

MINUTES OF THE
MEETING OF THE SENATE COMMITTEE
ON COMMERCE AND LABOR

SIXTY-FIRST SESSION
NEVADA STATE LEGISLATURE
April 24, 1981

The Senate Committee on Commerce and Labor was called to order by Chairman Thomas R.C. Wilson, at 2:05 p.m., Friday, April 24, 1981, in Room 213 of the Legislative Building, Carson City, Nevada. Exhibit A is the Meeting Agenda. Exhibit B is the Attendance Roster.

COMMITTEE MEMBERS PRESENT:

Senator Thomas R.C. Wilson, Chairman
Senator Richard Blakemore, Vice Chairman
Senator Don Ashworth
Senator Melvin Close
Senator William Hernstadt
Senator Clifford McCorkle

COMMITTEE MEMBER ABSENT:

Senator William Raggio (Excused)

GUEST LEGISLATORS PRESENT:

Senator Sue Wagner
Assemblyman Danny Thompson

STAFF MEMBER PRESENT:

Betty Steele, Committee Secretary

SENATE BILL NO. 533 -- "Requires use of simplified language in insurance contracts."

Senator Sue Wagner, sponsor of S.B. No. 533, stated the purpose of the bill, as requested by the state insurance division, is to provide for simplified language for use in life and health policies issued and delivered in Nevada. This process is being done in other states, and stems from a national association of insurance commissioners model law. Senator

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Wagner submitted for the record a memorandum from Ms. Patsy Redmond, acting insurance commissioner of Nevada, which further describes the division's request for the bill. (See Exhibit C.)

Ms. Georgia Massey of the Nevada insurance division, discussed with the committee members amendments prepared by the division for S.B. No. 533. The amendments will basically clarify the first part of the law and define the term "policy". Ms. Massey explained that property and casualty policies were not included in the measure because the policies are subject to change and renewal.

Ms. Massey said to Chairman Wilson that the law will mandate that the policies issues and delivered in Nevada will be based on a readability scale called the Flesch test. A complete description of the Flesch test is outlined in Section 3 of S.B. No. 533, line 21. Ms. Massey said that the intent of the legislation is to merely simplify the language in a policy, but not to change the legality of the policy itself.

Mr. George Vargas, representing the American Insurance Association, understood that S.B. No. 533 limited the provisions to life and health policies. However, he was not able to locate this limitation in the bill's language. Ms. Massey said the proposed amendments will restrict the bill to life and health policies only and includes the fact that the policy means any policy contract or agreement.

The committee members discussed with Ms. Massey that other types of policies, such as fire, already follow a standard format which is based on the New York Standard form. Also, building and auto insurance forms are fairly standardized across the United States.

Mr. Dave Bianchi, representing the Nevada State Life Underwriters Association, said that the association does support S.B. No. 533 as presented by the National Association of Insurance Commissioners. (This form includes the amendments discussed by Ms. Massey of the division which appear to conform with the original model established by the national association.)

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ASSEMBLY BILL NO. 233 -- "Prohibits employer's use of polygraph on applicants for employment or employees."

Assemblyman Danny Thompson read into the record a statement by Mrs. Katie-Ann Galli. (See Exhibit D.) Although a registered lobbyist, Mrs. Galli's statement was given as a private citizen.

Assemblyman Thompson handed out a "waiver and consent" form (Exhibit E) which must be signed before the polygraph examination can be given. The assemblyman remarked that 40 individuals were terminated from the Sahara Hotel/Casino in Las Vegas because they refused to sign the waiver. The assemblyman further stated that requiring that an employee sign a waiver is a violation of that individual's constitutional rights. And, it has been shown that the polygraph tests are only 89.7 percent accurate. The assemblyman commented that 6,000 people in Las Vegas have signed a petition stating their support of A.B. No. 233. The assemblyman said there is the implication that employees have less rights than defendants in criminal cases, as the defendant does not have to take a polygraph test, and if does do so, the results do not have to be submitted as evidence.

The committee members discussed with Assemblyman Thompson the various circumstances that could occur to require a polygraph examination. In some instances, such as in the gaming and law enforcement industries, such an exam is required prior to employment.

Mr. Claude Evans, secretary-treasurer of the AFL-CIO, said that the union would also concur with Assemblyman Thompson that the bill should be accepted in its original form. (Assemblyman Thompson had stated to the committee during his testimony that his original version of A.B. No. 233 had five sentences, but was amended on the floor of the Assembly and had twelve pages added.) Mr. Evans submitted a packet of articles to the subcommittee which illustrate the "unreliability" of polygraph examinations. (This packet is on file with the committee secretary.) Mr. Evans concluded that the original form of the bill would be preferable because it simply states that it is illegal to require an individual to take a lie detector test to gain or retain employment.

Mr. Jim Hartshorne, Reno police department, stated that

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if the original bill were passed, the law enforcement agencies should be exempted in order that they can still require a polygraph examination prior to employment. Mr. Hartshorne stated that the examination is a much less expensive method of pre-employment investigation for law enforcement officials.

Mr. Jim Berry, personnel manager for the City of Reno, testified that his office recommended to the Reno City manager that the city support A.B. No. 233 if law enforcement officers are excluded as well as key personnel in the police department who have access to serious matters of criminal violations. Individuals who handle large amounts of money are bonded, and therefore do not require a polygraph examination.

Mr. Richard Siegel, American Civil Liberties Union of Nevada, testified in support of retaining the original form of A.B. No. 233. Mr. Siegel said that this legislation would assist in guaranteeing the private and public sectors their constitutional rights.

Mr. Richard Putnam, Washoe County Sheriff's Department, said that he was a fulltime polygraph examiner for the department. Mr. Putnam said that his testimony has been accepted in court for both the prosecution and the defense. Mr. Putnam discussed with Senator McCorkle the various types of situations which can influence the accuracy of a polygraph examination. Mr. Putnam remarked that it is generally accepted that the highest accuracy rate for the examination is 90 percent.

Ms. Carole Vilaro, representing Citizens for Private Enterprise in Las Vegas, read a letter into the record from Mr. Pete Kelley of the Nevada Retail Association. (See Exhibit F.) Mr. Kelley's statement summarized that the association supports A.B. No. 233, as amended. Ms. Vilaro remarked that the amended version of A.B. No. 233 establishes specific criteria for the examination and in Section 30 states the examinee's constitutional rights. She said the bill has been drafted to be responsibly utilized, and only when necessary.

Mr. Bob Ostrovsky, director of industrial relations of the MGM Hotel in Reno, said that the MGM gave approximately 160 polygraph examinations in 1980. This amount constitutes

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approximately 3 percent of the active workers and about 1.5 percent of the entire work force, including turnover employees. About one-half of the examinations were given prior to employment, and the others were given to current active employees. The 'prior employment' examinations were not passed by approximately 30-35 percent of the applicants and these individuals were not hired. These exams are given to specific classifications of positions, i.e., locksmiths, casino cage employees, employees that count the money from the gaming tables, and the coin wrappers who handle, count and collect the slot drops. Mr. Ostrovsky said that A.B. No. 233, as amended, would give the employer an option to a "wholesale" termination of a number of employees because of suspect criminal action.

Mr. Bill Champion, director of industrial relations of the MGM Hotel in Las Vegas, concurred with the remarks made by Mr. Ostrovsky

Mr. Dick Pierce, licensed private polygraph examiner in Nevada, remarked that reference should also be made to the value of the examination for the innocent victim of dishonest circumstances. Mr. Pierce said he did support A.B. No. 233, as amended.

Mr. Michael A. de la Torre, director of the state department of law enforcement assistance, submitted a statement to the committee on the department's policy relative to the use of polygraph. (See Exhibit G.) The department does support A.B. No. 233, as amended. Mr. de la Torre said that all of the agents in his department are required to take a polygraph.

Mr. Russ Jones, licensed private polygraph examiner in Nevada, said that there is an additional matter in reference to the earlier statements made by Assemblyman Thompson regarding the terminations at the Sahara Hotel/Casino in Las Vegas. Mr. Jones said it should also be noted that over 500 people were also cleared at the Sahara of any further burden of suspicion by use of the polygraph. Also, Mr. Jones quoted from an American Polygraph Newsletter of October 1980, wherein Coors Distributing Company surveyed 1531 job applicants. The response illustrated that 98 percent felt they were

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treated courteously and professionally during the polygraph examination.

SENATE BILL NO. 541 -- "Amends provisions on hearings and appeals relating to industrial insurance."

Mr. Bill Champion, personnel director for the MGM Hotel in Las Vegas, said the hotel is opposed to S.B. No. 541 because the procedure will increase administrative costs, and the bill introduces the concept of "trial denovo." This concept would allow a claimant to obtain a new trial at the district court level if the claimant is dissatisfied with the arbitative award.

Mr. Norman Anthonisen, personnel services manager of SUMMA Corporation, spoke in opposition to S.B. No. 541. Mr. Anthonisen concurred with Mr. Champion that this process would greatly increase employers' costs.

Mr. Joe Nusbaum, chairman of the Nevada Industrial Commission (NIC), also testified in opposition to S.B. No. 541. Mr. Nusbaum said that this measure would increase litigation costs and alter the system's incentive of returning injured workers to their jobs.

SENATE BILL NO. 556 -- "Requires certain revision in risk classification system of industrial insurance."

Mr. Nusbaum said that the NIC opposes S.B. No. 556 to the degree that the proposal would place an unwarranted priority on classification work. Mr. Nusbaum said that currently there are 83 separate rates and 489 classifications within the NIC system. It would be difficult to have a separate rating for an industry that does not have enough volume to supply credible information. He suggested that an alternative would be for Nevada to join the National Council on Compensation Insurance. This Council has 850 classifications and 850 rates. However, this would result in the state having to rely on national loss experience in several of the classifications which are not large enough to rate in Nevada.

Mr. John Madole, representing the Associated General Contractors, spoke in opposition to S.B. No. 556. Mr. Madole said that if necessary, there should be new classifications established. However, he did not feel that Nevada should be subjected to 850 national classifications.

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Mr. Jack Kenney, representing the Southern Nevada Home Builders Association, remarked that many employers have felt that there have been inequities in the NIC ratings. He gave an example of the clerical positions in a construction company being classified with the actual construction workers.

Mr. Nusbaum said that the ratings for the clerical positions are established by the National Council, and he concurred that these ratings needed re-evaluation.

Acting Chairman Blakemore closed the hearing on this date's agenda and opened a committee work session.

BILL DRAFT REQUEST NO. 57-1367 -- "An act relating to insurance; making uniform the minimum age of eligibility for licensing as an insurance agent, broker or solicitor; and providing other matters properly relating thereto."

The committee moved for introduction of
BDR No. 57-1367. (S.B. 626)

BILL DRAFT REQUEST NO. 57-1366 -- "An act relating to life and health insurance; removing a requirement that the commissioner of insurance give certain notices to other principals when a life or health agent adds a principal; and providing other matters properly relating thereto."

The committee moved for introduction of
BDR No. 57-1366. (S.B. 627)

BILL DRAFT REQUEST NO. 57-1364 -- "An act relating to the licensing of insurance agents, brokers and solicitors; limiting a certain exemption from the examination to applicants who have held residents' licenses; and providing other matters properly relating thereto."

The committee moved for introduction of
BDR No. 57-1364. (S.B. 625)

BILL DRAFT REQUEST NO. 57-1362 -- "An act relating to insurance; revising requirements for counter-signatures on policies of insurance; and providing other matters properly relating thereto."

The committee moved for introduction of
BDR No. 57-1362. (S.B. 624)

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BILL DRAFT REQUEST NO. 57-1368 -- "An act relating to insurance; requiring the filing of forms to which rates apply; and providing other matters properly relating thereto."

The committee moved for introduction of
BDR No. 57-1368. (S.B. 634)

BILL DRAFT REQUEST NO. 57-1815 -- "An act relating to authorization of insurers; requiring that a resident agent countersign each policy of life and health insurance; and providing other matters properly relating thereto."

The committee moved for introduction of
BDR No. 57-1815.

The following Bill Draft Requests were rejected for committee introduction:

BDR No. 53-1923
BDR No. 57-1924
BDR No. 54-1614
BDR No. 54-1414
BDR No. 57-1323

Mr. Barton Jacka, director of the state department of motor vehicles, discussed with the committee an amendment proposed in the Assembly which would limit the number of appeals officer to three in his department. The committee members decided not to concur with the Assembly proposal and go to conference on the amendment.

The committee also decided not to concur with the Assembly's amendment for Assembly Bill No. 192, and will go to conference.

Mr. Jacka explained to the committee regarding Assembly Bill No. 32; this bill makes certain employees of the department of motor vehicles eligible for compensation for heart and lung diseases. Mr. Jacka stated that back-up police officers are often involved in prison problems or serious automobile accidents. Mr. Jacka said it takes an employee five years to qualify for the program. Mr. Jacka agreed to more clearly define the personnel involved as "field agents of the motor

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carrier division" and "investigators of the registration
division."

There being no further business, the meeting adjourned
at 5:22 p.m.

Respectfully submitted,


Betty Steele, Committee Secretary

APPROVED:



Senator Thomas R. C. Wilson, Chairman

DATE: _____

REVISED (SECOND REVISION)

SENATE AGENDA

COMMITTEE MEETINGS .

Committee on Commerce and Labor, Room 213.

Day Friday, Date April 24, 1981, Time 1:30 p.m.

S.B. No. 533--Requires use of simplified language in insurance contracts.

A.B. No. 233--Prohibits employer's use of polygraph on applicants for employment or employees.

S.B. No. 541--Amends provisions on hearings and appeals relating to industrial insurance.

S.B. No. 556--Requires certain revision in risk classification system of industrial insurance.

SENATE COMMITTEE ON COMMERCE AND LABOR

EXHIBIT B

DATE: Friday, April 24, 1981

PLEASE PRINT	PLEASE PRINT	PLEASE PRINT	PLEASE PRINT
NAME	ORGANIZATION & ADDRESS		TELEPHONE
DANNY THOMPSON	ASSEMBLY DIST. 21		
RICHARD PUTNAM	WASHOE COUNTY SHERIFF'S DEPT		
Michael de la Torre	Dept. Law Enforcement Assist.		885-4414
JIM HARTSHORNE	Reno Police Dept.		785-2170
Jim Berry	City of Reno (Fireman's Assn)		785-2285
Leary Katzenberger	Las Vegas Metro Police Dept		386-3486
Russ Jones	Russ Jones & Assoc. C.R.P.A. RENO NV		825-8233
DICK PIERCE	DICK PIERCE & CO RENO, NV		329-6630
GEORGE D. WENNELL	Dept. of Law Enforcement Assistance		885-4408
Richard Siegel	American Civil Liberties Union/Nevada		322-1918
DEBI LANGSTON	CITY OF RENO		785-2215
LARRY HARDY	Life Underwriters Assoc		323 2273
DAVE BIANCHI	" " "		927-2405
Wayne Carlson	Washoe County		785-4147
Tom Stewart	THE GIBBERTS CO. INC.		826-6600
JERRY HIEBINS	GAMING Industry Assoc		883-8806
C. G. MINSON	HARRIS'S		883-8806
JACK EVANS	Operating Engineers #39		358-3939
BILL CHAVIERS	TEAMSTERS #995		359-5946
VINCE LAVEAGA	SIERRA PACIFIC POWER CO.		789-4326
Loyce Woodhouse	Nevada State Educ. Assoc		882-5574
Bob Ostrovsky	MGM GRAND - RENO		789-2000
BILL CHAMPION	" " LAS VEGAS		739-4111

SENATE COMMITTEE ON COMMERCE AND LABOR

DATE: Friday, April 24, 1981

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NAME ORGANIZATION & ADDRESS TELEPHONE

Gregorio L. VARGAS PMAA Ins. Ass'n 786-5000

Georgia Massey Nevada Insurance Division 985-4270

Carole Vilavila CFE SO 457-3366

K. E. ANTHONISEN SUMMA CORP 733-0123

John Madole NV Insurance Division

Jack Fenney Southern New Home Builders 452-7714

TO Sue Wagner, Senator

EXHIBIT
C

SB-533 4/24
use in body of
minutes
Memo

FROM Patsy Redmond, Acting Insurance Commissioner
State of Nevada

DATE 4/23/81

SUBJECT SB.533

I have been asked to introduce SB.533 providing for simplified language to be used in life and health policies issued and delivered in our state.

Before going into a summary of the bill and its effect on Nevada, I would like to express the fact that the concept of simplified language for life and health policies is being looked at and laws are being enacted in various other states and stems from a National Association of Insurance Commissioners model law.

If passed, this law will mandate for policies issued and delivered in Nevada that they be based on a readability scale called the Flesch test. By using the flesch test the language in policies will be simplified and will provide to the insurance buying public the possibility of better understanding and reading ease where their coverage is concerned.

Needless to say, we all have over the years, listened to testimony from consumers about problems in reading and understanding their insurance policies. This bill is a step forward for Nevada in our effort to provide the consumer with adequate disclosure.

Senate Commerce Committee

AB 233

AB-233 4/24
 read in Senate
 Thompson
 Katie Galli

 April 24, 1981

1:30 p.m.

Senator T.R.C. Wilson, Chairman

— EXHIBIT D

Mr. Chairman and members of the Committee:

For the record my name is Mrs. Katie-Ann Galli, Lobbyist Registration Number 81-282 and I am representing myself; and ask that this four page statement be read into the record.

"The polygraph popularly known as a lie detector, is being used increasingly as an investigative tool by local, state and Federal governments and private industry, even though its accuracy is a subject of continuing debate." From New York Times April 8, 1980.

Attachment "A".

"Whether the lie-detector ought to be used by police--or by employers-- is ultimately an ethical question. Should we allow deceptive, intrusive yet non-violent methods of interrogation in various institutions of a free society?" From New York Times August 3, 1980. Letter to the editor from Jerome H. Skolnick, Director, Center for the Study of Law and Society, University of California, Berkeley, California dated July 15, 1980. Attachment "B".

Within the attached material reference is made to use and misuse of polygraph equipment.

If employers feel their only assurance of having honest employees and prospective employees is to subject those employees and prospective employees to a polygraph examination, that is their problem. If

AB 233 continued

employers feel that all those they subject to polygraph examination who pass that examination are not dishonest, those employers have a problem.

There can be misuses by employers: "As former Senator Sam Ervin opined in 1974, "If the right to privacy means anything at all in our society, it means that people are entitled to have thoughts, hopes, desires, and dreams that are beyond the grasping reach of a bureaucrat, an employer, or an electronic technician." From Technology Review, January, 1981, "Fear of Lying: Polygraphs in Employment," by Eric Matusewitch. Attachment "C".

There can be misuses by employees: "The polygraph testers identified most of the "guilty" subjects in the groups who had taken the sham pills or no pills, but most who had taken the tranquilizers were incorrectly identified as innocent." From news item by Harold M. Schmeck, Jr. in N. Y. Times March 29, 1981, in reference to Report in Science, April 3, 1981 entitled ^{MEP PRO, DAM, MATE} "Meprobamate Reduces Accuracy of Physiological Detection of Deception." Attachments "D" and "E".

The edge of this two sided coin is the incongruity of ethics.

"Polygraph them all...I don't know anything about polygraphs and I don't know how accurate they are, but I know they'll scare the hell out of people." spoken by Richard M. Nixon, July 24, 1971. From Matusewitch. Attachment "C".

AB 233 continued

Senator Birch Bayh introduced S. 854 in 96th Congress 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. Attachment "F" (to Chairman Wilson's packet only).

Consider the Private Investigator, the Insurance Investigator, the Investigative Reporter and other similar investigative occupations... many of their investigative endeavors are accomplished by prevarications as a means to an end. The Private Investigator is licensed and regulated according to NRS Chapter ; but many of these people are trained to "misspeak" to accomplish certain investigative goals.

Opposition to the use of or threat of the use of a polygraph examination as a condition to employment or continued employment is reasoned because it has been shown to be an intimidating factor to an employee or prospective employee.

ITEM The common statement, "The machine is only as good as the man who operates it," by Mr. Furgerson of the F.B.I. From news item Attachment "A", places examinee at mercy of carefully planned and subjective judgment of the operator. (underlined mine)

ITEM The machine itself has been suspect. as to mechanical/electronic accuracy. (underlined mine)

ITEM Various means can be utilized by examinee, examiner, or third party to accomplish DESIRED, not truthful, results, among these means

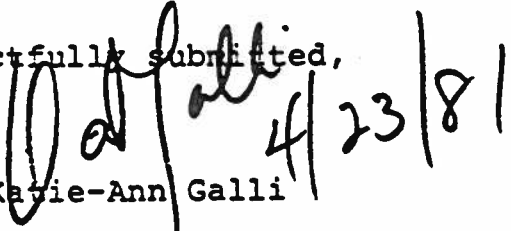
AB 233 continued

are training, and drugs. Training as to the understanding of the machine and its operation, and drugs such as meproamate, as mentioned in the Science article of April 3, 1981. Attachments "D" and "E". (underlined mine)

ITEM At times individuals are forced to subject themselves to polygraph tests (lie detectors) ordered by individuals who themselves are trained to the fine art of lying in the course of their daily duties and employment, some of whom are licensed and regulated by statute as in the case of the Private Investigator. (underlined mine)

ITEM The amendment to AB 233 as in First Reprint, Page 6, lines 21 through 35 gives employers legislative permission to intimidate. (underlined mine)

I ask the Senate Commerce Committee in its wisdom to amend AB 233 back to the original 3 line version introduced February 25, 1981, and to move it out of Committee with a Do Pass Recommendation.

Respectfully submitted,


Mrs. Katie-Ann Galli
 post office box 1386
 carson city, nevada 89701

ATTACHMENT 'A'

Lie Detector Use on Rise, but Still Debated

Special to The New York Times
WASHINGTON, April 7 — When Federal prosecutors wanted to determine whether a White House aide had been receptive to appeals made by a lawyer trying to help Robert L. Vesco, the financier indicted on multiple fraud and conspiracy charges, they gave the lawyer a polygraph test.

When Arthur H. Christy, the special Federal prosecutor, wanted to determine whether Hamilton Jordan, the White House chief of staff, had used cocaine at a New York discotheque, the prosecutor asked several of Mr. Jordan's accusers to take a polygraph test.

And when Attorney General Benjamin R. Civiletti wanted to find out who had disclosed information about Abcam, an undercover Federal investigation of political corruption, he warned that Justice Department employees might have to take polygraph examinations.

The polygraph, popularly known as a lie detector, is being used increasingly as an investigative tool by local, state and Federal governments and private industry, even though its accuracy is a subject of continuing debate.

Measure of Sincerity
 One polygraph specialist explained that the machine measures a subject's belief in the truthfulness of what he says, not the objective truth of his statements.

Nonetheless, the Federal Bureau of Investigation says that it conducted 1,800 polygraph examinations in 1978, an increase of about 800 from the preceding year.

Among those tested by the bureau in the last two years were Tungson Park, the South Korean businessman who was the center of an investigation of influence-buying involving several United States congressmen, and Daniel Minchew, the principal witness against Senator Herman E. Talmadge in a Senate investigation of alleged financial misconduct. The lawyer in the Vesco case, W. Spen-

cer Lee III, failed the polygraph test, according to Government sources familiar with the case. The results in the cases involving Mr. Jordan and the Abcam investigation were not disclosed.

In the last 18 years, there has been an unmistakable trend among state courts to re-examine old decisions forbidding the use of polygraph test results as evidence. In at least 20 states, including New York and New Jersey but not Connecticut, results have been allowed as evidence in court. The Justice Department still maintains that such data should not be admitted in Federal criminal trials because of questions about the reliability of the tests, especially when given by an examiner retained by the defendant.

Guide in Screening Suspects
 Ronald Furgerson, an F.B.I. official, said that the polygraph was most effective in steering investigators toward certain suspects and away from others. Defense attorneys often use it to convince prosecutors that criminal charges should not be brought. In a majority of the cases where polygraph results were admitted as evidence, there was a stipulation, or agreement, by the prosecutor, defendant and defense attorney to accept the data.

The United States Supreme Court has not ruled directly on the issue. Several Federal appeals courts have apparently relaxed the rules on polygraph evidence, but they have not encouraged trial judges to admit such data as evidence.

Michael Abbell, a lawyer in the criminal division of the Justice Department who has studied the use of polygraph machines, said that they create "an illusory sense of objectivity and accuracy" that is likely to mislead jurors.

"The nature of the examination performed by polygraph examiners," he said, "is more closely akin to that performed by psychiatrists than to the objective, scientific analysis performed by technicians with respect to fingerprints, ballistics and blood."

Some examiners agree that their work is best used in the pretrial phase of a case, saying that if reliable polygraph data show that a person is not guilty, the case should not get to court.

The polygraph can simultaneously measure such physical functions as heartbeat, blood pressure and respiration rate. Raymond J. Weir, a former polygraph examiner for the National Security Agency who now operates a private concern in Washington, said: "The instrument does not detect lies. It detects the fear of detection — whether a person is disturbed when answering one question, in comparison with other questions."

For several decades, Federal and state judges followed the lead of the United States Court of Appeals here, which ruled in 1933 that polygraph examinations should not be admitted as evidence until the technique had gained "general acceptance" among experts on psychology and physiology. In recent years, appellate courts have often stated that the instrument has become much more sophisticated, and polygraph examiners more professional, than they were in 1933.

Typically, the courts say that a polygraph test should be weighed with all other evidence and that polygraph examiners should be subject to cross-examination.

Robbery Suspect Acquitted
 A New York State Supreme Court judge presiding over the trial of a 17-year-old robbery suspect in Westchester County last October allowed polygraph results to be admitted as evidence. It was believed to be the first New York case in which a trial court accepted such evidence over the prosecutor's objection.

The polygraph examiner concluded that the suspect was telling the truth when he denied robbing a delinquent. The defendant was acquitted; jurors reportedly said that the polygraph results had not influenced their decision. Polygraph experts say that the ac-



RADICALS REFUSE COURT DEFENSE: Members of MOVE, Philadelphia communal group, being taken from court after refusing to cooperate in their defense. Mem-

bers were charged in killing of police officer during eviction from headquarters in August, 1978. Lawyers were ordered to prepare a defense as trial entered third month.

curacy of a test depends on the examiner's skill and on the phrasing of questions. "The machine is only as good as the man who operates it," said Mr. Furgerson of the F.B.I., which has 37 polygraph

examiners. The test is considered most reliable when measuring response to simple factual questions that can be answered with a yes or no. The American Civil Liberties Union

and several labor unions see polygraph tests as an invasion of privacy. Senator Birch Bayh, Democrat of Indiana, has sponsored a bill to prohibit use of such tests as a condition of employment.

This may be all the computer

THE NEW YORK TIMES

ATTACHMENT "B" 6A7

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...you hear from crickets, you'd better be looking to your
sunflowers, and for Queen Anne's lace on vacant lots,
and fire-escape basil trying hard to go to seed. By high
summer the floral gene pool in the parks and wastes be-
comes luxuriant.

...Even in Wall Street, we've noticed, crickets fiddle
their nights away, hiding out no doubt in some hedge
against inflation near the World Trade Center, prepar-
ing for nature's recession.

August Convention

The Urban League confronts others problems as well. The decline in economic growth has cooled enthusiasm for Federal social programs and the spokesmen, organizers and lobbyists for the poor have been unable to rouse concern over the consequent hardships. As a result, the constituencies of groups devoted to civil and social rights are drifting away. The league is particularly handicapped in these important months of an election year by the incapacity of its president, Vernon Jordan. His insistent and eloquent voice was temporarily silenced by a sniper's bullet, so his rapid recovery at this time is especially significant and gratifying.

Political discussions and workshops on minority problems will keep the league busy this week. But its most pressing task is to find new ways of attracting millions of alienated black Americans. If the social-

Democratic members of Congress to throw open the national convention so that it could choose a nominee other than President Carter or Senator Kennedy. Where have they been up till now? What has the Democratic national leadership been doing recently? Where during the last four years — indeed, prior to that time — has the Republican Party looked to develop the most able, qualified, broadly informed candidate?

For the highest office in the United States, how, when and by whom are our nominees sought? Or do they appear on the scene, uncalled?

What does come forth more often than we would wish is the most ambitious and charismatic candidate, a successful fund raiser with a team approach, very much a modern concept. The team approach is that of husband

praises. Richard Nixon, Henry Kissinger and Ronald Reagan have all seen fit to pronounce the Shah a loyal friend and ally of the United States.

Indeed, the best which can be said about this imperious dictator who terrorized his own people is that he was a good American, a fact which reflects poorly on him and on us.

WILLIAM ANDREWS
Brooklyn, July 29, 1980

To the Editor:

Three cheers for Mr. Nixon! By attending the Shah's funeral as a private citizen, he displayed three traits woefully lacking in the Carter Administration these days: courage, grit and loyalty to a friend and ally of the United States.

JOSEPH A. MORRICK
New York, July 29, 1980

The Lie Detector as an Instrument of Social Control

To the Editor:
Robert Pear's article in the July 13 Week in Review suggests that the polygraph's major flaw in the past was imprecision of measurement. No doubt that has been a problem. Far more serious, however, is the inadequacy of the theory behind lie detection.

That theory is: (1) the act of lying leads to conscious conflict, (2) conflict induces fear or anxiety, (3) these emotions are accompanied by measurable and interpretable physiological changes.

The assumptions of the theory are questionable. The act of lying does not always lead to conscious conflict. Some witnesses believe their own stories even when they are false. Even when witnesses know they are lying, they may not experience much fear.

Even if witnesses do experience fear and anxiety, these emotions may not consistently be expressed as changes in bodily response. Moreover, bodily responses do not vary regularly, either with each other or with emotional states. If they did, only a unigraph, not a polygraph, would be required. Four imprecise measures are not more accurate than one precise measure.

Since the relations among lying, conflict, emotion and bodily responses are so fuzzy, the accuracy of the lie detector is not comparable to that of, say, blood tests or X-rays. A dozen lie-detector examiners would not consistently reach the same conclusions regarding truth or falsity if they depended only on the squiggles produced by a polygraph.

So why is the use of lie detectors

sharply increasing? An unreliable method can also be an effective social-control instrument. Crime suspects may confess when questioned by a skilled interrogator. When a suspect is strapped into a scientific-looking "lie detector," the coercive power of the interrogator is heightened.

Job applicants may also be effectively "screened" with a lie detector. Consider the following lines of questioning: First, softballs: "Is your name John Jones?" "Are you 30 years old?" Then, hardballs: "Have you ever done anything you are ashamed of?" "Have you ever stolen anything?" "Have you ever known anyone who has stolen anything?" "Who?" "Have you ever engaged in homosexual acts?" And so forth. This sort of questioning may well produce results.

There are thus two quite different empirical issues regarding the polygraph: Is it highly accurate? The answer is no. Is it effective in eliciting information from subjects who believe in it? The answer is yes.

Whether the lie-detector ought to be

used by police — or by employers — is ultimately an ethical question. Should we allow deceptive, intrusive yet non-violent methods of interrogation in various institutions of a free society? Different people will have different answers to that question. But at least we should ask the right questions when considering the role of the so-called lie detector in American society.

JEROME H. SKOLNICK
Director, Center for the Study
of Law and Society
University of California
Berkeley, Calif., July 15, 1980

Ireland's Lord Killanin

To the Editor:

Ernest Boehm's July 27 letter criticizing Lord Killanin (late of the International Olympic Committee) was mistaken in identifying him as an Englishman. Killanin is Irish.

CLIVE I. MORRICK
New York, July 29, 1980

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The Times, via camera, follows from

Fear of Lying: Polygraphs in Employment

by Eric P. Matusewitch

Polygraph them all ... I don't know anything about polygraphs and I don't know how accurate they are, but I know they'll scare the hell out of people."
—Richard M. Nixon, July 24, 1971.

In recent years, the American public has expressed growing concern over the use of the polygraph, or "lie detector," for the selection and management of workers in

industry and government. This application of the polygraph, reputed to be commonplace, raises serious questions regarding individual privacy and civil liberties.

All attempts at lie detection from ancient times to the present rely upon the same basic principle — the measurement of certain physiological changes presumed to accompany the psychological stress of telling a lie. For instance, the an-

cient Chinese believed that the stress of lying inhibits the flow of saliva, making it difficult to chew or swallow dried matter. Hence, suspected liars' veracity was tested by making them chew rice powder and then spit it out. If the powder remained dry — presumably because the stress of being untruthful had inhibited the flow of saliva — the suspect was deemed guilty.

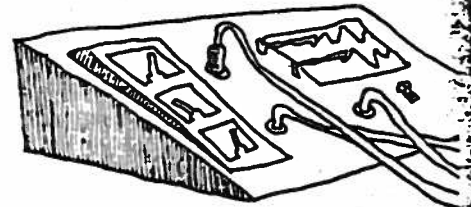
Truth or Consequences

The modern polygraph was developed during the 1920s to aid police in crime detection. The device typically monitors changes in breathing, blood pressure, pulse rate, perspiration, and electrical conductivity of the skin as the subject is asked a succession of questions by the polygraph operator.

The first questions, called "control questions," are designed to elicit a deceptive statement from the subject and hence yield an example of a deceptive response. Tests in which the subject is asked to lie deliberately are often used. Other questions such as "have you ever taken anything of value from anyone?" will also usually elicit untruthful responses.

Next, the polygraph operator asks so-called "irrelevant questions" to establish a truthful response pattern. "Are you over 20 years old?" and "have you ever been in Massachusetts?" are typical examples.

Finally, the polygraph operator poses questions relevant to the reason for the examination. These deal specifically with the area in which deception is suspected. The subject is generally considered to be lying when the observed responses to relevant questions are similar to the subject's reactions to control questions. The subject is deemed truthful when the responses to relevant questions are of lesser magnitude



than those to control questions, and when the pattern of reaction resembles truthful responses to irrelevant questions.

Lie-detection experts claim the polygraph is very accurate. Recent studies found that when a qualified examiner using proper questioning techniques gave the test, the lie detector was 70 to 90 percent accurate.

However, critics of the polygraph say the machine is less accurate and, in fact, has a higher failure rate when the person being questioned is honest. Polygraph instruments do not measure physiological states that accompany lying specifically, but rather physiological changes generated by all kinds of emotional stress. Fear, guilt, anger, physical conditions such as heart trouble, headache, and fatigue, and even tension created by the test itself can all distort the accuracy of the polygraph. In addition, the operator may be inadequately trained, and improper questioning methods or interpretation of measured responses may result in misleading test results.

To Catch a Thief?

A 1978 survey indicated that one-fifth of major corporations were then using the polygraph in personnel-related areas, generally to screen a sampling of applicants or employees. The three industries that appear to use the polygraph most frequently are retailers, commercial banks, and transportation companies.

The polygraph has become attractive to private industry because it is fast and cheap, typically costing under \$50 per test compared with about \$300 for more conventional methods of background checks. Employers use the polygraph primarily to curb employee theft — retail outlets lose some \$20 billion per year to employee pilferage. Polygraphs are also used to verify employment applications and to assess periodically employee honesty, loyalty, and adherence to company policy.

Polygraph opponents argue that this method of employment testing is a grave and socially unacceptable invasion of individual privacy. Indeed, polygraph testing often forces a subject to reveal information of a sensitive and personal nature not particularly relevant to the employment situation. A 1974 study found, for example, that the following questions were asked on standard preemployment tests: Have you ever been questioned in connection with a felony? Do you have any lawsuits pending against you? Do you owe more debts than you indicated on your application? Do you drink, take drugs, or gamble excessively? Is there anything in your background that, if known, would cause embarrassment to the company? Companies have also been known to question employees about their sex life, political activities, and involvement with labor unions.

Opponents also argue that the polygraph is an inappropriate device for screening prospective employees because it is designed to obtain a response to a specific past incident. Such a focus is justified for criminal investigations but is entirely inappropriate in the context of future employee conduct. Polygraphy has only marginal utility for broadly predictive purposes such as determining whether an individual is suited for a particular position, and it is hardly a reliable means of forecasting an individual's industriousness or dependability.

Labor arbitration has had the greatest impact on the use of the lie detector in employment, where some employers have sought in vain to win approval for its use in investigating employee misconduct. Organized labor has unequivocally condemned the use of polygraph equipment. A 1965 executive resolution of the AFL-CIO declares: "We object to the use of these devices not only because their claims to reliability are dubious, but because they infringe on the fundamental rights of American citizens to personal privacy. Neither the government nor private employers should be permitted to engage in this sort of police-state surveillance of the lives of individual citizens." The Retail Clerks International Union and other labor unions include in their contracts a prohibition against polygraph tests.

Government concern over polygraph use is gradually increasing. By 1976, 18 states had enacted legislation requiring the licensing of polygraph operators. These

laws generally provide character and training standards for examiners and prohibit unethical or improper practices. They also mandate special boards of examiners to issue additional regulations. Critics of the polygraph oppose licensing, however, contending that by licensing polygraph operators, the state implicitly sanctions the use of the machine.

Many states now have laws limiting or prohibiting the use of polygraphs for employment purposes. But nearly all these states exempt law-enforcement personnel and/or government employees from such protection. The laws are not strictly enforced, nor are the penalties for employers who commit violations particularly severe. The penalty for using a polygraph is \$200 in Rhode Island and Massachusetts, one year in prison and \$1,000 in Alaska and Hawaii.

Because of the invasion-of-privacy issue, the U.S. Privacy Protection Study Commission has called for federal laws that would prohibit the use of polygraphs and other lie-detection devices in employment. To this end, Senator Birch Bayh introduced the Polygraph Control and Civil Liberties Protection Act, which would prohibit the use of polygraphs and similar lie detectors in employment and impose a fine of up to \$1,000 and one year in prison for a willful violation. But the defeats of Senator Bayh and other liberals in the elections could stall legislation.

As a matter of sound business management, an employer should be able to hire trustworthy people. But the use of a machine to "detect" lies is, arguably, inappropriate and impractical. More seriously, it violates our society's cherished ideals of individual privacy and civil liberties. As former Senator Sam Ervin opined in 1974, "If the right to privacy means anything at all in our society, it means that people are entitled to have thoughts, hopes, desires, and dreams that are beyond the grasping reach of a bureaucrat, an employer, or an electronic technician." □



Eric Matusewitch holds a master's degree in political science from the City University of New York. From 1976 to 1980, he was an equal-opportunity employment specialist for the N.Y.C. Human Rights Commission and Health Department.

Paul Frach

TRANQUILIZER FOILS LIE-DETECTOR TESTS

N 47 3/29/81

Small Dose of a Widely Used Drug Enables Subjects of Study to Deceive Polygraph Exam

By HAROLD M. SCHMECK Jr.

A small dose of the widely used tranquilizer meprobamate allows people to lie without detection in polygraph, or lie-detector tests, according to a report in the journal *Science*.

Polygraph instruments are widely used in police investigations and personnel screening. They measure such physical reactions as changes in breathing, heart rate and electrical conductivity of the skin. They depend on the proposition that the person being tested will be under more stress and react more vigorously when trying to deceive than when telling the truth.

But the tests have long been controversial both because of their implied threat to personal privacy and because of specialists' questions concerning their reliability. Critics have questioned whether expert habitual liars can escape detection. Some have also suggested that innocent people might sometimes overreact to stressful questions even while telling the truth. Experts in the testing say the method is reliable even in the face of these circumstances.

The new report in the April 3 issue of *Science* said that normal people outwitted the tests after taking one 400-milligram dose of meprobamate, the widely used minor tranquilizer sold as Miltown and under many other brand names. Furthermore, the people administering the tests were unable to tell who had taken the tranquilizer and who had not. The dose was chosen as the typical minimum that is medically useful.

Model for Study of Social Stress

The scientists at the Institute of Pennsylvania Hospital and the University of Pennsylvania said they had been investigating the detection of deception both as a practical problem and as a model for studying social stress. The authors are William M. Waid, Emily Carota Orne, Martin T. Orne and Mary R. Cook.

"One question that is important for both purposes," said their report, "is whether a tranquilizer selectively reduces the physiological response to social stress — in this instance, the stress of attempting to deceive."

The scientists found that the tranquilizer did reduce that stress but left the person otherwise apparently unchanged.

The evidence came from a study involving 44 normal volunteers, male college students 18 to 24 years old. They were all assigned the task of memorizing six words. Then 33 were assigned to a "guilty" group and were told to lie when asked about the words on a polygraph test. The other 11, assigned "innocent" status, were instructed to tell the truth.

Three Groups of 'Guilty' Men

The "guilty" men were divided into three groups: one taking the tranquilizer; another taking an ineffective sham pill and the third receiving nothing. The men in the first two groups were told they were being given a tranquilizer to help them deceive the test.

The polygraph testers identified most of the "guilty" subjects in the groups who had taken the sham pills or no pills, but most who had taken the tranquilizer were incorrectly identified as innocent.

The results did not stem from a total lack of responsiveness in the tranquilized men, the report said, but from a lack of heightened response when the men were lying.

"It is possible that meprobamate is effective in the experimental laboratory but would be ineffective in the lie-detection laboratory where fear of detection is presumably greater," said the report. "It should be noted, however, that 400-mg doses of meprobamate are effective in reducing the anxiety of psychiatric patients."

The scientists also said it was possible that substantially higher doses of the drug could be used, without detection, to defeat the polygraph.

The researchers concluded that their results supported doctors' observations that tranquilizers such as meprobamate did selectively reduce the physiological responses to disturbing events rather than simply reducing overall arousal.

cally, with the root oriented perpendicular to the direction of gravity. The initial pattern of coloration was the same as that in vertically mounted roots, that is, yellow in the elongation zone and purple elsewhere (Fig. 2A). After the root had been held in the horizontal position for about 10 to 20 minutes, this pattern began to change; the yellow zone on the upper surface of the root intensified and extended further toward the tip while, on the lower surface of the root, the purple region of the tip began to encroach on the yellow region of the elongation zone, reducing its length and intensity (Fig. 2B). Shortly thereafter the root began to curve downward, showing typical positive geotropic curvature as the yellow zone on the upper surface increased in intensity (Fig. 2C). Time-lapse movies of these events clearly show the sequence of shifts in color patterns preceding the initiation of curvature.

These data are relevant to the acid efflux hypothesis of growth regulation since they show that (i) the region of acid efflux coincides with the region of cell elongation in an undisturbed intact organ (ii) hormonal inhibition of growth in the elongation zone of roots is correlated with hormonal reversal of H^+ efflux from these cells, and (iii) predictable changes in H^+ efflux patterns accompany geotropically induced shifts in growth patterns. Thus the H^+ efflux patterns are closely tied to the growth of the organ (7) rather than to some other physiological function such as ion uptake.

TIMOTHY J. MULKEY
MICHAEL L. EVANS

Department of Botany, Ohio State
University, Columbus 43210

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 2. M. H. Weissenel, A. Dorn, L. F. Jaffe, *Plant Physiol.* 64, 572 (1979).
 3. The medium consists of a 4-mm-thick plate of 0.6 percent agar containing 0.71 mM bromocresol purple plus the following inorganic nutrients: 1.5 mM $Ca(NO_3)_2$; 1 mM each of $MgSO_4$, KH_2PO_4 , and KNO_3 ; 20 μM H_3BO_3 ; 3.8 μM $ZnCl_2$; 0.18 μM MnO_2 ; and 0.14 μM $CuCl_2$. The primary root is pressed lightly into the medium so that about half of the cylindrical root is embedded. Under these conditions the roots grow at a normal rate (1.5 to 2.5 mm per hour) during the entire course of the experiment (up to 48 hours).
 4. The region of cell elongation is determined by marking the root surface with India ink at 1-mm intervals and observing the displacement of the marks during elongation. This method shows that the elongation zone extends from a point 2 to 3 mm from the tip to about 10 mm from the tip, the vigorous elongation being in the region extending from about 2 to 7 mm from the tip. As the root grows along the agar-dye medium it leaves a yellow trail, which is caused by acid efflux from the elongation zone. There is also a region of acidity adjacent to the root hair zone. This accounts for the second yellow zone in some of the figures, for example in Figs. 1A and 2C; IAA appears not to affect H^+ efflux from the root hair zone.
- By this method we measure only pH change and cannot distinguish between effects caused by H^+

- uptake and OH^- efflux. However, Weissenel *et al.* (2) measured pH shifts and electrical currents in barley roots and concluded that the observed electrical currents were due primarily to flow of H^+ ; they reported that the direction of H^+ efflux is into the elongation zone of barley roots, the opposite of what we report for corn roots. We have examined acidification patterns in barley roots and find the same pattern of coloration as that reported by Weissenel *et al.*: purple at the tip and yellow farther back. However, we find that the zone of active elongation is in the yellow (most acidic) region, not near the purple (less acidic) tip.
6. Experiments showing apparent acidification and auxin reversal of acidification in the elongation zone of growing roots were done at least 200

times. Experiments showing unilateral acid efflux during geotropism in growing roots were done 80 times.

7. Unilateral hydrogen ion efflux also accompanies positive geotropism in shoots (preferential acid efflux on the lower side of geostimulated corn coleoptiles) as well as positive phototropism (preferential acid efflux on the dark side of unilaterally illuminated sunflower hypocotyls). This indicates that differential hydrogen ion efflux may be generally involved as a mediator of tropistic responses in plant organs.
8. Supported by NSF grant PCM 740581. We thank K. Kuzmanoff for technical assistance and advice.

15 September 1980; revised 5 December 1980

Meprobamate Reduces Accuracy of Physiological Detection of Deception

Abstract. Normal male subjects attempted to deceive an experimenter recording electrodermal, respiratory, and cardiovascular activity. Those who had ingested a placebo or nothing were detected with statistically significant frequency on the basis of their phasic electrodermal responses, which clearly distinguished them from truthful suspects. That was not the case with deceptive subjects who had ingested 400 milligrams of meprobamate, nor did the examiner detect which subjects had received the drug.

The psychophysiological detection of deception depends upon the subject's having larger physiological reactions to questions associated with deception than to control questions (1). Despite both laboratory support for the basic premises underlying the procedure and its widespread use in police investigations and personnel screening, the validity and reliability of the polygraph test have yet to be established and remain a subject of controversy (2, 3).

We have investigated the detection of deception both as a practical problem and as a model for studying social stress (1). One question that is important for both purposes is whether a tranquilizer selectively reduces the physiological response to social stress—in this instance, the stress of attempting to deceive. Professional polygraphers have assumed that tranquilizers might reduce the physiological response to all test questions as part of a general reduction in tonic arousal levels but that the difference in reactivity to critical and control items would be unaffected (4, 5). Clinical and pharmacological views of tranquilizers, however, suggest otherwise (6); that is, the effect of a tranquilizer might be precisely to reduce the physiological correlates of fear or anxiety concerning the critical questions.

Empirical evidence for either view is sparse (7, 8). Antianxiety drugs have been shown to reduce the electrodermal response (EDR) to some stressful stimuli, such as anticipation of shock, "emotional" words, or riding a Ferris wheel (9), but their effects on the EDR to more

common and natural social stressors such as interpersonal conflict have not been investigated.

We report here a double-blind test of the effects of a tranquilizer, meprobamate, on polygraph test results (10). It was hypothesized that the EDR would accurately discriminate between truthful subjects and deceptive subjects who had not ingested a tranquilizer, as in previous studies (1); that deceptive subjects who had taken a placebo would also be accurately discriminated from truthful subjects and would not differ from deceptive subjects who had taken no drug; and that deceptive subjects who had ingested a tranquilizer would not be discriminated from truthful subjects by their EDR's but would be discriminated from no-drug and placebo-treated deceptive subjects. We also tested whether the experimenter could judge which subjects had ingested a tranquilizer, because it has been suggested (4, 5) that a tranquilizer would produce overt effects that would be readily discernible to the experienced examiner.

Each subject (11) was randomly assigned to either guilty ($N = 33$) or innocent ($N = 11$) conditions (12). Guilty subjects completed an overlearning task that ensured their sensitization to six common words and were told it would later be their task to convince a polygraph operator that they had not memorized any words. Guilty subjects were randomly assigned on a double-blind basis to one of three groups. Subjects who ingested a pill were told that they were

ATTACHMENT 'E'

Table 1. Number of subjects classified "deception indicated" (DI) or "no deception indicated" (NDI) for each physiological measure, and examiner's judgment of subjects as tranquilized (T) or not tranquilized (NT).

Group	Electro-dermal		Cardio-vascular		Respira-tory		Examiner's judgment	
	DI	NDI	DI	NDI	DI	NDI	T	NT
Innocent	0	11	1	10	1	10	2	9
Guilty: no pill	9	2	0	11	4	7	5	6
Guilty: placebo.	8	3	2	9	3	8	3	8
Guilty: meprobamate	3	8	0	11	5	6	0	11

help them avoid detection; 11 of these subjects were given 400 mg of meprobamate orally, the typical minimum clinical dose (6), and the other 11 were given a placebo. The remaining guilty subjects and the innocent subjects were given nothing.

Thirty minutes later (13) experimenter 2, who did not know the subject's assignment, attached him to the polygraph (14) and began the test, using the "guilty knowledge" technique (15). The question list consisted of 24 words, four in each of the six semantic categories, one of the four being a word the guilty subjects had memorized. The subject was asked whether any of the 24 were words he had learned. The interstimulus interval was 10 seconds. The list was prefaced with a dummy word so that the typically large initial response would not be to any of the test items. After the test the examiner completed a rating scale indicating whether the subject appeared to have taken a tranquilizer (16).

Amplitude of the EDR, smallest inspiration, and change in relative blood pressure following each stimulus were scored in millimeters, by research assistants who had no opportunity to observe the subject, and number of lies detected was scored separately for each channel (17). There are several ways to evaluate such data statistically. We report the analysis that provided the most accurate discrimination between truthful and deceptive subjects. Each guilty subject knew six critical items of information, one from each of six semantic categories, and the list was presented twice, so that each guilty subject lied 12 times. The probability of a subject's reacting more to a critical item than to any of the three control items purely by chance is .25. Thus, even an innocent subject might be expected to give as many as three responses indicating deception purely by chance. For a final classification of "deception indicated" (Table 1), we adopted a conservative criterion of five items with responses indicative of deception.

The EDR identified most guilty subjects in the no-pill and placebo groups;

the differences between those groups and the innocent group are statistically significant, $P < .005$ and $P < .005$, respectively, by Fisher's exact probability test (18). Most meprobamate subjects, however, were mistakenly classified as truthful; and the discrimination between meprobamate and innocent groups was not statistically significant. The meprobamate group differed significantly from both the no-pill and the placebo groups, $P < .01$ and $P < .04$, respectively, by Fisher's exact probability test.

These results were not due to lack of electrodermal responsiveness among drug subjects; there were no differences among the four groups in the mean number of critical words ($\bar{X} = 10$ for all subjects) that evoked a measurable EDR. Thus, although all subjects responded electrodermally throughout the test, the drug subjects did not respond more strongly when lying than when telling the truth, whereas the guilty no-pill and placebo subjects did (19). The groups did not differ in the mean amplitude of the EDR to all questions, but there was a tendency for the meprobamate subjects to give smaller EDR's as the test progressed; comparison of the mean EDR to the first presentation of the word list with the mean EDR to the second showed the effect to be most striking with the drug subjects ($t = 2.37$, d.f. = 10, $P < .05$). For the other groups the decline in amplitude was not statistically significant ($t = 0.27$, d.f. = 10 for the innocent subjects; $t = 0.34$, d.f. = 10 for no-pill subjects; and $t = 0.27$, d.f. = 10 for placebo subjects).

The respiratory and cardiovascular measures did not discriminate between guilty and innocent subjects. The superior detection with the EDR is consistent with other studies in which detection was scored blindly and separately for each channel (20, 21).

The examiner's judgments of whether a subject had received a tranquilizer did not approach significant accuracy. In clinical studies ratings of patients do discriminate between placebo and tranquilizer conditions (22), but patients in

studies have typically been observed over a considerable period of time under both drug and placebo conditions. The field polygraph examiner has, as in the present study, little or no previous experience with the subject to provide a baseline for the judgment. Other studies suggest that clinical doses of minor tranquilizers do not cause overt impairment of behavior or performance (23).

It is possible that meprobamate is effective in the experimental laboratory but would be ineffective in the field lie-detection laboratory, where fear of detection is presumably greater. It should be noted, however, that 400-mg doses of meprobamate are effective in reducing the anxiety of psychiatric patients (24). It is also possible that substantially higher doses than we used here could be used unobtrusively to defeat the field test; several studies (23) show no evidence of observable behavioral impairment with single doses of 800 mg. Finally, it may be that meprobamate would be ineffective with the "control question" test more commonly used in the field. Since for guilty subjects there is little difference in principle between the two types of test, the differences arising mainly for innocent subjects (15), the present results may well generalize to the control question test. On the other hand, the more arousing circumstances surrounding a field test and the more intrusive questioning practiced by field examiners might overcome any effects of a tranquilizer.

Nonetheless, the results reported here are consistent with the hypothesis, based on clinical observations, that minor tranquilizers such as meprobamate selectively reduce the phasic physiological response to disturbing social stimuli rather than simply lower tonic levels of arousal.

WILLIAM M. WAID
EMILY CAROTA ORNE
MARY R. COOK
MARTIN T. ORNE

*Institute of Pennsylvania Hospital
and University of Pennsylvania,
111 North 49 Street,
Philadelphia 19139*

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9. "The anti-anxiety agents share a similar central depressant action: the ability to produce mild sedation in doses that are generally unlikely to cause soporific effects or to adversely affect the quality of consciousness and the quality of psychomotor performance" (American Medical Association Department of Drugs, *American Medical Association Drug Evaluations* (Publishing Sciences Group, Acton, Mass., 1973), p. 317).
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11. Conflicting reports of the effects of tranquilizers on detection have been made, but these have been based on rather informal observations: M. A. Berman, *J. Am. Polygraph Assoc.* 4, 329 (1975); C. Hess, *ibid.*, p. 314; A. B. Kristoffer-son and R. H. Cormack, in *Drugs and Behavior*, L. Uhr and J. G. Miller, Eds. (Wiley, New York, 1960).
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13. In field polygraph testing the actual guilt or innocence of subjects usually does not become established for a long time, if at all. More serious for the purpose of scientific investigation is that the ultimate disposition of the case cannot be considered to be independent of the polygraph test outcome: suspects who appear truthful may not be examined as thoroughly as those who appear deceptive. Finally, it is not typically feasible to introduce experimental treatments, such as tranquilizers, into field polygraph tests. Consequently, we must depend upon laboratory experiments. The experimental subject cannot be expected to suffer the same degree of apprehension as the field subject. Although this must be kept in mind, it would be an obstacle to experimental research only if the detection of deception failed under such conditions. Many studies document the effectiveness of the psychophysiological detection of deception in the laboratory, particularly with the guilty knowledge test.
14. The subjects were male college students, 18 to 24 years of age, recruited through advertisements and paid \$2 an hour.
15. "Guilty" subjects were told that the polygrapher would do his best to obtain a confession but that it was possible to "beat the polygraph" by controlling one's emotions. "Innocent" subjects were told that the polygraph examiner would suspect them and that it was often very difficult to prove one's innocence in a lie-detection test. As a test of their "ability to perform under stress," the innocent subjects completed the same timed, interpolated tasks as did the guilty ones, but without learning words.
16. Meprobamate taken orally reaches its peak plasma concentration in 1 to 2 hours [B. J. Ludwig and J. R. Potterfield, in *Advances in Pharmacology and Chemotherapy*, S. Garattini, A. Goldin, F. Hawking, I. J. Kopin, Eds. (Academic Press, New York, 1971), vol. 9].
17. Experimenter 2 was a male medical student. Sensors were attached as in field exams, a blood-pressure cuff on the left arm, EDR electrodes on the first phalange of the second and third fingers of the right hand, and a respiration belt around the chest; recordings were made on a Stoelting polygraph.
18. D. T. Lykken, *J. Appl. Psychol.* 43, 385 (1959); *ibid.* 44, 258 (1960); *Am. Psychol.* 29, 725 (1974). Lykken has outlined the logic underlying the technique of detecting guilty knowledge, in contrast to the controversial lie test or control-question test more widely used in the field. Field polygraphers assume that the conditions for the guilty knowledge test, the existence of information known only to the guilty person, can rarely be met, but Reid and Inbau (5) report many ingenious uses in the field of a peak-of-tension test, a field variant of guilty-knowledge detection. The guilty-knowledge technique may come to be used more widely in light of the relatively low accuracy of the physiological data generated by the lie test as widely used in the field [F. S. Horvath, *J. Appl. Psychol.* 62, 127 (1977)].
19. Finally, experimenter 3 conducted a postexperimental interview and debriefing and answered the subject's questions about the experiment.
20. Amplitude of the EDR, suppression of breath amplitude, and amplitude of the cardiovascular response for each stimulus were measured as in Thackray and Orme (20). Detections were scored separately for each channel. A detection was counted if the critical stimulus in a set of four words evoked a larger physiological response than any of the three other items. For innocent subjects one word in each category was randomly designated to be the critical item for purposes of analysis.
21. S. Siegel, *Nonparametric Statistics for the Behavioral Sciences* (McGraw-Hill, New York, 1956). Since each of the comparisons reported were planned comparisons, significance was evaluated in terms of the per-comparison error rate as described in G. Keppel, *Design and Analysis: A Researcher's Handbook* (Prentice-Hall, Englewood Cliffs, N.J., 1973). The use of Fisher's exact test on an ordinal variable that is dichotomized at some arbitrary point introduces the possibility of misclassification. This does not affect the validity of the significance test but reduces its power [I. Bross, *Biometrics* 10, 478 (1954)].
22. The three meprobamate subjects who were classified as deceptive, however, were detected as frequently as the most detectable placebo or no-pill subjects. Thus, although there were statistically significant differences between the groups in the number of deceivers detected, there was no such difference in the mean number of lies detected.
23. R. I. Thackray and M. T. Orme, *Psychophysiology* 4, 329 (1968).
24. R. J. Cutrow, A. Parks, N. Lucas, K. Thomas, *ibid.* 9, 578 (1972). Significant effects on cardiovascular and respiratory measures have been reported [G. A. Barland and D. C. Raskin, *ibid.* 12, 231 (1975)], with analysis of variance of group data. However, no study has reported significant discrimination of individual subjects as deceptive or truthful on the basis of respiratory or relative blood pressure measures alone.
25. K. Rickels, R. B. Cattell, C. Weise, B. Gray, R. Yee, A. Mallin, H. G. Aaronson, *Psychopharmacology* 9, 288 (1966).
26. N. H. Pronko and G. Y. Kenyon, *Psychol. Rep.* 5, 217 (1959); L. Uhr and J. G. Miller, *Am. J. Med. Sci.* 240, 204 (1960).
27. D. F. Klein and J. M. Davis, *Diagnosis and Drug Treatment of Psychiatric Disorders* (Williams & Wilkins, Baltimore, 1969).
28. Supported in part by a grant from the Institute for Experimental Psychiatry. We thank David F. Dinges, Kevin M. McConkey, Frederick J. Evans, and William H. Putnam for their substantive comments during the preparation of the manuscript.

17 June 1980; revised 7 October 1980

Pheromonal Control of Dealation and Oogenesis in Virgin Queen Fire Ants

Abstract: *In the fire ant Solenopsis invicta, sexually mature virgin females are prevented from shedding their wings and becoming functional egg layers by the presence of the mated queen. Experimental data suggest that this inhibitory effect results from the action of a relatively nonvolatile primer pheromone (or pheromones) produced by the mated queen and distributed by the workers. Target ants are both virgin queens and workers.*

In most species of social insects individual colonies have only one queen (1). Virgin queens are reared seasonally, but these do not become reproductively active until they have either left the parental nest to mate and found colonies of their own, as in ants, wasps, and termites, or until the old queen has left with a swarm, as in honey bees. It has been generally assumed that, among the ants, either the act of shedding the wings (dealation) after a mating flight, or flight itself, initiates the complex physiological and behavioral changes in newly mated queens that permit them to found new colonies (2). One of the most significant of these changes is the development of eggs in the ovaries (oogenesis) with materials from the now dormant flight muscles and from the fat body. In the fire ant, *Solenopsis invicta* Buren, the fundamental processes of dealation and oogenesis are usually prevented from occurring while virgin queens are still in the parental nest by the presence of one or more primer pheromones secreted by the mother queen (3).

During 1979 we collected 151 colonies of *S. invicta* in the state of Georgia, for laboratory study. About 2 weeks after collection, when the ants had moved

from the soil into artificial nests (4), we found a single mated queen in each of 58.3 percent of the colonies. Among the remaining colonies were many that appeared to be polygynous, but dissection of all the queens present showed that none was inseminated, although some had many mature oocytes in their ovarioles. Since these colonies also contained worker pupae, we assumed that they had been orphaned during collection, and we hypothesized that the presence of the mother queen of a colony prevents dealation and oogenesis among sexually mature virgin females (5).

To test the hypothesis, we orphaned colonies containing sexually mature virgin females. Dealates began to appear within 24 hours, and a few days later the workers started to execute some of them (6). Dealation ceased while numerous female alates were still present, but execution of the dealates continued for up to 3 weeks until very few remained. These few had enlarged ovaries containing numerous oocytes. It seemed, therefore, that they had taken over the egg-laying function of the mated queen and that they too could inhibit dealation among sexually mature virgin females. It was also evident that the workers would tol-

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Actions Against Iran, Citing Oil Need

stance of Turkish-Iranian relations. United States Embassy sources expressed the hope that Turkey would still support Washington's position, but the Iranian Government was described in Turkish press reports as having welcomed the statement as a rejection.

Senior Turkish officials said the Government viewed membership in the North Atlantic Treaty Organization as all important but that the Turkish attitude toward Iran was dictated by long-term regional political and economic considerations.

The first of these, the officials said, is oil. They noted that Iran had pledged to supply Turkey with two million of the 12 million tons of oil ordered for 1980 and that the nation faced a deficit of five million tons.

The officials also said that Turkey did not want to jeopardize relations with other Islamic countries and feared that an economic blockade could lead to further political deterioration with risks of Soviet intervention.

Officials also mentioned fears that the presence of 15 million ethnic Turks in

Iran might complicate any action by the Government here against Teheran.

From the outset, Turkey condemned the seizure of the American hostages on Nov. 4 as a violation of diplomatic immunity. But it urged that the problem be solved by diplomatic means and acted behind the scenes to try to obtain the release of the hostages.

Importance of Stand Minimized

Turkish Government sources minimize the importance of Turkish abstention, pointing out that Turkey exported only about \$11 million worth of goods to Iran last year compared with a maximum of \$65 million during the deposed Shah's rule. At the same time, they emphasize

that Turkey cannot do without Iranian oil.

Nevertheless, Prime Minister Demirel has been criticized by the opposition leader, former Prime Minister Bulent Ecevit, for his public silence on sanctions. Mr. Ecevit has called for a special debate in Parliament on foreign policy issues on Saturday.

However, no voices have been raised in favor of joining in anti-Iranian sanctions. This is viewed by some diplomatic analysts as demonstrating the extent of decline of American popularity since the United States imposed an arms embargo after Turkey invaded Cyprus in 1974.

Israel Releases Its Only Suspect In a \$4 Million Diamond Robbery

TEL AVIV, April 22 (AP) — The Israeli police today released their only suspect in a \$4 million diamond robbery last week after he was given a polygraph test.

Nissim Ashkenazi, 28 years old, was arrested in the Israel Diamond Exchange six hours after a lone bandit armed with a pistol and a hand grenade took several packets of gems from the office of a diamond merchant.

Mr. Ashkenazi said he was in the building hanging wallpaper, and a police spokesman said the polygraph test indicated he was telling the truth.

Related
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As Use of Polygraph Grows, Suspects and Lawyers Sweat

By ROBERT FEAR

WASHINGTON — In the Middle Ages, authorities attempting to distinguish truth and lies sometimes resorted to trials by ordeal. A suspect would carry a red-hot iron or plunge his hand into boiling water; if he remained unscathed, or healed within a reasonable time, he was assumed to have told the truth.

The polygraph, or lie detector, has replaced such rituals in the armory of modern investigators. And, despite questions about its trustworthiness, its use is sharply increasing. The Justice Department is writing some of its own employees to polygraphs as it investigates the unauthorized disclosure of details about the Abecam inquiry.

Peter F. Vieira, the United States Attorney in Philadelphia, and Thomas P. Puccio, chief of the Federal Organized Crime Strike Force in Brooklyn, testified in Federal court last week that they had taken polygraph tests in the department's internal investigation. Quentin G. Ertel Jr., public information officer for the Federal Bureau of Investigation in New York, said he refused a polygraph test because he did not consider the procedure reliable.

In another case, the Justice Department recommended last December that President Carter dismiss Herman Sillas Jr., the United States Attorney in Sacramento, after he reportedly failed two polygraph tests in which he was asked about allegations that he had taken a \$7,500 bribe. Mr. Sillas has denied the allegation and the White House is still reviewing the case.

Attorney General Benjamin R. Civiletti said recently that an employee's refusal to take a polygraph test might give rise to an "adverse inference" about his conduct. The implications for Mr. Ertel are not clear. The F.B.I. in May adopted guidelines stating that refusal to submit to lie detector testing, by itself, shall not be the sole basis for disciplinary action and "all reasonable efforts" must be made to clear up allegations without use of a polygraph.

Many civil libertarians say that the polygraph is inherently intrusive, that the testing process, in which a person is wired to the machine, invades privacy and degrades human dignity. But its use, by Government agencies and private industry, is increasing because it has proven useful in steering investigators toward certain suspects and away from others.

The Federal Bureau of Investigation conducted 1,300 polygraph examinations in 1979, an increase of about 800 from 1978. The number of polygraph examinations administered by the Army, Navy, Marines and Air Force increased by 18 percent in two years, from 8,710 to 8,751. Polygraphs are finding a steadily growing market among state and local law enforcement agencies, litigants in civil cases and private retailers, who use the device to screen job applicants and to combat pilferage.

State courts have increasingly permitted the introduction of polygraph test results as evidence because, with technical improvements, the machine appears to have become more accurate. In a recent

case in Westchester County, *People v. Daniels*, a lower state court said that the circumstances cried out for admission of polygraph evidence offered by a defendant over the prosecutor's objections.

"If the evidence has substantial probative value and is relevant to the issue and does not endanger defendant's rights, or prejudice the jury, nor mislead the proper administration of justice, then it should be admitted as any other evidence," the court said. "Fingerprints, ballistics evidence, blood tests, voice prints, neutron activation analysis and others have all passed the same standard and have been admitted into evidence for the jury's evaluation."

Robert Pritchard, vice president of the Lafayette Instrument Company, manufacturer of polygraphs, said that "the machine has changed drastically in the past 20 to 30 years." The information is more precise, he said, because the electronics industry has provided integrated circuits and other components that reduce the margin of error in measurement.

Although the Justice Department frequently uses the polygraph in its investigations, it staunchly opposes the introduction of polygraph evidence in Federal criminal trials. Department lawyers trust their own polygraph data, but maintain that tests given to a defendant by a private examiner of his own choosing are less reliable, because the defendant has less reason to fear detection. Rather than have a "trial within a trial" over the validity and reliability of polygraph findings, the Federal Government wants to keep the evidence out of court entirely.

The Supreme Court of the United States has not ruled directly on the admissibility of polygraph results. But the Court remarked in a 1966 case that any attempt to compel a person to take a polygraph examination might violate his Fifth Amendment right against self-incrimination. The Court said that suspects could be required to give physical evidence, such as fingerprints and handwriting samples, but could not be forced to testify against themselves. Critics say polygraph tests may be constructed to obtain testimony while depriving suspects of the right to confront their accusers.

The Federal Bureau of Investigation requires extensive training for its examiners and maintains rigid controls on their work. There is no evidence that such controls are commonly employed by many other Federal agencies or by local law enforcement agencies or private industry. Within the intelligence community, Representative Les Aspin, Democrat of Wisconsin and chairman of the House Intelligence Oversight subcommittee, recently found widely differing practices. Senator Birch Bayh, the Indiana Democrat, has introduced a bill that would prevent private employers and Federal agencies — except for law enforcement units — from requiring employees and job applicants to undergo polygraph tests.



Cathlyn Platt Wilberon

and was arraigned on charges of illegal possession of dynamite and criminally negligent homicide. With a number of restrictions imposed on her movements, Miss Wilberon was released on \$10,000 bail.

A fugitive no more, Miss Wilberon would not say where she had been or why she surrendered, and would not discuss the explosion. Complaining that the political and social climate is "broiler than a decade ago, when Vietnam War was raging and the Weathermen demonstrated their resistance by planting bombs in corporate and government offices," she said, "The conditions are the same and I have the same commitment to struggle against them."

Instead of Safety, A Desert Inferno

Even in a world where horror stories of Cambodian refugees and Vietnamese and Haitian boat people are commonplace, last week's report on a band of Salvadorans lost in the southern Arizona desert was singular. Two dozen men and women, led by four guides they had paid \$4,800 to smuggle them into the United States, walked in 113-degree heat into the 316-square-mile emptiness of the Organ Pipe Cactus National Monument.

Before their first night had passed, they exhausted their water and were fighting over and drinking anything liquid, including their own urine. By the second day, 11 of the group, includ-



Thayer

— EXHIBIT E

WAIVER AND CONSENT

Under the threat

I, _____, voluntarily, of my own free will and without duress, freely agree to submit to a Polygraph Examination, more commonly referred to as a Lie Detector Test.

I do hereby give my consent for the Polygraph Examiner to place the necessary attachments on my body in order to conduct the Polygraph Examination.

I do hereby free from all liability the person conducting this examination, the Company and its Agents.

I do hereby authorize the Polygraph Examiner to release the results of this Polygraph Examination to my employer.

_____ Date

_____ Signature

_____ Witness



NEVADA RETAIL ASSOCIATION

POST OFFICE BOX 722, CARSON CITY, NEVADA 89701 • 882-1943

April 23, 1981

Statement by Pete Kelley, managing director, Nevada Retail Association on Assembly Bill 233.

The Nevada Retail Association supports the bill as amended. The Association opposes any ban on its use in Nevada, feeling that if retailers wished to use such tests that they should be allowed to do so.

Retailers are faced with a staggering problem of theft, both by consumers and employees. These shortages are one of the most critical problems confronting retailing today. Retailers estimate such invisible losses amount to as much as one-third of net profits.

One of the components in a program to combat retail theft is strong and useful laws. Nevada, as an example, has a strong anti-shoplifting law. Still is it not sufficient because effective apprehension and prosecution of shoplifters is needed. This can only occur through cooperation between retailers, their employees and local police and prosecuting attorneys.

Unfortunately, law enforcement agencies often have neither the personnel nor the time to offer meaningful assistance to retailers in their investigations of theft. Thus, many retailers have found it necessary to undertake the bulk of responsibility for investigating cases of suspected theft in their own stores.

To help develop some control over the incidence of employee thefts, retailers in some instances have used polygraphs. To the best of my knowledge, no states have completely banned polygraph. However, 15 or more have limited its use.

I reiterate, we would oppose any ban on its use in Nevada, feeling that if retailers wish to use such tests they should be allowed to do so. We can support ABB 233 as amended.

Thank you.

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STATE OF NEVADA



MICHAEL A. de la TORRE
Director

ROBERT LIST
Governor

EXHIBIT G

Department of Law Enforcement Assistance

430 JEANELL DRIVE — CAPITOL COMPLEX
CARSON CITY, NEVADA 89710
Telephone (702) 885-4404

PLANNING AND
TRAINING
DIVISION
John Compston
P.O.S.T. Coordinator

INVESTIGATION AND
NARCOTICS
DIVISION
Vern Calhoun
Chief

Carson City Office
430 Jeanell Drive
Carson City, NV 89710
(702) 885-4408

Las Vegas Office
1055 E. Tropicana
Suite 590
Las Vegas, NV 89109
(702) 386-5318

Reno Office
Kietzke Lane
Suite 209
Reno, NV 89502
(702) 784-5617

Elko Office
850 Elm Street
Elko, NV 89801
(702) 738-7211

TO: Senator Wilson, Chairperson
Commerce and Labor Committee

FROM: Michael A. de la Torre, Director *Michael*

SUBJECT: Department's Polygraph Policies and Procedures

DATE: April 24, 1981

Enclosed for your information and review is a copy of the Department's policy relative to the use of polygraph.

If you have any questions, do not hesitate to contact this office.

MAdlT/lmw
Enclosure

INTER-OFFICE

Memo

FROM THE DIVISION OF INVESTIGATIONS AND NARCOTICS

STATE OF NEVADA

To: ALL PERSONNEL

Date: October 2, 1978

From: VERN CALHOUN, CHIEF

Copies: Personnel

Re: POLICY FOR USE OF THE POLYGRAPH INSTRUMENT

Deadline:

Nevada Revised Statutes mandate the Nevada Division of Investigation and Narcotics the responsibility of interrogating persons by use of the polygraph upon the request of the Attorney General, or any Sheriff, Chief of Police or District Attorney of the State of Nevada.

All of the polygraph records for these agencies, as well as for the Division, are maintained permanently in a central file; however, all polygraph records pertaining to internal investigations are expunged at the end of a six month period.

In line with court decisions, the Nevada Division of Investigation and Narcotics has determined that the polygraph technique is an invaluable aid to resolve accusations of unlawful activities against members of law enforcement agencies, including this Agency, particularly in accuser/accusee situations where little supportive physical evidence is available. Equally as important is the verification of the information that a prospective employee has submitted on his employment application and resume.

James F. Wittenberg, in a written communication (The Polygraph Guidelines for internal investigations) to the Personnel Advisory Commission in the later part of December, 1976 (later distributed to all agency administrators), stated in substance that regarding an internal investigation of unlawful activities, it shall be the duty and responsibility of a classified employee to truthfully, fully and directly answer questions relating to the individual's employment related activities where credible allegations or reliable evidence exists to question the employee's conduct in his official capacity.

The Honorable Michael E. Fondi of the First Judicial District Court of the State of Nevada on October 27, 1977, ruled in substance that, provided U. S. Supreme Court Procedural Safeguards were adhered to, an agency Chief has the right to order a subordinate employee to submit to a polygraph examination and if that employee refused to submit to the examination, he does so under pain of disciplinary action.

Under these safeguards, a person prior to being asked to take a polygraph examination, must be advised that the questions to be asked would be narrow and specific in scope and related only to his performance of duties and he will not be required to waive his 5th Amendment right to incriminate himself.

The person also must be advised in advance that the fruits of the questions asked will not be used for criminal prosecution and that if he refuses to submit to the test, he could be dismissed or incur other disciplinary action.

The Honorable Michael E. Fondi does not stand alone. The United States Circuit Court of Appeals for the Ninth Circuit (which circuit encompasses Nevada within its territorial jurisdictions) in Clifford vs. Schultz, 413F 2d 868, a case involving the use of a polygraph examination, state "the (Supreme) Court stated, however, that a public employee may be discharged from his job if, without being required to waive immunity, he refuses to answer questions specifically and directly and narrowly related to the performance of his official duties. An employee's invoking of his Constitutional privilege against self incrimination would not in such case be a bar to his dismissal from public employment." Further, in Seattle Police Officer's Guild vs. City of Seattle, 80 Wash. 2d 307, 494 P. 2d 485, the Washington Supreme Court held that the City of Seattle could dismiss or otherwise discipline members of the Seattle Police Department for refusing on the grounds of the 5th Amendment privilege against self incrimination, to answer intra-departmental inquiry questions specifically, directly and narrowly related to the actual performance of their official duties. Such personnel action was held permissible provided that the officers were advised that their answers could not be used against them in later criminal proceedings and that refusing to cooperate could result in their dismissal. The fact the United States Supreme Court meant this interpretation to be placed upon these cases has been decided in at least three other jurisdictions. In Re Addonizio 53 N.J. 107, 248 A 2d 531; Silvario vs. Municipal Court 355 Mass. 623, 247 N.E. 2d 379, CERT. denied 396 U.S. 878, 90 S. CT 151, 24 L. Ed. 2d 135 and Kramerer vs. Board of Fire and Police Commissioners 44 Ill. 2d 500, 256 N.E. 2d 12.

In a memorandum of November 29, 1976, Colonel Bernard Dehl of the Nevada Highway Patrol stated that Agency administrators have the duty and the Personnel Division Chief the obligation, pursuant to Chapter 284 of the Nevada Revised Statutes to not employ undesirable persons in State service. A blanket prohibition against the pre-employment screening of any classified employee would nullify this duty and obligation and would be a great disservice to the citizens of the State of Nevada.

Considering the grave responsibilities of law enforcement officers, and the liability of the state, the Nevada Division of Investigation and Narcotics has determined that every means possible, including polygraph examinations, will be utilized to investigate the background of prospective employees, as well as, the utilization of the polygraph instrument to resolve accusations of unlawful activities against members of its agency.