

THE CPIRC NEWS



The Art of Detecting Deception

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Over the past few decades there has been a fiery debate between two communities over different types of technologies and techniques for detecting deception. Although many people have heard of and/or seen polygraph tests or a voice stress analysis tests (lesser known) most people do not know really understand the difference in the technology or the techniques used.

We have invited representatives from both the polygraph and voice stress analysis communities to have their say in our March 2008 issue. Donald J. Krapohl chairman of The American Polygraph Association (APA) and Arthur Herring III President, Dektor Corporation (Voice Stress Analysis) have kindly agreed to take part in this debate.

We will give both parties a chance to respond in our next issue June/July 2008.

We would appreciate input from all our readers which we will post in our next issue. All opinions, comments and suggestions should be sent to info@cpirc.com

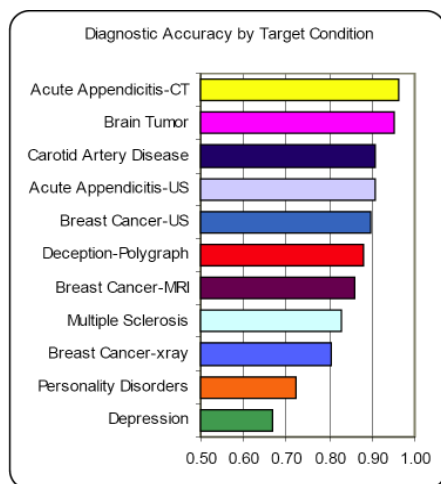
Why the Polygraph Remains the Gold Standard

Donald J. Krapohl

The instrument that has come to be popularly known as the polygraph has been in existence for more than 70 years. Given the pace of technological progress this longevity would seem to be an exception to the obsolescence rule. Over these many decades other approaches to lie detection have been announced, heralded by their proponents as the final answer to lie detection, and fallen to either marginal use or disuse. The reasons the polygraph remains the mainstay technology for lie detection are complex, and may vary in the nearly 80 countries where it is found. However, they tend to focus on two principal undisputed facts: validity and professionalism.

First and foremost, polygraphy is the only credibility assessment method in wide use that has a foundation of validity research. There are scores of researcher articles published in established scientific journals that attest to its accuracy. The eminent US National Academy of Sciences (NAS) evaluated the scientific evidence on the polygraph in 2003 along with potential alternatives to the polygraph (brain imaging, brain waves, voice stress, standardized tests, face and body movements, etc.) and declared that “none has yet been shown to outperform the polygraph” (p 173). In other words, whatever imperfections may accompany the polygraph, it cannot be truthfully claimed that another technology is more accurate.

So, just how accurate is the polygraph? For some applications, such as single-issue testing, decision accuracy is quite high, typically reported to be from 85% to 95%. Though less than perfect, the polygraph is still an impressive diagnostic tool for detecting deception. Whether its accuracy is sufficiently high is not a settled question, but it is perhaps helpful to compare polygraph accuracy against the accuracy of other diagnostic tools used in critical decision making. In 2001 a government-funded literature review was conducted to gauge the accuracy of the polygraph against diagnostic methods in other fields, such as psychology and medicine (see Figure 1). After a review of over 1100 research articles the report concluded that the accuracy “...reported in the polygraph literature is consistent with the medical and psychological literature.” In short, polygraph decision accuracy compares favorably to that found in other well established fields. The question of whether the polygraph is accurate enough is best judged within this context.



CT = Computed Tomography
US = Ultrasound
MRI = Magnetic Resonance Imaging

Figure 1. Relative accuracy of the polygraph and other diagnostic methods for specified conditions (from Crewson, 2001).

A second reason that polygraph is the first preference around the globe has to do with the state of the field. The polygraph has been around long enough to allow the practice to mature, and in those years it has evolved from a trade into a profession. Unlike any other discipline dedicated to credibility assessment, the polygraph field has the telltale qualities that distinguish itself as a profession: a canon of ethics, a large published body of knowledge, independent professional organizations (not tied to commercial interests), and at least one university research center. There are also 26 federal polygraph programs in the US government at this writing, each requiring its examiners to have a college degree, pass a very rigorous educational program, complete an internship, and undergo quality assurance oversight for their entire polygraph careers. No other approach to deception detection can claim this level of professionalization.

The US government is probably the largest single user of the polygraph. It is applied to criminal investigations, counterintelligence screening, source testing, integrity of nuclear programs, protection of codes, counternarcotics, assessing threats against the President, protecting US borders, food and drug tampering investigations, and a host of other critical functions. It is also worth noting that the US government also supplied polygraph training to other nations to help achieve strategic objectives. In only the past few years it delivered polygraph training to Russia to help it control its nuclear materials and technology, to Iraq and Afghanistan to aid their young democracies, and to Mexico as a tool in the fight against corruption. The US government's choice of polygraph training over other methods is not based on a lack of knowledge of the alternatives. Quite the contrary, it is because of an extensive and studied appraisal of the validity and utility of the alternatives that led to the preference for polygraph.

The preceding is not to be construed as though the polygraph were without limitations of its own. As most people know, a successful polygraph can only be conducted under certain conditions. It is important to remember that the polygraph is a physiological recorder, and that physiological signals are notoriously noisy. They are affected by the factors that affect the human from where they originate. Pain, illness, confusion and loud noises may render the signals useless for the purpose of detecting deception when they are excessive.

This is why polygraph testing is always accomplished in a controlled setting that removes as many distractions as possible. The minimum requirements for valid polygraph testing limit where it can be used. These constraints are not unique to polygraphy, of course. Any approach to lie detection that is based on signals from human bodies (i.e., pupillary dilation, vasomotor responses, thermal imaging, voice analysis, reaction time) would be useless in uncontrolled settings.

Finally, it is important to remember that the polygraph is not a trademarked device nor sold by just a single vendor. There is no team of polygraph sales representatives targeting police departments and government agencies with mailings and brochures and testimonials. Polygraphy is a profession, not a product. Its foundation is science and professionalism. When all of the evidence is considered, it is clear why the polygraph remains the gold standard.

About the Author

Donald Krapohl is a former researcher, and author of more than 50 technical, educational and research articles on credibility assessment and the polygraph. Comments, questions, or requests for copies of research relevant to the statements in this article should be sent to dkrapohl@aol.com.

New stories and Publications of Interest that you'll find in the Resource Centre

- Accused terrorist May Have Been Planning Airline Attack: CSIS
- FBI Finds Commission Room Bugged
- Annan: UN denies room bugging claims
- Professional Surveillance - More Firms Using Analysts To Gather Data On Rivals
- Renault Face F1 'Spying' Charges
- Is the Pentagon Spying On Americans?
- Journalist Jailed In China On Spying Charges Released
- French-Iranian Filmmaker Released From Iran

Upcoming Conferences

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- ⇒ **14th Annual ACFE Canadian Fraud Conference**
May 4-7, 2008
Vancouver, British Columbia
Submissions Closed: January 31, 2008
For more information click [here](#)
 - ⇒ **19th Annual ACFE Fraud Conference & Exhibition**
July 13-18, 2008
Boston, Massachusetts
Submissions Close: February 29, 2008
For more information click [here](#)
 - ⇒ **ACFE European Fraud Conference**
April 7-8, 2008
London, England
Submissions Closed: November 30, 2007
For more information click [here](#)
 - ⇒ **Canadian Technical Security Conference (CTSC)**
April 21-23, 2008
Mississauga, Ontario
For more information click [here](#)

PSE and Voice Stress Analysis: Lie Detection Technology for the Private Investigator

Arthur Herring III

No matter what type of case a Private Investigator is working on, he wants the end result to be the truth. Sometimes a very long process is needed, but that can put the answer for a client beyond their financial means. The truth can prove a client or their loved one was innocent of a criminal or civil accusation. Their marriage, reputation, career, income, or freedom could be at risk. No matter who we are or how much money we have, we all could be a victim of a accusation where the truth must be known to prevent dire consequences to ourselves and/or loved ones. Many times, the fastest and the most economical solution is accurate lie detection.

Most people know lie detection as the polygraph. It was first invented in 1917 and was used to test for German spies in World War I. Through the years, the polygraph has added newer test formats and more attached wires to measure various biological functions of the body. Those functions are recorded and analyzed to determine truth or deception of a subject. In 1990, the polygraph adopted the computer instead of using the traditional mechanical box of parts, including inkwells to print the patterns. The same type of attached and uncomfortable wires, first used in 1917 to record the various biological data for evaluation, are also used on the computer polygraph. The computer software determines the various waveforms to be printed on the screen and then analyzes the waveforms to determine truth or deception. The computer will then print the answer as to truth, deception or inconclusive on screen. The polygraph, including the computer polygraph, have many problems and they are well known. The polygraph uses information received from attached wires. The wires cause many problems for analysis and one wire is very uncomfortable. The input information from the attached wires can be altered by the subject using drugs, alcohol, and/or manual manipulations. Those are called counter-measures. By using counter-measures, a subject can make himself appear to be innocent when he is guilty. The polygraph has the answers of truth, deception or "inconclusive" after a test. Inconclusive means the polygraph examiner does not know if the subject is lying or truthful. Hardly the answer the client or police department wants to see after a lot of time and money is used for a test. Those problems also affect the computer polygraph system. The procedure to learn polygraph is very complicated and requires two months of training. Polygraph use is very limited, it can only be done using yes or no answers and the subject must be there for the test. After fifty years of polygraph, lie detection took a giant, futuristic leap forward in 1970.

In 1969, two newly retired U.S. Army Colonels of Counter-Intelligence realized there was a need to have a better lie detection system. That system could not have any limitations or drawbacks of the polygraph. One Colonel was a government trained polygraph examiner trained at the U.S. government's private polygraph school. The other Colonel was a government trained electronics expert. After researching various ways lie detection could be designed while in the military, when they retired in 1969, they proceeded to develop Voice Stress Analysis for lie detection. The instrument to do Voice Stress Analysis was called PSE. It was first sold in 1970.

Voice Stress Analysis (VSA) refers to detecting, measuring and graphically displaying an inaudible body tremor that is superimposed on the human voice (including all warm blooded animals) of all ages. The tremor disappears according to the amount of stress that is present at the moment of utterance.

A case must have serious results for the subject to cause stress that is needed for a test. Using a question and answer test, each answer will have a "pattern" and those patterns are evaluated by the VSA examiner to determine truth or deception of a matter. VSA has many benefits over the polygraph. No counter-measures affect the results of the PSE test. That is a benefit to the examiner because he knows his decision is correct. The training is only 7 days because the system is very easy to learn. Anyone can learn to use PSE, law enforcement to civilian. Along with yes and no answers, PSE can also analyze statements for truth or deception. The tests can be done in person (overtly or covertly), in any language, over the phone (over any distance), from a videotape, TV, radio, or from previously made audiotapes. There are NO attached wires with PSE. A tape recorder that is supplied records the questions and the subject's answers. Those answers are fed into any PC using a cable and patterns are displayed on the computer screen. The examiner evaluates the patterns for truth or deception. The entire tape of the interview and test are kept for ten years for review or legal proceedings. The tape is used to preserve any confession, all information by the subject and to protect persons from false accusations. Polygraph never had a tape recorder and has suffered because of that.

Imitations of PSE have been sold for many years. Some use names that sound like they are voice lie detectors. A few use laptops or have lights or numbers to show "lies". The accuracy of those imitations has been proven to be about chance level.

The many uses of PSE, by private investigators, are far too many to list. PSE has been used for criminal cases by police, prosecutors, public defenders, lawyers and private investigators. PSE has been used in various types of civil cases, insurance investigations (workman's compensation, life insurance fraud, marine fraud, auto fraud) eyewitnesses, spousal testing for infidelity, divorce proceedings, child abuse, date rape, he said/she said and probation/parole to verify observance of rules, including sex offenders. Employment screening, both before and after being hired, is used to verify a person's history and later to show if the person has broken any rules on the job or was involved in criminal activity on the job. Industrial espionage will destroy any business and finding who was responsible will save a company's life. Most law enforcement also use lie detection as part of hiring procedures. Security companies and security guard companies must know who they are hiring for businesses because the guards will have access to the most sensitive area's and can cause the most harm and destruction. The guard companies will be sued if a guard steals assets of any kind or damages property because they were poor quality people. Worldwide terrorism today demands that companies know who they hired. Airports use PSE to screen personnel before being hired and also screening suspicious passengers in line for a flight. Only accurate lie detection can do this.

Several years ago, PSE underwent a drastic change. The PSE 5128 is now software that can be loaded into any PC. This software will last forever and can be loaded into more than one computer. No more parts to break or wear out. A tape recorder is also supplied. Each PSE 5128 system is \$6,500 and training is only \$1,400 per person for the 7 day course. Call for our FREE 155 page CD with more information, various articles and full length studies.

About the Author

Arthur Herring III is the President of Dektor Corporation. Visit our website at www.DektorPSE.com. You can call our Pennsylvania office at 215.631.1448 with any questions. Dektor offers a FREE demonstration of the PSE 5128 at your location.

Resource Centre Roundup



Millions of people world-wide use Google's search engine everyday not aware of the many more lesser-known useful search tricks.

- ID people, objects, and foreign language words and phrases with Google Image Search
- Make Google recognize faces
- Get the local time anywhere
- Track flight status

To learn how these to use these tricks and many more click on the [Google Tricks](#) link found in the "Internet Tools/ IP Investigations / Security & Privacy Issues" category in the Resource Centre.

Overseas Protection Team Survival Tool

Being part of a protection team that often travels overseas to 3rd world countries, hostile or not, can be hazardous to your health and your client. There are so many things that must be considered. When in hot remote areas the biggest threat may be the lack of clean water to drink . What do you do when the risk of dehydration or getting a serious illness from drinking local water is your worst enemy, and carrying large quantities of bottled water not an option? Lifesaver USA may have come up with an ingenious solution. LIFESAVER bottle is the world's first all in one ultra filtration water bottle. It will remove bacteria, viruses, parasites, fungi and all other microbiological waterborne pathogens without using chemicals like iodine or chlorine which leave a distinctive foul taste. LIFESAVER bottle produces filtered sterile drinking water quickly and easily. It incorporates LIFESAVER systems' unique FAILSAFE technology (another world first) which shuts off the bottle's cartridge upon expiry, preventing contaminated water from being drunk .

With LIFESAVER bottle there is no need for tablets, boiling, chemicals, tubes, shaking, scrubbing, waiting or effort. LIFESAVER bottle produces clean, sterile drinking water with no foul taste - fast!

To learn more visit www.lifesaverbottleusa1.com

or click here to watch the lifesaver video

www.lifesaverbottleusa1.com/video/lifesaverBottle.wmv

The Investigative Project on Terrorism

The Investigative Project on Terrorism (IPT) is a non-profit research group founded by Steven Emerson in 1995. It is recognized as the world's most comprehensive data center on radical Islamic terrorist groups. For more than a decade, the IPT has investigated the operations, funding, activities and front groups of Islamic terrorist and extremist groups in the United States and around the world. It has become a principal source of critical evidence to a wide variety of government offices and law enforcement agencies, as well as the U.S. Congress and numerous public policy forums. Research carried out by the IPT team has formed the basis for thousands of articles and television specials on the subject of radical Islamic involvement in terrorism, and has even led to successful government action against terrorists and financiers based in the United States.

For more information on The Investigative Project on Terrorism visit the IPT website www.investigativeproject.org

HOW TO CONTACT US



Monday to Friday	09:00 -17:00 (Eastern Standard Time)
Saturday & Sunday	Via Email Only
Canadian Statutory Holidays	Closed

Telephone:	(514) 373-8191
Fax Inquiries:	(514) 303-8841
Mailing Address:	CPIRC 2348 Chemin Lucerne, Suite #506 Ville Mont-Royal, QC H3R 2J8 Canada

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