to job performance. This results from the coerced and programmed nature of the questions and from the subject's defensive willingness to elaborate on answers. (The subject has been led to believe, after all, that the machine is infallible.) No polygraph test is truly voluntary. A person is faced with the alternative of not being employed, or of being fired, or of not receiving a security clearance, or of arousing the hostility of his employer.

The Sixth Amendment assures the right to confront one's accusers. As Sen. Sam Ervin used to say, it's hard to cross-examine a machine. And that's one of the key reasons for its inadmissibility in courts.

The use of a polygraph arguably constitutes an unreasonable search under the Fourth Amendment, when a test investigates a person in a deeply probing manner through a wide range of questions. It would be ironic if, under Fourth Amendment law, we limited an employer's right to search a worker's desk or purse or home, but not his or her mind.

Polygraphs can also result in an unreasonable seizure under the Fourth Amendment when the results are revealed to third parties, including other employees, credit companies or the police. It has been suggested that polygraph machines be linked to computers so that the results may be analyzed automatically, stored for long periods of time and retrieved from long distances.

Further, the Supreme Court has recognized that various constitutional guarantees, taken together, create a constitutional right to privacy. (4) An individual's sense of personal autonomy and reserve - his personal privacy - are lost when he must place his innermost thoughts at the mercy of a large black box with a moving stylus. Thousands of persons must do this, simply in order to get work serving hamburgers, driving a cab or waiting on tables.

There is, in American criminal justice, a strong traditional presumption of innocence. This same tradition prevails in enlightened sectors of the business world. But too many polygraph experts justify their testing by proclaiming that it provides an opportunity for persons to prove their innocence. They should be told that in most of American society, no individual has that burden. No where is it written that American citizens are obligated to have an electrical appliance measure their sweat in order to clear their names - in a court of law or in the workplace.

In Employment

Since 1974, as publishers of an independent monthly newsletter on the right to privacy (PRIVACY JOURNAL, Washington, D.C.), I have received many complaints from individuals who have been coerced or intimidated or fooled by present or prospective employers into submitting to a "lie detector" test.

Any polygraph examiner will tell you that the test must be administered by a trained individual; it takes time. What we see, instead, are employers routinely sending applicants to a private security agency or detective agency that the job applicants know nothing about. Most of the applicants are young, unrepresented by labor unions, often seeking their very first job. They are apprehensive. They are plugged into the machine for five or ten minutes at most. They are asked warm-up, or control, questions that often get into sexual or other intimate details - to measure normal embarrassment on the machine. They are told that the machine is infallible. The examiner then uses leading questions to ask about criminal activity, drug usage, pilfering, one's knowledge of wrongdoing by others, prior work habits and similar subjects.

The applicants are then sent away to await the results -- with no opportunity to question the examiner or his credentials, no chance to scrutinize or explain the results, no way to know whether they failed employment because of other facts or because the machine knows some secrets in their subconscious that even they are not aware of. Sadly, many of them go away thinking that the machine has discovered some wrongdoing that they did not know about.

The same process is used for current employees, as a periodic check against theft, drug abuse or other misconduct. Current employees are usually compelled to "tattle" on their fellow workers.

A professional polygraph test may cost as much as \$400 or more. The type of employers who use polygraphs and the number of applicants tested indicate clearly that companies are not spending that kind of money that the experts say is necessary for a "fair" and "reliable" test. These employers pay perhaps \$20 a test. And what they get is shoddy five-minute mumbo-jumbo. They do not get the truth. Can there be any doubt that the purpose of the testing is to intimidate applicants and employees?

Embezzlement, shoplifting, drug abuse and other unsavory employee behavior present major problems for businesses. The answer to these problems is found not in a black box. Rather it is to be found in hard evidence of wrongdoing, better employee morale, vigorous and fair investigations, secure systems of accounting and auditing, and - perhaps more significantly - management's setting a good example of integrity.

Let there be no doubt that polygraphing in employment is a matter of class status. Bank tellers take polygraph tests; bank presidents do not. Even though the dollar losses are greater, you rarely hear of a company compelling a traveling executive to explain expense-account reimbursements under polygraph examination. Drug store clerks take polygraph tests; the store manager does not.

Retail employees in the District of Columbia staged strike over the polygraph requirement, in part because the boss himself would not agree to a test.(4)

It is the young, desperately underemployed members of society who are victimized by this pernicious practice, not the executives who in fact handle most of the large amounts of money in American business. Polygraphs, in fact, are used to intimidate employees on the lower rungs of the career ladder, not to prevent dollar losses.

The Victims

In my experience, complaints about the "lie detector" have been the greatest source of complaints about invasions of privacy.

A young woman wrote the following letter to the governor of Florida. The lawyer for the bank at which she sought employment responded that her "apprehension over the polygraph examination of applicants is certainly misplaced."

Dear Sir:

Upon applying for a job at _____ Bank, I was told that I would have to submit to a lie detector test. Refusal to submit will mean that you are not permitted employment at said organization. Therefore, much against all my beliefs in the American system, I took the lie detector test feeling very much like a criminal. One must realize growing up in America, the first time one sees a lie detector test is normally on a detective show on television, where the gangster, who is normally lying, is screaming - "I'll take a lie detector test!"

At 11 a.m. you go to the (security) company. The man there then says he's going to try to put you at ease as he then commences to ask you a lot of questions such as do you have any hidden motives for applying for this job, have you ever drunk to excess, have you ever smoked marijuana, or taken any merchandise or money for \$5? Have you ever been arrested? Have you ever used any other name? Have you ever been dismissed from a company where you previously worked? Did you have to leave your hometown because of delinquent bills or any other reason? The questions go on through two pages.

Then, now that you are supposed to be relaxed, he tells you to turn the chair around, this is so you are not facing the machine, he puts something around your arm as if a doctor was taking your blood pressure, a chain around your waist, and two small bands around two fingers of your right arm. Your arm is then placed on two sponges and you are told to close your eyes and keep them closed. This alone is scary!

Then he continues to ask you about ten questions pausing about 15 seconds after every question. Of course, unless you are stupid or completely in some kind of euphoria, the question that you await is Have you ever stolen anything? Whether you have or have not this makes you feel as if you have. Therefore, although you are broke, you go home feeling like a thief!

From PRIVACY JOURNAL, February, 1976:

Tom Hemmert didn't have to take a "lie detector" test. He's a member of Local 31, Retail Clerks Association in Lima, Ohio, and its contract with his employer, Allied Food Mart, prohibits requiring an employee to submit to a test. Last summer, after a \$1000 shortage in funds was discovered, all employees at the market were asked to take polygraph tests. Hemmert knew he was innocent and had nothing to hide, and so he volunteered to take the test.

What Hemmert didn't realize, however, was that he had some subconscious suspicions that persons outside of the store were responsible for the shortage. His suspicion nearly cost him his job.

As the polygraph operator rattled off a series of easy questions, he suddenly asked Hemmert, "Do you know who took the money?" The young clerk hesitated, then answered in the negative. The polygraph caught the hesitation. The examiner and Allied security personnel assumed Hemmert was hiding something and he was immediately suspended.

Through a Local 31 grievance action, Hemmert has now been reinstated with full pay and seniority. And he now knows why the Retail Clerks insist on a no-polygraph clause in all of their labor contracts.

A Georgia man wrote the following:

As a former employee of a small milk store chain, I had to take these tests every three months. Before taking my last test, I told the tester I had drank some soft drinks and milk without paying. I was asked to take the test anyway and the tester used abusive language to intimidate me while attempting to make me estimate a larger amount of beverages consumed without paying. Since then I've read up on polygraph machines and, along with my personal experience, I am convinced of the farce the "lie detector" can represent if only the tester is willing to be unethical. A lie detector, I suggest, is the newest form of torturing the wanted confessions out of citizens.

A young woman who lives in Maryland, where the tests are supposed to be illegal, wrote:

Last summer I worked very diligently for Dart's in the accounting department as a clerk-typist and returned to college the following fall. I was praised for my work and asked by my supervisor to return the following summer ... As company policy I had to refill out an application (and) retake a polygraph to which I answered the same questions truthfully. After taking the test, I asked for an increase in salary (and my supervisor) agreed (and told me to report Monday). Two days

later a letter from the corporation notified me that my application had not be accepted. I called and talked to my supervisor. He also was puzzled and denied any knowledge of the procedures. He promised to investigate with a return call, so I waited hopefully by the phone. After several futile conversations, the supervisor bluntly stated that there was no given reason - just that "they" aren't going to hire you - Is there any legal action that can be taken upon my part with Dart's and their use of polygraphs for employment?

A Weakness in the Bill

The last case is instructive, because the company's response in this instance was that it, a company doing business in Maryland, "does use polygraph testing as a means of verifying pre-employment data, (but) such testing is only done with the consent of the prospective employee and is in no way a precondition of employment."

S. 1845, as presently drafted, would not curb this practice, as it should. The bill would permit polygraphing if "the employee freely and expressly requests to take such a test and the request is not a product of coercion or intimidation by the employer." This is a dangerous loophole, one that would dilute the effect of this needed legislation. It is said that an employee might request a test "to prove his innocence." But that is not the individual's obligation. If one employee requested a test, the others would be suspect because they did not. There is no such thing as a request free of coercion when an individual, earning the minimum wage or less, is seeking to get or keep a job.

If an employee truly requested to take a polygraph test, this consent would be a defense for the company in any lawsuit filed by the employee under the right of action created by this bill. That is a common law principle that need not be stated in the bill.

But the administering of a polygraph test by an employer, whether or not by request of the employer, should be a violation of S. 1845, if enacted. Why should an individual worker, under authority of federal law, be permitted to "request" a machine test that is unreliable and unfair, any more than he could "request" to use machinery that violates federal safety standards or "request" to work for less than the minimum wage or "request" to waive his right to non-discriminatory hiring practices?

The New Generation of 'Truth Detection'

It is important that S. 1845 will regulate the use of other devices like the polygraph that purport to detect deception. There is now a new generation of such devices that use the same principle as the polygraph - the principle that physiological symptoms betray stress and that stress shows deception. The first part of that principle may be valid; the second part is questionable.

A characterisitic of "first generation" detection is that it is done with the knowledge of the subject. This would no longer be necessary with the new technology.

The psychological stress evaluator (PSE) is a portable device that may be administered with no physical contact with the subject. It measures voice modulation. Marketing firms have begun to use it in mass telephone sales campaigns to measure response to a product or sales pitch. The developers use it on tape recordings associated with celebrated crimes. A study by the U.S. Army Land Warfare Laboratory has questioned its reliability, but some government agencies and businesses have used it on job interviews.

The voice analyzer leaves us with the 1984 possibility that telephone conversations may be monitored by electronic surveillance and analyzed electronically allegedly for the truth of what is said! Our experience with government surveillance - as reported by the predecessor to this subcommittee - tells us that this is no pipe dream.

There is more. A small company in the Northwest claims to have reduced the voice analyzer to a hand-held model, no larger than a calculator, so that a job interviewer or investigator may monitor its ups and downs as he speaks to the subject - without ever telling the subject that his words are being evaluated electronically for "truth."

The Weizmann Institute of Rehovot, Israel, has developed a "microwave respiration monitor" to determine truthfulness remotely. This device measures by microwave the palpitations of a person's stomach, on the theory that lying produces more rapid movement of the stomach. The device is now used at border crossings.

And then there is the professor in Ohio who claims to have discovered a lie detection technique that works on a person who never opens his mouth! It allegedly would work on an intoxicated or drugged person. It measures response in the eye retina after questions or comments. A change in retina color, plus change in pupil size and in eye focus determine emotional response to stimuli like questions, according to the professor. A colleague in Ohio claims that persons who can fool the polygraph can't fool him - he videotapes the subject to catch split second facial expressions that are supposed to betray lying.

Clearly the "science" of "truth detection" has moved towards camouflaging the instruments and fortifying the claims of accuracy. We have come full cycle from the days when an "ordeal by fire" separated the liars from the truth-tellers. Man is still trying to find a short cut to the truth, using what the chairman of this subcommittee's predecessor, Sen. Sam Ervin, called "20th Century witchcraft."

Footnotes by Smith

(1) To my knowledge only three jurisdictions have ruled the polygraph admissible. U.S. v. Ridling, 350 F Supp 90 (E.D. Mich. 1972), in a perjury case with the examiner chosen by the court. A year later, the Fifth Circuit Court of Appeals found Ridling unpersuasive, in disallowing polygraph evidence in another court. U.S. v. Fragge, 476 F.2d 969 (1973). The District of Columbia Circuit Court overturned a lower court decision admitting the test, on the basis of Frye v. U.S. 293 F.1013 (D.C. Cir. 1923), which remains the controlling case on inadmissibility. U.S. v. Zeiger, 475 U.S. F.2d 1280 (D.C.

Cir. 1972). The Wisconsin Supreme Court (if both sides agree) and the New Mexico Supreme Court have ruled that the tests are admissible. State v. Stanislawski, 62 Wisc. 2d 730 (1974). State v. Lucero, 526 P.2d 1091 (1974). A Common Pleas judge in Cleveland this year ruled that a defendant had a constitutional right to admit polygraph results ("Prove his innocence"). The judge was reversed within three weeks. State v. Sims, No. 5732 (8th Dist. Ct. App. Ohio, May 18, 1977).

(2) Alaska, California, Connecticut, Delaware, Hawaii, Idaho, Maryland, Massachusetts, Michigan, Minnesota, Montana, New Jersey, Oregon, Pennsylvania, Rhode Island, Washington. Compilation of State and Federal Privacy Laws, 1977 (Washington, D.C., PRIVACY JOURNAL).

(3) Arizona and New Mexico.

(4) The Washington Post, August 17, 1975.

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NEWS FROM BIRCH BAYH For Release: in PM's of Tuesday, November 15

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Washington, D.C., November 15 — Setting as his goal the protection of the "fragile right to privacy," Senator Birch Bayd (D.-Ind.) today opened two days of hearings before the Senate Subcommittee on the Constitution on a bill designed to stop a growing and disturbing requirement in the working lives of Americans — lie detection tests administered by employers on a periodic basis.

Bayh, chairman of the Subcommittee and author of the Polygraph Control and Civil Liberties Protection Act on which the hearings are based, said Americans' privacy "is being chipped away, not by the ruthless agents of a police state, but by an often well-motivated thirst for information by a society grown increasingly interdependent and complex. We are being catalogued, probed and filed as never before. It is time we closely examined this trend and its implications for the future of our country."

The right to privacy, he said, is "simply put, the right to be left alone — to keep to ourselves those thoughts, feelings, desires and facts which we do not choose to share with the world at large. We are a free, independent people and a proper balance must be struck between the never-ending demands for additional and more personal information and our right to privacy."

Bayh noted this is the first set of hearings to be held in the Congress concerning legislation stemming from the recommendations of the Federal Privacy Protection Study Commission. Bayh, who introduced his legislation in the Senate in July, said the Subcommittee expects to benefit from the extensive work of the Commission, which recently completed a two-year investigation into the problems of privacy infringements in this country.

Bayh said hundreds of thousands of ordinary workers and applicants are forced to submit to mass lie detector sweeps of the plant or ship where they are employed or seeking employment.

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"These truth-testing sessions are not necessarily the result of a specific theft or loss or even of suspicion of such crimes. Rather they represent the indiscriminate and random intrusion of truth-testing machines into the daily

lives of Americans," Bayh said. "Failure to submit to these tests, or unsatisfactory responses to questions, are often punished by loss of employment, or summary transfer to a less desirable position." He pointed out the people most likely to be forced to take these tests or suffer the consequences are lower level, non-union workers, "precisely those individuals least able to assert their rights.

"The use of lie detectors in this sweeping indiscriminate manner raises concerns about the validity of the test results. There is a great deal of scientific difference between the test when used as an investigative tool in solving a specific crime, and when used to inquire in often ambiguous terms about the past life of a job applicant or the current performance of a worker," Bayh added.

He stressed that his bill, which is designed to prevent abuses of civil liberties through the use of lie detection tests in both the federal and private sectors, would not impede law enforcement authorities "in any way" from using the investigative tool a polygraph provides if there is reason to believe a crime has been committed. The bill also does not affect polygraph use of criminal justice agencies in pursuit of specific crimes and suspects as long as such practices are consistent with an individual's Fifth Amendment right against self-incrimination.

"I am convinced that methods exist through which employers can control loss and theft at the same time employees retain their right to privacy," he said. "I cannot subscribe to the view that American workers must surrender their rights in order to keep their jobs."

Under the proposed Act, a willful violation on the part of an employer could be punished by up to a year in prison and \$1,000 fine. The Act also establishes a civil penalty of up to \$10,000 to be paid to the federal treasury in cases of less blatant violations. Moreover, the Act will also provide for a private remedy to allow the person who was the victim of a violation of the Act to recover damages from the employer for losses resulting from the violation.

Those scheduled to testify today before the Subcommittee are: David Lykken, Professor, University of Minnesota Medical School; J. Kirk Barefoot, representing the American Polygraph Association, accompanied by Charles Marino, Attorney, Chicago, Ill.; C. R. McQuiston, representing the International Society of Stress Analysts; and Trudy Hayden, Project on Privacy, American Civil Liberties Union, accompanied by Arnold Turkus, NYC.

An additional hearing will be held at 10 a.m. tomorrow in Room 1202 of the Dirksen Senate Office Building. Those scheduled to testify Wednesday are: David Linowes, Former Chairman, Privacy Protection Study Commission; Ty Kelly, V.P., Government Affairs, National Association of Chain Drug Stores, Inc., accompanied by William Krupka, Director of Corporate Security, Perry Drug Stores, Inc.; John Mazzei, Director of Security Control, Transcon Lines, Edison, N.J.; Harry Hunter, Representative from the National Association of Convenience Stores, Inc.; Walter Davis, Retail Clerks International Association; and Robert Smith, editor, Privacy Journal.

STATEMENT OF SENATOR BIRCH BAYH AT POLYGRAPH CONTROL AND CIVIL LIBERTIES PROTECTION ACT HEARINGS, November 15, 1977

Today, the Subcommittee on the Constitution opens hearings on federal legislation to protect the right to privacy of employees by limiting the indiscriminate use of lie detectors in the employment setting. This is the first set of hearings to be held in the Congress concerning legislation stemming from the recommendations of the Federal Privacy Protection Study Commission. I am pleased that our Subcommittee will be able to benefit from the extensive work of this Commission which recently completed a two-year investigation of the problems of privacy in America.

As the Commission's report makes clear, the fragile right to privacy is in grave danger of slipping from our grasp. In vast areas of medicine, credit, education, government, insurance, and employment, invasions of this right occur on a daily and growing basis. Our privacy is being chipped away not by the ruthless agents of a police state but by an often well-motivated thirst for information by a society grown increasingly interdependent and complex. We are being catalogued, probed and filed as never before. It is time we closely examined this trend and its implications for the future of our country.

Throughout the history of our nation, the American heritage has been one of respect for the individual. If we are to continue in this tradition it is time to serve notice that we will not be spindled, folded, mutilated, recorded, filed, or computerized into depersonalized categories for the benefit of either governmental or nongovernmental institutions.

The right to privacy is the keystone of our bill of rights and our concept of civil liberties. It is, simply put, the right to be left alone - to keep to ourselves those thoughts, feelings, desires and facts which we do not choose to share with the world at large.

A citizen's right to privacy is the one concept more than any other which separates our system of government from those authoritarian systems which do not recognize the supremacy of the individual. There can be no question that the functioning of a modern society requires institutions to seek certain information about individuals. We are not, after all, a nation of hermits. But we are a free, independent people and a proper balance must be struck between the never-ending demands for additional and more personal information and our right to privacy. If we are to maintain this balance we must vigorously defend the right of Americans to draw the line - to tell both governmental and nongovernmental institutions to leave us alone.

To this end, I have joined with other members of the Senate to formulate legislation which will help solve the problems highlighted by the Privacy Commission Report. Our hearings this morning will focus on one piece of this privacy package: The Polygraph Control and Civil Liberties Protection Act. This legislation is designed to put a stop to a growing and disturbing job requirement in the working lives of Americans - lie detection tests administered by their employers on a periodic basis.

Each year in this country hundreds of thousands of ordinary workers and applicants are forced to submit to mass lie detector sweeps of the plant or shop where they are employed or seeking employment. These truth-testing sessions are not necessarily the result of a specific theft or loss or even of suspicion of such crimes. Rather they represent the indiscriminate and random

intrusion of truth-testing machines into the daily lives of Americans. Failure to submit to these tests, or unsatisfactory responses to questions are often punished by loss of employment, or summary transfer to a less desirable position.

It is interesting to note that the people most likely to be forced to take these tests or suffer the consequences are lower level, nonUnion workers - precisely those individuals least able to assert their rights.

The use of lie detectors in this sweeping indiscriminate manner raises concerns about the validity of the test results. There is a great deal of scientific difference between the test when used as an investigative tool in solving a specific crime, and when used to inquire in often ambiguous terms about the past life of a job applicant or the current performance of a worker. Additionally, when used in an employment setting the test is inherently coercive. The subject is, of course, aware that failure to submit, or improper emotional responses to questions can result in dismissal. The coercive atmosphere thus heightens the potential for inaccurate results. Employees who are unjustly fired from their jobs based on inaccurate lie detector tests have suffered a tragedy which can follow them for the rest of their lives. Even for those who satisfactorily pass a truth test, the very nature of the process represents an unwarranted intrusion into the feelings and emotions of workers.

I should point out that my bill would not in any way impede law enforcement authorities from making use of the investigative tool which a polygraph provides if there is reason to believe a crime has been committed. It does not affect polygraph use of criminal justice agencies in pursuit of specific crimes and suspects as long as such practices are consistent with an individual's Fifth Amendment right against self-incrimination.

Of course, the invasion of privacy inherent in mass lie detector sweeps, like every other form of privacy intrusion is always premised on some social good. There are always good reasons put forward for surrendering another portion of our right to privacy - it will save money; increase efficiency; identify moral problems or catch the dishonest employee.

But our Bill of Rights was not adopted by those that founded this Republic because it would make things more efficient. On the contrary, the values embodied in that document have always resulted in a measure of inefficiency. They were adopted to preserve for the individual the dignity, the security, and the privacy inherent in a free people. I am convinced that methods exist through which employers can control loss and theft at the same time employees retain their right to privacy. I cannot subscribe to the view that American workers must surrender their rights in order to keep their jobs.

I hope these hearings will give us the opportunity to explore these questions and I look forward to an informative session.

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95th Congress
1st Session

S. 1845

IN THE SENATE OF THE UNITED STATES

July 12 (legislative day, May 18), 1977

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Mr. Bayh introduced the following bill; which was read twice and referred to the Committee on the Judiciary

A B I L L

To protect the rights of individuals guaranteed by the Constitution of the United States and to prevent unwarranted invasion of their privacy by prohibiting the use of polygraph type equipment for certain purposes.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES OF AMERICA IN CONGRESS ASSEMBLED,
That (a) chapter 13 of title 18, United States Code, is amended by adding at the end thereof the following new section -

"§ 247. Polygraph testing in connection with employment

"(a) For purposes of this section -

"(1) 'polygraph test' means any examination administered to an individual by mechanical, electrical, or chemical means to measure or otherwise examine the veracity or truthfulness of such individual; and

"(2) 'employee organizations' includes any brotherhood, council, federation, organization, union, or professional organization made up in whole or in part of employees and which has as one of its purposes dealing with departments, agencies, commissions, independent agencies of the United States, or with businesses and industries engaged in or affecting interstate commerce, concerning the conditions and terms of employment of such employees.

"(b) (1) Any officer or employee of the United States or any person acting for or on behalf of the United States who requires or requests any officer or employee of the United States, or any individual seeking employment as an officer or employee of the United States, to take any polygraph test in connection with his or her services or duties as an officer or employee, or in connection with such individual's application or consideration for employment shall be subject to the penalties and provisions of subsection (c) of this section, except that section 247 (b)(1) shall not apply to officers or employees of the Central Intelligence Agency or the National Security Agency.

"(2) Any person engaged in any business or other activity in or affecting interstate commerce, or any individual acting under the authority of such person who -

"(A) requires or requests any individual seeking employment in connection with such business or activity to take any polygraph test in connection with his application or consideration for employment; or who accepts or uses the results of any polygraph test in connection with such application; or

"(B) requires or requests any individual employed by such person to take any polygraph test in connection with his or her services or duties as an employee; or who accepts or uses the results of any polygraph test, unless the employee freely and expressly requests to take such a test and the request is not a product of coercion or intimidation by the employer;

shall be subject to the penalties of subsection (c) of this section.

"(c) (1) Who ever willfully and knowingly violates subsection (b) of this section shall be guilty of a misdemeanor and shall be punished by a fine not exceeding \$1,000, or by imprisonment not exceeding one year, or both.

"(2) Whoever violates subsection (b) of this section shall be subject to a civil penalty not exceeding \$10,000, to be payable to the United States.

"(3) Upon violation of subsection (b) of this section, any employee or officer of the United States, or any person seeking employment in the executive branch of the United States Government, or any individual seeking to establish civil service status or eligibility for employment in the United States Government, or any individual seeking employment in connection with any business or activity engaged in or affecting interstate commerce, or any individual employed by a person engaged in such business or activity, who is aggrieved by this violation of subsection (b) of this section, may bring a civil action in his or her own behalf or in behalf of himself or herself and others similarly situated, against the offending officer, employee, or person in the United States district court.

"The district courts of the United States shall have jurisdiction to try and determine such civil action irrespective of the actuality or amount of pecuniary injury done or threatened, and without regard to whether the aggrieved party shall have exhausted any administrative remedies that may be provided by law, and to issue such restraining order, interlocutory injunction, permanent injunction, or mandatory injunction, or enter such other judgement or decree as may be necessary or appropriate to prevent the threatened violation, or to afford the plaintiff and others similarly situated complete relief against the consequences of the violation.

"With the written consent of any person aggrieved by a violation of subsection (b) of this section, any employee organization may bring such action on behalf of any such person, or may intervene in such action."

(b) The analysis of chapter 13 of such title is amended by adding at the end thereof the following new item:

"Sec. 247. Polygraph testing in connection with employment."

Sec. 2. The amendments made by this Act shall become effective thirty days after the date of enactment.

* * * * *

TECHNICAL NOTES

By

Ronald E. Decker

CALIBRATION PROCEDURE

PROCEDURE FOR CALIBRATING THE MODEL 22600 STOELTING GSR AMPLIFIER AND RECORDING COMPONENT:

1. Attach AC power cord to electrical outlet.
2. Install 7" GSR Recording Pen in GSR pen cradle.
3. Remove amplifier from the instrument. Rest amplifier on side over the amplifier opening.
4. Turn AC power switch to the ON position.
5. Set auto-manual switch to the manual position and set sensitivity control (R-4) to "0".
6. With a volt meter check to make sure that 20 volts DC are being received from the power supply board of the amplifier. (May be omitted to allow calibration. If calibration cannot be effected, voltage checks will have to be made.)
7. With a digital volt meter check voltage on the output stage of the emitter Q-5 (Test Point), raised loop for each DC voltage reading. Read loop, one side to ground-probe. Adjust R-26 to .94 volts DC + or - 5% (.045), with "0" sensitivity on control R-4. (May be omitted to allow calibration. If calibration cannot be effected, voltage checks will have to be made.)
8. Adjust R-16 to mid-way or center position.
9. Adjustment of chopper balance: Place auto/manual switch in "auto" position, sensitivity control R-4 to full sensitivity (100). Adjust R-8 so that GSR pen is on reference base line. (To check for proper adjustment, turn sensitivity control (R-4) from "100" to "0"). GSR pen should not move over $\frac{1}{4}$ chart division from reference base line. (If movement is in excess of $\frac{1}{4}$ inch, make further adjustments of R-8.)
10. Amplifier Sensitivity Adjustment: Turn sensitivity control R-4 to 10. Press 1K test button (should have 1 inch pen deflection or 4 chart divisions). If proper pen deflection is not received make further R-16 adjustment.
11. The 5K test button should give full upward GSR pen deflection.
12. Information: If the chopper cannot be balanced as set forth in paragraph 9 the gain on R-16 is too high (GSR pen will fall to the bottom of the chart when the auto/manual switch is placed in the auto position.)

This is the first of a series of technical items which will appear in each issue. [Ed.]

Mr. Decker is the Chief Instructor at the Army Polygraph Course at Ft. McClellan and Vice President-Government of the APA.

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