

The Evolution of Polygraph Testing in the People's Republic of China

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Abstract

The adoption of the polygraph instrument and its related methods and procedures were not introduced to the People's Republic of China (PRC) until late in the 20th century. Although the use of these methods was slow to begin, the use of the polygraph and its application in the day-to-day activities of many investigators at the different levels of government has grown quickly in the last decade. This paper presents an overview of the polygraph's evolution in the PRC, it introduces some of the people involved in that evolution and describes, in part, the environment in which the polygraph is used. The paper concludes with a question regarding the future of polygraph not only within the PRC, but possibly for polygraph in general.

Keywords: Polygraph testing in China, the PRC and polygraph testing, Chinese polygraph, credibility assessment in China, lie detection in China.

The information given in this report was derived from many different sources, including but not limited to my participation in acquiring, and then presenting to others in the People's Republic of China (PRC), valid polygraph methods for the assessment of credibility. Information was also collected through conversations with many Chinese polygraph examiners, polygraph manufacturers in the PRC, and information posted on the internet and in relevant publications. I wish to thank Dr. John Palmatier, whose guidance continues to assist me along with other Chinese police officers, members of the procurator's office, researchers and other academics in the PRC to understand that there is more to credibility assessment than knowing how to use a polygraph instrument. Dr. Palmatier's efforts have helped to create a bridge of friendship between China and the United States. I would also like to thank Dr.

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Polygraph testing, also known as the assessment of credibility, has grown rapidly in the People's Republic of China (PRC). This is due in large part to the PRC's judicial system, which is highly centralized and substantive in nature as compared to systems in the West, which are decentralized and procedural in nature. In China, the court system is replicated at all levels of government, i.e., national, provincial, city and municipal districts. In court, a three-judge panel is given evidence, facts and testimony derived from an investigation initiated and conducted by law enforcement officials; that investigation is reviewed and then presented to the appropriate court by officers from the procurator's office. The intended goal of this

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process is to present to a judicial panel the "truth" regarding whatever issue is being adjudicated. Once presented with this evidence, the sitting judicial panel then decides what constitutes justice.

In many other countries, however, justice is a much more abstract concept. For example, in the United States, the courts are decentralized, with 50 different states each having their own judicial system, as well as a Federal Court system comprised of 11 different districts. These many courts and federal districts will often have their own opinions as to what constitutes justice. In the United States, generally, justice is served when as a defendant, a person accused of a crime, is given access to the judicial system, where a judge will most likely sit as a referee to ensure the procedural integrity of the process, as two advocates argue about what may be true.

In the PRC, the justice system is comprised of four agencies; the first two are the Bureau of Public Security, which is comparable to the contemporary law enforcement agencies found in other countries; and the Procurator's Office, which is similar to a prosecutor or State Attorney's office in the United States. The procurator's office however, differs in that officers are charged primarily with reviewing investigations conducted by the police; a responsibility that has led to this agency's nickname of "checking agency." The procurator's office is also charged with investigating allegations of corruption committed most often by public officials. The other two agencies in the legal system are the Courts; and the Bureau of Legal Affairs, which is responsible for the overall administration and coordination between the other three agencies. All four organizations are structured from a continuous chain of command originating at the national level down to local municipal districts.

History

When polygraph testing was first introduced to China, it translated into the term "lie detection," which was prevalent until late in the 1990s when that term was dropped in favor of the more formal terms of "Forensic Psychological Testing," or the Psycho-

Physiological Testing of Deception. China made its initial approach toward polygraph testing sometime in the early 1960s, when the Institute of Psychology of the Chinese Academy of Sciences purchased a "Lie Detector" instrument from the West, with plans to study it and then create a polygraph instrument that could be manufactured in China. This endeavor ended prematurely when the cultural revolution began in the mid-1960s, which ended a vast majority of specialized research.

Since its inception, the PRC was highly skeptical of the polygraph, generally dismissing it as some type of Western ploy. However, in 1980, Wen Liu, Director of the Criminal Investigation Bureau of the Ministry of Public Security, accompanied a delegation to the Japanese National Police Headquarters in Tokyo, where a demonstration of the polygraph and its use in criminal investigations was given as a part of their visit. After returning to China, Wen Liu wrote in an after action report that the "polygraph has a scientific base, [and that] it was wrong to be negative towards polygraph's use." (Chen, 2008).

In 1981, the Ministry of Public Security purchased one American made Mark-II Voice Stress Analyzer (VSA) and a book titled "Truth and Deception" written by John E. Reid and Fred E. Inbau (1966). A senior criminal police officer with the Beijing Police Bureau, Bu Wang, who understood English, was assigned to learn how the instrument functioned and to begin using it for the investigation of real cases. Over the next four years, Bu Wang used the Mark-II in 16 criminal investigations originating in Beijing, Shenyang, a city in the north, and Nanchang a city in the south, reporting an accuracy of 90%. Following this experience, Bu Wang then translated the Reid and Inbau book and produced an edited version (Bu, 1997) based on his experiences using the VSA instrument. In 1984, the Ministry of Public Security decided to buy six additional Mark-II VSA's, but was stopped from doing so by a United States prohibition on shipping any lie detection instrument to the PRC; a prohibition that remains in effect today.

The PRC was temporarily deterred, but in 1989, a decision was made to create a

Chinese polygraph instrument. To accomplish this goal, Chenxun Yang, a researcher with the Information Institute of the Ministry of Public Security was directed to begin a project in cooperation with the Automation Institute of the Chinese Academy of Sciences, and the Beijing Police Bureau, to develop and perfect a Chinese made "lie detector." In August of 1990, Mr. Yang, wanted to invite a polygraph examiner from the United States with both law enforcement and academic credentials to come to China to talk about the polygraph. Mr. Yang asked John Palmatier of the Michigan State Police, and a Ph.D. candidate at Michigan State University, if he could accept such an invitation. Due to time constraints, the invitation was unable to be fulfilled, but Mr. Yang said the invitation would be made again the following year.

By June of 1991, China had finished its first Polygraph Instrument, the PG-1, which was certified as fulfilling the Ministry of Public Security's initial expectations. In August 1991, Mr. Yang again invited John Palmatier, on behalf of the Ministry of Public Security, to go to the PRC where he would give presentations on Lie Detection in the cities of Beijing, and Hangzhou. In September 1991, the First National Lie Detection Training seminar was held in Beijing, with Bu Wang presenting a week of "lie detection" training based on the Reid and Inbau book, followed by a second week of training given by Palmatier. Approximately 50 law enforcement officials and scholars from all over China attended this seminar. Today, all contemporary polygraph programs in the PRC can trace their lineage back to this seminal training experience.

Following the 1991 seminar, the Liaoning Provincial Police Department purchased a PG-1 Polygraph instrument and began using it in their day-to-day criminal investigations. Using the PG-1 instrument, law enforcement officials reported successfully resolving many criminal cases. The first successful application of the polygraph recorded in the PRC took place in May 1992, in Shandong Province, in which the murder of an individual in the city of Changyi was resolved by Polygraph Examiner Zufeng Zhang and Police Officer Wenhai Xu using a PG-1

instrument and Peak of Tension (POT) and Guilty Knowledge Tests (GKT).

Training

Today, in China, there are yet no formal polygraph schools like those in the United States and other countries. Instead, individuals are trained as examiners during an intensive one-week training course provided by the polygraph instrument manufacturer(s), with the training included as a part of the polygraph purchase. The two largest manufacturers of polygraph instruments in the PRC are the Beijing Tong Fang Shenhua Company and the Automation Institute, which is associated with the Chinese Academy of Sciences. Both organizations have offered one-week training courses at least once a month since 2001, and on occasion offered advanced training seminars which are generally one to three weeks in length. After individuals return from the manufacturers' training courses, police and procurator officers attend additional training that is organized by their agencies, which is also one week in duration. These training seminars are usually taught by the more experienced polygraph examiners within an agency, and often supplemented by academics from the police colleges and universities, who are familiar with the polygraph, and other notable professors from China's many institutions of higher learning.

To date, China's Supreme People's Procurators' Office has organized two national seminars; one in 2007 and the other in 2008. Through these seminars, the procurator's office has given additional training to their now 230-polygraph examiners. The Ministry of Public Security however, last held a national training seminar in 2002, choosing instead to allow Provincial and City Bureaus of the Ministry of Public Security, often in cooperation with Police Universities and the polygraph manufacturers, to organize their own training seminars, which are usually about 5 to 7 days in duration.

As written above, the first National Lie Detection Training Seminar was organized by the Ministry of Public Security in October 1991 in Beijing, China. Dr. Palmatier, then a Ph.D. candidate, was invited to talk for several days to introduce Western "lie detection

techniques.” This was followed six years later, in October 1997, by the second National Lie Detection Training Seminar, which was again organized by the Ministry of Public Security. The second national seminar was held in Guizhou, China, where Dr. Palmatier was again asked to speak. Over the four-day seminar, he instructed about one hundred police officers, professors from China's police universities, and forensic polygraph examiners from the courts, on the application of the polygraph technique in field settings to assist criminal investigations. It is of some interest to note that Dr. Palmatier's interpreter for both seminars was the renowned law professor Jiahong He, who first earned a Ph.D. in law from Renmin University (the People's University of China), and then went on to finish a second Ph.D. in law from Northwestern University in Chicago.

In 1998, the Chinese People's Public Security University, located in Beijing, was the first university to offer academic courses on the psychophysiological detection of deception as electives for one of their master's degree programs. These courses were offered through the Department of Criminal Psychology and were taught by Professor Boxin Wu, who is now retired, and Professor Youzhi Fu, who continues to teach at the University. The courses offered by the university are:

- The history and development of lie detection
- The theory, instrumentation and methods of lie detection
- The theory and practice of tracing the psychology of the criminal mind,
- Question construction using cognitive methods
- Conduct of the pre-test interview
- Chart analysis and the use of the polygraph technique in real cases
- Conduct of the post test interview and interrogation techniques
- The evidentiary value of polygraph results
- Analysis of real cases and practice

In 2002, the Interrogation Department of the Guangdong Police College also began offering courses as electives in the psychophysiological detection of deception as a part of their curriculum. In 2004, those courses became mandatory for those pursuing

a degree with a major in criminal investigation. In December 2008, Professor Xingle Chen was the chief editor of the book used in teaching the courses they offer (Chen, 2008). The book's contents include:

- Polygraph history
- Psychological theory related to lie detection
- Physiological theory related to lie detection
- The use and limitations of psychophysiological testing
- Examiner qualifications
- The testing environment
- A detailed explanation of the polygraph instrument
- Polygraph techniques (CQT, GKT and POT)
- The polygraph process
 - Test preparation
 - Pretest interview
 - Collecting data
 - Post test interview
 - Reporting examination results
- Factors that may influence the polygraph results
- Chart interpretation
- Behavioral analysis
- The three areas for the use of psychophysiological testing in China
- Introduction to P-300 brainwave lie detection

Training opportunities have also been offered by other Ministry of Public Security Bureaus. For example, in 2004, the Zhengzhou Railway Police College trained about one hundred students during a six-week polygraph program. The courses offered during that seminar included psychology, physiology, material evidence, crime scene analysis, case procedures, evidence theory, and basic detection of deception methods and procedures. In China, interest in the psychophysiological detection of deception continues to grow with several institutions now offering programs or courses related to this area of forensic science (China Polygraph Network, 2010).

In 2002, the Gansu Political Science and Law Institute formed its Forensic Psychological Testing Center (2010) and in 2006 began offering a master's degree program in Forensic Psychological Testing, which in China has become synonymous with lie detection. The University also markets

training programs and seminars, which on average last about ten days. These programs are instructed by Professor Boxin Wu, now retired from the Chinese People's Public Security University in Beijing.

The Chinese people have long expressed great respect for foreign expertise. Consequently, another method used to train polygraph examiners is to invite foreign polygraph experts to teach subjects of interest. Dr. Palmatier was the first foreign expert to be invited to the PRC to introduce polygraph and credibility assessment methods (1991 and 1997); he continues to be invited by China's polygraph manufacturers, provincial police, Procurator's offices and universities to present seminars and colloquia. Dr. Palmatier's last visit to China was in May 2010, where he gave talks about the Neuroscientific basis of polygraph at Renmin University Law School (the People's University of China) in Beijing, and in Xiamen, Fujian Province and in Hangzhou, Zhejiang Province.

Other scholars have also visited China. For example, in 1995 Dr. Frank Horvath led a delegation of about 20 polygraph examiners and policing experts, including Dr. Gordon Barland, to various cities in China. They discussed testing procedures and instrumentation with Chinese polygraph examiners and academics and other persons in the scientific community who were interested in the process. In May 2005, Dr. David Raskin and Dr. Charles Honts gave talks at a national seminar organized by the Automation Institute of the Chinese Academy of Sciences and the Luoyang City Procurator's office, in Henan Province. Dr. Raskin and Dr. Honts gave lectures on the use of the polygraph in employment and national security, and in polygraph countermeasures (Chenxun Yang, personal communication, June 29, 2010).

Today, in China there are only six people who have received formal polygraph training outside the country; all were trained in the United States. Four of the six people came from the City of Shenyang. Ms. XiaoBin He and Ms. Juan Guo were both employed as Forensic Specialists within the Shenyang City Court, while Mr. Changping Sun and Mr. Yanxu Shen were employed by the Shenyang City Procurator's office. Ms. He and Ms. Guo,

were trained in 1994, while Mr. Sun and of Mr. Shen were trained in 1999. All four individuals received their training at the Backster School in California and upon finishing their training returned to their respective agencies (Huang, 2005).

In 1995, Dr. LaiYou Huang, a retired physicist from the Chinese Academy of Sciences attended Dr. Stan Abrams School located at West Oregon University. After Dr. Huang finished his training, he returned to Beijing where he worked for many years with the Beijing Tongfang Shenhua Company as a training instructor and consultant.

The last person to travel to the United States for polygraph training was also the first, and so far the only, member of the Chinese Law Enforcement community. Ms. XiaoHong (Dawn) Zhang graduated from the Argenbright International Institute of Polygraph located in Atlanta, Georgia in June 1999. Ms. Zhang then continued her training while serving a one-year internship as a Forensic Polygraph Examiner working with the Michigan Department of State Police. After her training was finished, Ms. Zhang returned to the PRC where she was employed as a Forensic Polygraph Examiner, instructor and interpreter working for the Beijing Tongfang Shenhua Company, and the Automation Institute of the Chinese Academy of Sciences, until her immigration to the United States and South Florida in 2003. Over the last seven years, Ms. Zhang has conducted more than 4000 polygraph examinations, while continuing to work as a Forensic Polygraph Examiner, instructor and interpreter.

Examiners

There is no accurate statistic regarding the number of polygraph examiners today in China. This is due, in part, to the fact that China has not yet established rules or regulations regarding the training or protocol required for certification as a fully functional polygraph examiner. Over the past two decades, there have been many people brave enough, who after receiving only a week of training from one of the manufacturers, continued to apply their skills. These examiners then gained additional expertise through practice and their attendance at

training seminars. However, the total number of examiners is difficult to ascertain. If one wanted to attempt an estimate, it is possible to look at the number of individuals who have received manufacturer training. Over the last two decades, the Beijing Tong Fang Shenhua Company and the Automation Institute of the Chinese Academy of Sciences have reportedly each sold over two thousand polygraph units. This statistic suggests that somewhere between four to eight thousand individuals have received at least some formalized polygraph training. The larger number is only an estimate, because most government agencies in the PRC require two examiners to be present while conducting a polygraph examination.

As in other countries, police agencies in the PRC employ the majority of the polygraph examiners. These include the many Bureaus of the Ministry of Public Security, at the national, provincial, city, and local municipality level, in addition to the Forest Police, the Railway Police and the Airport Police. The second largest number of polygraph examiners is concentrated in the procurator's office at all levels of government. The military, courts and agencies charged with China's security have also had examiners trained, but like in other countries, there isn't a viable way to estimate the current number of examiners.

An estimate regarding the number of polygraph examiners within the Ministry of Public Security was given by Mr. Yunlin Chen, the current Director of the Forensic Psychological Testing (i.e., polygraph) Unit and a member of the Forensic Science Division within the Ministry of Public Security, Beijing Bureau. Mr. Chen said that in 2005, the Ministry of Public Security had about 309 forensic psychological testing (polygraph) examiners, who were certified based upon their practical field experience. Later, Mr. Chen added that according to a national survey conducted in 2007, the Ministry of Public Security estimated that the agency had approximately 1000 polygraph examiners, among whom 600 were considered full time police examiners. In 2008, following the example set by the Ministry of Public Security; the procurator's office began a certification program for their polygraph examiners. In the first year, at all levels of government, the

agency certified 60 to 70 of their 230-polygraph examiners. In order to be certified, polygraph examiners had to complete the manufacturer's training, the agency's internal training program, and then successfully complete at least twenty polygraph examinations.

Although there are both male and female polygraph examiners in the PRC, the vast majority are male. Over the last few years, these examiners have facilitated rapid growth in the use of the polygraph due in large part to their success in applying what skills they have attained. For instance, Forensic Psychological Testing Examiner's, Yue Jin and Shugui Mao, both of whom are also psychiatrists, and Ming Liang, from the Procurator's Office, and Fan Zhang and Lijuan Zhang, who are members of the Ministry of Public Security, have proven to be outstanding examiners. These examiners have been recognized on many occasions; both for the cases they have successfully resolved, and for the training and mentorship they provide to other polygraph examiners. More recently, the example set by these examiners has also inspired several psychologists and other academics to enter the polygraph field.

Today, there is only one Chinese polygraph examiner living outside the PRC who has conducted examinations within China. The author, XiaoHong Zhang, has conducted many criminal specific polygraph examinations in many parts of China. Ms. Zhang has also participated in administering polygraph examinations in the PRC, conducted by Dr. Palmatier regarding issues such as murder, theft and public corruption.

Associations

In China there are no formal polygraph associations. However, in July 2004, the China Forensic Science Association, whose members are employed as Forensic Specialists within the many agencies charged with law enforcement, created a new section titled the "China Forensic Science Association Psycho-Information-Probe Professional Committee" (Yunlin Chen; personal communication, July 11, 2010). The President of this section is XinWei Zhang, and the Director is Yunlin Chen. This committee has approximately 140

full members, which includes practitioners from all the relevant government agencies, in addition to individuals who are employed by the polygraph manufacturing companies. The committee members meet annually, with the fourth such meeting held in Zhengzhou in 2007. Due to the Olympics and other demands on resources, there were no meetings in 2008 or 2009; an annual meeting was scheduled for August 2010.

Examinations

There are no accurate statistics regarding the number of polygraph examinations conducted each year in the PRC. In 1997, it was reported by Mr. ChenXun Yang, Director of the Chinese 8-5 Polygraph Project, that between 1991 and 1996 there were 40 PG-I polygraph instruments used by Police agencies in Liaoning, Shandong, Zhejiang, Guangxi, Ninxia, Shanghai, Guangdong, and Jiangsu, which contributed to the resolution of about 600 cases. Recently, the best estimate is calculated by taking the fact that on average, an experienced examiner will administer approximately 50 to 60 tests a year, and multiplying this times the number of examiners in the PRC; this calculation would yield a low of about 30,000 examinations to a high of about 60,000 examinations conducted each year. These figures represent the total number of examinations conducted by the three entities using polygraph the most; they are at all levels of government, the Ministry of Public Security, the Procurator's Office and the Civil Courts. As the popularity of polygraph testing continues to grow, so will the total number of polygraph examinations administered each year.

The types of polygraph examinations administered most often in China are specific issue examinations, used as investigative tools, to help resolve both criminal and civil cases. In the last decade, there has been a growing interest in the use of the polygraph for pre-employment testing, and the resolution of civil issues, such as infidelity testing. The best information available suggests there have been very few examinations conducted in these types of cases. To date, preemployment polygraph screening methods have been used on only one occasion in the area of law enforcement. In July 2002, the Ministry of

Public Security asked police examiner, Fan Zhang, stationed in Chengdu City, to assist in the selection of individuals to staff a special task force to be comprised of armed police. Over a two-day period, examiner Zhang examined 27 police officers; disqualifying five of them with two of those individuals confessing to the commission of chargeable offenses.

The conduct of polygraph examinations in China by private examiners is only beginning. The first private polygraph firm opened for business in 2005 and is located in Harbin, a large city in the North. An attorney owns the firm and uses the polygraph for the testing of civil issues. Polygraph instructors working for the various polygraph manufacturers on occasion respond to requests made by law enforcement agencies to administer examinations for which compensation is received. Additionally, professors from several of the psychological testing centers located at various universities will also run private tests for compensation. The lack of polygraph training schools greatly curtails the development of a private polygraph profession within the PRC. Law enforcement agencies do not allow their examiners to administer private examinations at any time.

Testing Issues

Over the last 19 years, Chinese examiners have received instruction on all of the polygraph procedures and techniques that are popular in the United States and other countries. In his travels to China, Dr. Palmatier has taught courses which have outlined the advantages and disadvantages of the ZCT (zone comparison test) and MGQT (modified general question test) variants of the comparison question technique, and POT (peak of tension) and GKT (guilty knowledge test) variants of the concealed information technique. Many Chinese polygraph examiners favor concealed information tests, most likely because information generated during an investigation may be easily concealed from potential examinees. However, in spite of this preference, both Comparison Question Tests (CQT) and Concealed Information Tests (CIT) are routinely given and used day-to-day to assist in the resolution of an untold number of criminal cases.

Although it has been popular in the United States, it's believed that Relevant/Irrelevant Test (R/I) is seldom used in China, if at all. The popularity of Western polygraph techniques in China is well known; however, a few Chinese scholars continue to try to take polygraph in a somewhat different direction.

Bu Wang first introduced Boxin Wu, the retired professor from the Criminal Psychology Department of the Chinese People's Public Security University, in Beijing, to the polygraph during or about the same time as the First National Polygraph Seminar in 1991. By 1996, perhaps due to a deep-rooted Chinese suspicion of Western intent, Professor Wu had concluded that the "Chinese have a different culture, [and] the American way does not work in China." Consequently, Professor Wu created his own testing methods based on what appeared to be a concealed information test format. The examinations conducted by Professor Wu, and his students, who received their education through the masters degree courses he taught, conducted examinations using 50 or more questions for each test given. Professor Wu was reported to have had many successes using his testing format, which may speak more to the robust nature of polygraph testing, than it does to the validity of the methods he employed. In either case, in spite of the success, Professor Wu and his students also experienced an uncomfortable number of significant failures. According to the best information available, Professor Wu conducted a total of about 1,400 polygraph examinations using what was called a PGA99 and a PGA2000 polygraph instrument; both of which were derived from the first computerized polygraph system created in China, the PG-1. Unfortunately, for the purposes of this paper, only one paper could be found documenting the examination techniques used by Professor Wu (Zhang, 2010).

The Chinese literature is devoid of any research focusing on the subject of countermeasures. Nonetheless, many Chinese examiners express at least some concern about this issue. Practicing examiners state that the most common form of countermeasure employed by examinees in China is simply to not cooperate with testing protocols. Examiner concern regarding the use of countermeasures is, in part, what

prompted the Luoyang City Procurators office and the Automation Institute of the Chinese Academy of Sciences in 2005, to invite Dr. Honts to speak about countermeasures at the national seminar they sponsored. The idea that countermeasures may impact the validity of testing, has also motivated equipment manufacturers to develop, and market, complete movement sensor packages, which allow an examiner to monitor movement in the seat, arm rests and feet. These sensor packages are sold as options available with more advanced polygraph packages.

Legal Issues

So far, there are no laws in China which expressly prohibit the use of the polygraph. However, being keenly aware of the growing use and influence of polygraph testing, some government agencies have formulated rules relevant to this area of forensic science. For example, in 1998, the Procurator's office began using polygraph testing to assist in their investigations. In September 1999, the Sichuan Procurator's office asked for an opinion from the Highest Procurator's Office, asking whether the results of a polygraph examination could be used as evidence; the reply was that "Polygraph can be used in assisting an investigation, checking for or verifying evidence; but cannot be considered as evidence." (High Procurator's Office, 1999).

In 2006, the Highest Procurator's office included in their regulations an initial set of rules which pertained to the use of psychological, i.e., polygraph, testing. In 2009, those rules were refined by the Procurator's office and published as a set of Standard Operating Regulations titled the "Psychological Testing Procedure [i.e. polygraph] in the Work of the Procurators Office (Testing Version)," which made these rules applicable to all Procurator's offices at all levels of government (Xing, 2009).

In 2004, the Ministry of Human Resources allied itself with the Ministry of Public Security, in publishing a decision to list Forensic Psychological Testing [polygraph], as one form of forensic science. Consequently, those individuals responsible for conducting psychological (polygraph) tests found themselves classified as "Forensic

Technicians". The Ministry of Public Security then entrusted the China Forensic Science and Technology Association to form a Forensic Psychological [polygraph] Testing Committee, which in turn was tasked with authoring rules to begin regulating those who administer Forensic Psychological Tests.

Unlike the United States, which has a decentralized court system, China's courts are centralized and therefore by comparison, somewhat more consistent. In China, the courts handle two types of cases; criminal cases and civil cases. Generally, polygraph examination results cannot be used as evidence in a court of law that hears criminal cases; but like the United States, confessions taken during a polygraph examination are admissible as evidence. One reason that the polygraph is not yet admissible as evidence in Chinese criminal cases is because the polygraph has not yet played a significant role in a large number of criminal cases. These circumstances have limited the opportunities for Chinese jurists to evaluate polygraph examination results as evidence and to decide how much weight should be given this evidence in making a decision. There have been some notable exceptions.

For example, in Dalian, a large city on China's northeast coast, a city court took the results of a polygraph examination into consideration when formulating an opinion on a case of manslaughter. The accused in this case, allegedly threw a stone at the victim, who sustained injuries that resulted in his death. There were no eyewitnesses, nor other evidence in the case. The accused was administered a polygraph examination, which he failed. Taking the results of the polygraph examination into consideration, the judge ruled that the accused was responsible for the victim's death and found him guilty. The accused did not challenge the court's ruling and did not appeal the sentence given. In yet another murder case, a defendant was identified and upon questioning confessed that, he had killed the victim using an axe. However, the defendant claimed that his actions were in self-defense as the victim attacked him first using a knife. The defendant was administered a polygraph examination, which he failed. Given the results of the polygraph exam, the judge hearing the case disregarded the defendant's

claim of self-defense and sentenced him accordingly (ShuGui Mao, personal communication, July 7, 2010).

In China's civil courts, the climate is somewhat different for many jurists, who are continually bombarded with cases involving only one person on each side of an issue. In these types of cases, jurists are finding polygraph examination results to be especially useful in helping them resolve issues and render opinions. This is especially true in resolving matters pertaining to monetary loans and their repayment, and one's responsibility, or lack thereof, in traffic accidents. Notable examples of this practice were found in 2001, in Shenyang City Court, in 2004, in Anhui Provincial Court, in 2007, in Kunshan City Court, in 2008, in Danyang Court and in a Shi City Court in 2009. More recently, during the interview of a jurist by the Yangzi Evening Newspaper (2009), some light was cast on what may be the possible future direction to be taken by the Chinese courts, regarding polygraph admissibility. During this interview, a jurist for the HuaiAn City Court said that the reported results obtained from a polygraph examination did not constitute any type of legal decision by itself. Instead, the jurist said the results of the polygraph examination simply gave an additional point of reference, which may be considered, along with court investigations and a logical analysis of all the facts present, in rendering an opinion.

Political and Social Issues

From its first introduction in China, the polygraph or "lie detection" instrument has sparked controversy and a great deal of debate in both the public and government realms. Although a majority of the sentiment directed toward lie detection was at first negative, with time this sentiment appears to be shifting in the opposite direction. As policymakers, and the public alike, learn more about the polygraph and the ability of skilled examiners to determine with a high degree of accuracy, both in criminal and civil cases, who is truthful and who is not, the use of the polygraph becomes more accepted. Like all things however, it takes time to inform and educate people; and so it is with the polygraph. In today's China, one can often find mention of the polygraph in popular

television serials, documentaries and televised news. The number of newspaper articles also addressing the successful employment of the polygraph far outweighs any negative press.

The greatest concern of the Chinese, regarding polygraph testing, however, is a common belief that people who are strong psychologically may pass an examination, while nervous people will fail, despite their actual status. A concern that to Western examiners sounds very familiar, as it is the same type of concern often voiced by critics in other parts of the world, i.e., “why does polygraph work.” With the proliferation of the Internet, Chinese college students, scholars and the public alike all read about the polygraph. Unfortunately, a great deal of the information available about the polygraph comes from self-proclaimed experts and individuals opposed in principle to the use of this, or similar technologies. Consequently, many of the problems and concerns faced by polygraph examiners in the People's Republic of China are no different from those endured by polygraph examiners in other countries.

Prior to 2001, a Chinese examiner's greatest concern was rooted in the fact that there was little substantive training related to properly conducting a polygraph examination. Examiners now state that their greatest concern relates more to the accuracy of the decisions they make; worrying most about calling an innocent person deceptive. In China, forensic psychological [polygraph], testing results continue to assist in resolving many of the more difficult investigations, which in turn has witnessed increased support from supervisors and their respective agencies. Many agencies in China are now committing substantial parts of their budgets to purchasing polygraph instruments and related technology.

Today, perhaps the greatest obstacle to China's continued success in using the polygraph, is a fundamental misunderstanding by people in general, and by a large number of government officials, who have come to believe that the polygraph instrument is itself a lie detector, when in fact it is but one component in a complex diagnostic process. The Chinese people, with few exceptions, fail to understand that it is the training of those assigned to use the

polygraph instrument, which is most important. In the near future, China is likely to continue struggling with the establishment of formal training protocols, especially ones based on contemporary science. However, China's greatest advantage may be the fact that dogmatic beliefs from the past are not as prevalent as they are in the United States and other countries. Consequently, China may quickly learn that not understanding “why lie detection works” can make the way forward very difficult to navigate, which will allow them quickly to adjust course and continue going in a more enlightened direction.

Testing “Techniques”

In China, the two polygraph testing techniques used most often are concealed information tests (CIT) and comparison question tests (CQT). The two variations of concealed information test, the peak of tension test (POT) and the guilty knowledge test (GKT) are both very popular. The Army modified general question test (MGQT) and the Utah zone comparison test (ZCT) are the most popular variations of comparison question tests used by Chinese examiners. In his travels to China, Dr. Palmatier has introduced a modification to the Army MGQT making the first relevant question, a non-scored sacrifice relevant question, while also advocating the use of both probable and directed lie comparison questions.

Research

In China, there are many articles written by polygraph examiners to document their own experiences and to publish information regarding cases that were resolved successfully. Other examiners, and some academics familiar with the polygraph, publish statistics on the polygraph's use and outcomes. These types of articles are generally written for distribution within the many different entities, for example, universities and colleges, government agencies at the national and provincial level, and polygraph equipment manufacturers.

To date, there has been no known empirical scientific research on the use of the polygraph or other type of lie detection instrument published by a Chinese scholar. In 2002, Dr. Palmatier and An Fuyuan, an

Associate Professor teaching at the Beijing People's Police University collected data to compare the relative validity of probable lie and directed lie comparison questions used in a CQT, compared to a GKT; the results of this study have not been published formally. While research examining polygraph methods and testing protocols have been largely ignored, Chinese lie detection instrument manufacturers have been very busy.

China's first attempt at creating a polygraph instrument was supported by government funding, and cooperation between the Ministry of Public Security and the Chinese Academy of Sciences. In 1990, ChengXun Yang was appointed project director of the "Eight Five National Project," which was renewed in 1995 as the "Nine Five National Project," with the express goal of developing a Chinese polygraph instrument that would include voice and brain components used for the assessment of credibility. The Chinese technology developed through these two programs is likely the foundation for at least some of the current Chinese polygraph systems.

For example, in 2009, the Tong Fang Shenhuo Company and Chongqing South West University finished developmental research on a polygraph instrument called the TH-B; this instrument includes a new sensor channel used to conduct P-300 based CIT tests. In Zhengzhou, the Railway Police College worked with the Zhengzhou Huikang Science Company to create the HK-2000 lie detection instrument, which is another device based on the recording of P-300 responses, and the RP-S Voice Lie Detector, which uses voice stress analysis. At about the same time as these endeavors, the Shanghai TianAn Electronic Company created a polygraph instrument called the ST-1S, which also uses voice stress analysis, and an instrument called the "ST-1E Brain Lie Detector" yet another P-300 wave-based instrument.

Instrumentation

In the early 1990s, a few Stoelting and Lafayette polygraph instruments were purchased through distributors outside the United States and sent to the PRC. In response, the United States government strongly enforced its prohibitions against

exporting polygraph instruments manufactured in the United States going to China. In separate cases, the United States Commerce Department imposed severe financial sanctions on the manufacturers whose instruments went to China and effectively stopped any further exportation. It is believed that no polygraph instrument manufactured in the United States has found its way to China in the last 10 to 12 years. However, due to China's trade with other countries around the globe, the only accomplishment of the United States Commerce Department was to exclude the United States-based polygraph manufacturers from competing with the Chinese polygraph instrument manufacturers, and those in the rest of the world, for business in China.

The Automation Institute, of the Chinese Academy of Sciences, was the first polygraph instrument manufacturer in China. In 1988, the Academy of Sciences created an instrument called the LZ-1, which was used for biofeedback training of competitors in various sports. In 1991, the Academy of sciences produced the first Chinese polygraph instrument used for lie detection, called the PG-1. This instrument, like other polygraph instruments, measured GSR, Cardio, and 2 channels of respiratory activity. This computerized instrument was produced by China's "Eight Five National Project" and was the genesis of the Academy of Science's other instruments that would follow. The Chinese Academy of Sciences' newest polygraph instrument is the model PG-18, which includes the same sensors is the PG-1, in addition to a photo plethysmograph (PLE), skin temperature, P-300 response detection, voice stress analysis (VSA), several movement sensors, microphone and video inputs.

In the late 1990s, Qiang Luo created what today is the Beijing Tong Fang ShenHuo Company, a multinational police equipment-manufacturing and marketing firm. Mr. Luo's company was responsible for first creating what they called their SPS series of polygraph instruments, which later evolved into their TH series of instruments. The Tong Fang ShenHuo's newest polygraph instrument is the TH-B, which is able to collect GSR, Cardio, two channels of respiratory activity, photo plethysmograph (PLE), P-300 response

detection, multiple movement sensors and two video recording channels.

The Automation Institute, of the Chinese Academy of Sciences and the Beijing Tong Fang ShenHuo Company, account for approximately 90 percent of the polygraph instrument market in China today. The other known manufacturers of polygraph instrumentation in China are the Shanghai Shuangjie, and Shanghai TianAn companies, created by Bintao Lin, who is a retired interrogator and polygraph examiner from the Ministry of Public Security Shanghai Forensic Technology Institute. Mr. Lin's companies produce the ST-1A polygraph instrument; the ST-1S polygraph instrument with voice stress analysis (VSA); and the ST-1E P-300 Brain Lie Detector.

The Beijing GongDaJiuDing Psychological Testing Center was created by Zufeng Zhang. Mr. Zhang was involved in creating the PG-1 polygraph instrument in 1991 and now produces an instrument called the PGA2000, which is similar to the PG-1. Circa 2007, Chenxun Yang, ceased his association with the Chinese Academy of Sciences and sometime later formed the Beijing JinHuiTuoZhan Polygraph Institute. Mr. Yang's business also produces a polygraph instrument called the AG-7, which is similar to the Academy of Sciences PG-10 polygraph instrument. Finally, the Zhenzhou HuiKang Company was created by its director, Cai Liu, who is an Associate Professor with Zhenzhou Railway Police College. Professor Liu's business produces the HK-2000 Cardiac Kymograph with combined sensors to measure respiratory and cardiovascular activity. Professor Liu's business also manufactures the RP-S voice stress analyzer (VSA) and the RP-I, a P-300 Brain Lie Detector.

Problems/Issues

In China, the polygraph has proven to be extremely productive as a tool used to facilitate many types of investigation. As in the United States and many other countries, police officers in China have quickly discovered that just having the "Lie Detector" present, is often enough to motivate a

significant number of suspects to confess to the crimes they've committed without having to subject them to what the Chinese term "harsh interrogation". The Chinese in all branches of government have learned that coupling a polygraph instrument with skilled interrogators results in a significant proportion of serious crimes solved. This reason alone is why so many local police agencies in China are eager to purchase polygraph instruments regardless the price. Ironically, at the same time, these same agencies have often been unwilling to allow sufficient time to train their examiners properly. This mindset has led to some inevitable disappointments. For example, in 1998 a police officer named Du PeiWu was prosecuted for the murder of his wife and another man, whose bodies were found in an automobile. Du PeiWu was administered a polygraph examination by an unskilled examiner, who concluded that the examination showed deception. Based on these findings, interrogators then subjected Du PeiWu to "harsh interrogation" which led to a confession and conviction. A few years later, the actual murderer was identified and Du PeiWu was exonerated.

To say that the polygraph process is robust is a factual understatement. While a great deal of good can be accomplished using the polygraph instrument, the nature of the process unfortunately allows many examiners, even those with little training, to realize a heightened level of success when compared to their efforts prior to having access to a polygraph instrument. Too often, some examiners actually begin to believe they have been endowed with a sufficient level of expertise, thus allowing them to dictate what is, and is not acceptable practice. For more than 20 years, this phenomenon has proven an impediment to significant advances in the training of Chinese polygraph examiners. The good news is that the Chinese courts, unlike the courts in many other countries, are focused on ground truth, which can be enlightened by properly administered polygraph examinations. As China's courts and law enforcement professionals become more aware of this fact, the need for professional training, and scientifically based explanations, will grow exponentially.

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