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ANDRZEJ FRYCZ MODRZEWSKI KRAKOW UNIVERSITY

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European Polygraph is an international journal devoted to the publication of original investigations, observations, scholarly inquiries, and book reviews on the subject of polygraph examinations. These include jurisprudence, forensic sciences, psychology, forensic psychology, psychophysiology, psychopathology, and other aspects of polygraph examinations.

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Articles

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Evidence Based Practice Integration into Polygraph Practice: A suggested Paradigm¹

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Abstract

The philosophy of evidence-based practice advocates professionals to rely on scientific evidence. Although the idea seems obvious, misuse of the philosophy raised controversy, which created confusion and misunderstanding of the concept. Yet, since it was introduced in the nineties to the medical community and despite the controversy, it gained more and more disciples and was

¹ A similar but not identical article was recently published in the internal Magazine of the American Polygraph Association and permission was granted to republish it subject to mentioning their publication.

embraced by nonmedical practitioners, including the polygraph profession. In the last decades, the polygraph community has gradually abandoned the intuitive-based polygraph practice that relies on less scientifically rooted subjective procedures and advanced toward evidence-based polygraph practice. This paper describes the evidence-based practice in general and details the practical aspects of evidence-based polygraph practice in particular, along with discussing the limitations of the current scientific research. It questions the current bone-tone trend to implement an extreme Evidence-Based approach into the polygraph practice, suggesting the practitioner to avoid a rigid “one size fit all” standardized protocols which are advocated as a must on the way to earn scientific recognition, whereas, in fact, it is the unfortunate outcome of lack of differential research data. As in the medical field, in-where the Evidence-Based practice managed to incorporate the clinical experience of experts with the hard research evidence and has not disregarded their valuable knowledge and experience, the present article calls for adopting this integrative approach in the polygraph field too and adjust the protocols to the specific circumstances of the case and the examinee in a “tailor-made” mode, which is based on existing data and flexible thinking wherever there is no data to rely on, as was suggested under the concept of “Adaptive-Polygraphy” (Ginton, 2013).

For many decades the use and accuracy of the polygraph are being questioned and criticized by jurists and academics (mostly psychologists) who emphasized the lack of standardization and claim that the Comparison Question Test (CQT) – the most commonly used polygraph method has no scientific merit. These prolonged claims (OTA, 1983; Ben-Shakhar, 2002; National Research Council, 2003) forced the profession to a defensive mode but also had a positive effect on it. Polygraph professionals and researchers funneled their efforts toward standardization and various validity studies. As part of these efforts, the industry embraced the trendy expression of *evidence-based practice*. An expression that was first introduced by the medical community and later spread to many other fields. Being based on scientific research, the term carries an aura of scientific precision. But what is really evidence-based practice? Is its’ supportive research flawless? Does the evidence-based practice applicable to the polygraph practice? Does the claimed evidence-based polygraph practice is an authentic and genuine evidence-based practice? To answer these questions, one should start at the birthplace of the evidence-based practice: medicine.

In medical diagnosis, the physician is required to determine which disease explains the patient’s symptoms. The information required for diagnosis is collected from the patient’s complaint, past medical history, and physical examination. Many of the reported symptoms are non-specifically attributed to a single disease, thus requiring further inquiry by using differential diagnosis protocols, a process wherein

a doctor differentiates between two or more conditions behind a person's symptoms (Langlois 2002). Additional laboratory and/or imagining examinations assist the physician in refining the diagnosis (Committee on Diagnostic Error 2015). A medical misdiagnosis that results in inappropriate treatment is quite a common event. According to the World Health Organization technical series (Diagnostic Errors, 2016), human factors such as distractions, interruptions, and failure in organizing the existing information by separating reliable from unreliable data, contribute to over half of the misdiagnosis cases. Youngstorm et al. (2015) blame overflow of information as a significant factor and claim that:

"Perhaps less than 0.25% of the research in most healthcare areas will combine scientific validity and clinical relevance. Who has the time to skim 400 articles to find one gem, which may or may not be helpful for the clients we will see this week?" (p. 1).

In order to "de-emphasizes intuition, unsystematic clinical experience, and pathophysiologic rationale as sufficient grounds for clinical decision making," Guyatt et al. (1992) suggested a new paradigm to teach medical practice:

"Evidence-based medicine requires new skills of the physician, including efficient literature searching and the application of formal rules of evidence evaluating the clinical literature." (p. 2420).

In 1996, Sackett et al., introduced a decision-making model of medical diagnosis named "evidence-based practice". The model combined three different elements:

1. Individual clinical expertise, i.e., the proficiency and judgment that individual clinicians acquire through clinical experience and clinical practice.
2. Patients' predicaments, rights, and preferences in making clinical decisions about their care.
3. Best available external clinically relevant research (Sackett et al., 1996, p. 71).

Shortly, according to Straus et al. (2011), Evidence-Based Practice developed as a philosophy and a set of skills to help manage information overload so that clinicians can continue to update practices with information to improve clients' care.

It should be emphasized that Sackett et al. (1996) explicitly emphasized that:

"Evidence-based medicine is not "cookbook" medicine because it requires a bottom-up approach that integrates the best external evidence with individual clinical expertise and patients' choice. It cannot result in slavish, cookbook approaches to individual patient care.

External clinical evidence can inform but can never replace individual clinical expertise, and it is this expertise that decides whether the external evidence applies to the individual patient at all and, if so, how it should be integrated into a clinical decision. Similarly, any external guideline must be integrated with individual clinical expertise in deciding whether and how it matches the patient's clinical state, predicament, and preferences, and thus whether it should be applied" (p. 72). The emphasis on not a "cookbook" model arises from the authors fear that: "... evidence-based medicine will be hijacked by purchasers and managers to cut the costs of health care ... (which) would not only be a misuse of evidence-based medicine ..." (ibid, p. 72).

The authors fear was justified because soon enough, health care services, insurance companies, medical management, and alike harnessed the evidence-based practice to their own advantage, creating a "cookbook recipe" type evidence-based instructions and processes, which differs conceptually from the original definition that relies on the practitioner discretion rather than on a rigid instructional protocol. The general public could not distinguish between these two so different concepts, and the confusion got to the point that Division 12 (The Society of Clinical Psychology) of the American Psychological Association stopped using the term "evidence-based practice" in 2006, one year after the mother organization – the American Psychological Association – adopted a policy statement on evidence-based practice in psychology², remarking these guidelines were not intended to support the dictation of specific forms of treatment (Webb, 2001).

The concept of a practice rooted in science was not limited to the medical community, and according to Leach (2006), the movement towards evidence-based practices has spread around to other fields, encouraging professionals and other decision-makers to pay more attention to the evidence in their decision-making. Evidence-based practice aims to eliminate unsound or outdated practices in favor of more effective ones by shifting the basis for decision-making from tradition, intuition, and unsystematic experience to firmly grounded scientific research. Today the evidence-based practice is implemented in many different areas: design of buildings and physical environment, education and teaching, laws formulation by legislators, management and decision making, law enforcement public policy, nursing, clinical psychology, social work, toxicology, and many others³.

² <https://www.apa.org/practice/guidelines/evidence-based-statement>

³ On Evidence-Based Practice series go to: https://en.wikipedia.org/wiki/Evidence-based_practice

On scientific research – some aspects to consider

Research results and conclusions are the core of “evidence-based practice”, which in return calls for a broader overview of the scientific research. Science is in a constant endeavor to explore and chart unknown territories, i.e., new knowledge utilizing objective tools and research methods. Scientific research has an aura and image of being mathematical, objective, accurate, exact, methodical, precise, etc.⁴. However, when relying on scientific research, one should consider the following: Scientific research is a generic term for various types of research representing an inner hierarchy of validity strength. From the lowest and least evident type of expert opinion thru case reports, case-control studies, cohort studies, randomized control trials (blind and double-blind) all the way to the research type positioned on top of the hierarchy, the type that provides the most substantial and most robust evidence: the systematic review⁵. In addition, amongst the many published research and studies, some suffer from unrepresentative or insufficient sample size, inappropriate or no control group, misinterpreted results leading to unsupported conclusions, etc.

Last but definitely not least, due to the complexity and the multifactorial issues dealt by the life and behavioral sciences when using quantitative research approach, it is customary to use methods that target the central tendencies of a phenomenon, formalized in general principles and rules that concern most of the existing variance while sometimes treating the individual differences or the variation between existing situations, as irrelevant noise. When it comes to applications, some standards are developed and implemented to ensure that the applications are conducted within the framework posed by those rules, which is a must to avoiding chaos. However, because the standards are based on central tendencies and the variance around them, they are inefficient or even harmful to people or situations that are off the center (Ginton, 2013).

These scientific research aspects require practitioners, who rely on research-based evidence, to scrutinize any research cautiously, engaging critical thinking and abandoning the “carved in stone” approach to scientific research. Furthermore, recent years added a new gigantic concern: doubts in the scientific research’s reliability and accuracy in what is referred to as the replication crisis in the social sciences and medicine. (Fanelli, D., 2009; Pashler and Wagenmakers, 2012).

⁴ <https://www.thesaurus.com/browse/scientific>, access on January 12.2021 at 11:54

⁵ University of Exter, Searching for scientific information: Medical Sciences: 3. Types of evidence Retrieved November 14, 2020, from <https://libguides.exeter.ac.uk/csc2014/evidencetypes>

The last decades have witnessed a sharp growth in scientific publications, including papers and books, datasets, and websites (Bornmann & Mutz, 2015; Larsen & von Ins, 2010). Two major factors have contributed to this dynamic. In the technology sphere, the unprecedented progress of the capabilities to store and transfer information, and in the social sphere, the increasing pressure in the academic world and related institutions to publish research and other scientific work in order to keep holding the position and succeed in the desired career, a situation known as the Publish or Perish⁶ threat.

A major principle of the scientific method is reproducibility (repetition of experiments by independent researchers) or repeatability (repetition of experiments by the same researchers). Results obtained by an experiment and/or observational study should be achieved again with a high degree of agreement when the study is replicated with the same methodology by different researchers. Only after one or several such successful replications should a result be recognized as scientific knowledge (National Academies of Science, 2019). The massive growth of scientific publications became the breeding ground of the reproducibility crisis and the replicability crisis (Pashler & Wagenmakers, 2012; Peng, R., 2015), i.e., Difficulties to reproduce or replicate the research, especially in social sciences and medicine.

Baker (2016) found that: “More than 70% of researchers have tried and failed to reproduce another scientist’s experiments, and more than half have failed to reproduce their own experiments. Those are some of the telling figures that emerged from Nature’s survey of 1,576 researchers who took a brief online questionnaire on reproducibility in research.” (pp. 452-3). The Open Science Collaboration (2015) claims that:

“... replications of 100 experimental and correlational studies published in three psychology journals using high-powered designs and original materials when available. Replication effects were half the magnitude of original effects ... representing a substantial decline... 97% of original studies had statistically significant results. 36% of replications had statistically significant results.” (p. 943)

⁶ “**Publish or perish**” is an aphorism describing the pressure to publish academic work in order to succeed in an academic career. Such institutional pressure is generally strongest at research universities. Some researchers have identified the publish or perish environment as a contributing factor to the replication crisis. https://en.wikipedia.org/wiki/Publish_or_perish. Access on January 27, 2021 at 15:15.

The growth of publications, along with the poor reproducibility and replicability rate, led two respectful scientists to claim that most published research findings are false. Prof. Ioannidis from Stanford University stated (2005) that:

“...a research finding is less likely to be true when the studies conducted in a field are smaller; when effect sizes are smaller; when there are a greater number and lesser preselection of tested relationships; where there is greater flexibility in designs, definitions, outcomes, and analytical models; when there is greater financial and other interest and prejudice; and when more teams are involved in a scientific field in chase of statistical significance. Simulations show that for most study designs and settings, it is more likely for a research claim to be false than true”.

A similar concern was expressed by Prof. Horton, the editor of “Lancet” medical journal (founded in 1823 a weekly peer-reviewed general medical journal which is among the world’s oldest and best-known general medical journals) that stated (2015):

“...much of the scientific literature, perhaps half, may simply be untrue. Afflicted by studies with small sample sizes, little effects, invalid exploratory analyses, and flagrant conflicts of interest, together with an obsession for pursuing fashionable trends of dubious importance, science has taken a turn towards darkness.” (p. 1380).

Thus, Evidence-Based practice as it is practiced today is not good enough since the pieces of evidence are not reliable and in too many instances became unsound “alibi” to justify malpractice. Perhaps the balance should tilt a bit towards more clinical input and maybe more room for clinician Masters that lost their status due to the pull of the evidence-based research approach to the extreme.

Despite these discouraging statements, it should be emphasized that these facts and opinions should not discourage practitioners from studying and examining scientific research, but they should be done carefully and cautiously.

Evidence-Based Practice and the Polygraph

Polygraph testing as a mean for detecting deception, which nowadays celebrates its one hundred’s anniversary (depends on pinpointing the “day of birth”) (Am- sel, 2020), has started as a big promise that the then modern science had made to society in pursuing law, order, and justice, based on modern knowledge. However, along with the objective instrument’s technical development, the moves in the testing procedure and the analysis of the physiological responses were based only on

pseudo-objective unproven ideas and intuitions of a few outstanding individuals with fertile minds that most of them were not scientists or even had any scientific education. During the first fifty years, there was very little research activity that was conducted either in-house by polygraph examiners, most of it did not match basic scientific standards, or in the academia, typically unrelated to field practice (Orne, Thackray & Paskewitz 1972). These two routes of polygraph-related activity lived side by side, hardly communicating until around 1970 when the scientific approach was boosted by Dr. David Raskin⁷ from Utah University, who started to research the polygraph techniques used in the field. His long-lasting dedication to uncompromised scientific research and development with his graduate students have resulted in field applications in the form of more valid examination techniques named after the university, the Utah techniques. In fact, that was a clear example of implementing the philosophy of Evidence-Based-Practice in the polygraph field without using this term. The group of scientific-oriented polygraph examiners and researchers he raised cast a giant positive impact on the field. It was not easy; they had to pave their way in a hostile environment comprised of conservative academic scientists on the one hand and many field practitioners who were engaged in a convenient non – scientifically based practice on the other. It took about twenty years to get accepted by enough core figures from both sides. At the same time, additional events in the polygraph field took place that collectively might have had a “game-changer” effect. The Office of Technology Assessment of the U.S. Congress (OTA) published in 1983 a report that criticized the polygraph validity and questioned, in particular, the use of the polygraph for pre-employment screening. Not without connection, a few years later, in 1988, the Employee Polygraph Protection Act (EPPA) was enacted in the U.S., banning the use of the polygraph for pre-employment and

⁷ Raskin C.D. – A leading academic psychophysiologicalist from Utah University made a decision in the early 70s to change his position from an Ivory sitting couch expert to an expert who are willing to check in person the existing field polygraph technique and open a program for graduate student to investigate the polygraph. During the years he raised several students who managed to enter Government polygraph units and brought a sense of scientific approach to the federal institutes and trough that to the private polygraph arena. Among them, his first student Dr. Barland who in the 80s headed a research unit next to the federal polygraph school (DODPI, later became DACA and NCCA), Dr. Podlesny who has established a polygraph research unit in the FBI, Dr. Kircher that focused on developing the first commercial U.S. made computerized polygraph and an algorithm for analysis. Dr. Honts, Dr. Horowitz, who following years of serving as polygraph examiners and researcher in the public government sector have move to the academy. Dr Raskin and his students have developed the first polygraph technique that was based on scientific research, known as the Utah polygraph techniques.

employment in most non-governmental businesses and abolished almost 90% of the private polygraph sector. Around that time, the Department of Defense Polygraph Institute (DODPI) included an in-house research unit that took the lead in the Polygraph instruction, research, and development. Following the EPPA 1988 Act, the U.S. Department of Energy asked the National Academy of Science to conduct a scientific review of the research on polygraph examinations that pertain to their validity and reliability, particularly for personnel security screening. In 2003 after a prolonged analysis of research and interviewing experts, the Academy published its conclusion (National Research Council, 2003) that included the following two assertions:

“Notwithstanding the limitations of the quality of the empirical research and the limited ability to generalize to real-world settings, we conclude that in populations of examinees such as those represented in the polygraph research literature, untrained in countermeasures, specific-incident polygraph tests can discriminate lying from truth-telling at rates well above chance, though well below perfection”. (p. 4)

and

“A substantial portion of our recommended expanded research program should be administered by an organization or organizations with no operational responsibility for detecting deception and no institutional commitment to using or training practitioners of a particular technique. The research program should follow accepted standards for scientific research, use rules and procedures designed to eliminate biases that might influence the findings, and operate under normal rules of scientific freedom and openness to the extent possible while protecting national security”. (p. 9).

These events brought about an increase in the efforts to become a more scientifically based profession.

Scientific research, outside the context of Evidence-Based-Practice philosophy, was evident sporadically before Dr. Raskin started his project (e.g., Lykken, 1959, 1960; Gustafson & Orne, 1963, 1964) and mostly dealt with the Guilty Knowledge Test that was the favorite paradigm in Lab research, but seldom in use in the field.

The move from field practice per-se to a more scientific oriented profession has started a bit earlier, in the late '60s, at the Israeli National Police with the involvement of a number of academic researchers from the Department of Psychology of the Hebrew University in Jerusalem, Dr. Kugelmass, Dr. Liebllich and later on Dr. Ben-Shakhar (e.g., Kugelmass, et al., 1968; Ben-Shakhar et al. 1970). The Israeli National Police Polygraph Unit became the Scientific Interrogation Laboratories, a section

within the Criminal Identification and Forensic Science Division of Israel's National Police, and in years to come, during the 70s, '80s, and '90s, lean towards scientific approach was more and more evident in particular with the work of in-house scientists Dr. Elaad, (e.g., Elaad, 1985, Elaad & Schacher, 1985,) Dr. Ginton (e.g., Ginton et al., 1982, Ginton, 1985) and Mr. Kleiner (e.g., Elaad & Kliener, 1986; Kleiner, 2002). It is interesting to mention that during these years, the perception that polygraph use relates to applied psychology brought about a formal demand of having psychological education as a precondition for entering the polygraph unit of the Israeli police. A similar approach could be found at the time in Japan, but not in the U.S.

Over the years, the number of test formats and versions has grown to a full house of variations driven by intuitions or business interests with no real research support or objective justifications. The field became chaotic with no set of valid standards to compare to. The situation worsened with the dramatic worldwide growth of polygraph usage with thousands of examiners and millions of examinees per year. This undesirable situation led the American Polygraph Association, the world's biggest and most important polygraph body, to develop best practice principles and establish test standards. Given the then (and still) current bone-ton in the applied diagnostic and treatment world, it seemed the right step to adopt the Evidence-Based practice approach as the tool for improving the situation. That was also the way to improve the chances to get recognition by the Academia, which most opposed the use of the polygraph for field applications and in particular against the claim that the most common method – the CQT- is a valid scientific-based test.

If one follows Sackett et al. (1996) original definition of evidence-based practice to the dot, then polygraph practice does not meet that definition. Nowadays, polygraph practice strives to be as much standardized practice as possible, i.e., a checklist-type protocol. This type of practice actually contradicts Sackett et al. (1996) requirement to avoid any "cookbook" type practice and rely on the practitioner's discretion on a case-to-case basis. On the other hand, Mullen (2002) claim that the term evidence-based practice is used with two different meanings: Sackett et al.'s (1996) original definition of evidence-based practice, i.e., practitioners decision-making method, and an additional one associated with "best-practice" which defined by the Merriam-Webster Dictionary⁸ as: "a procedure that has been shown by research and experience to produce optimal results and that is established

⁸ <https://www.merriam-webster.com/dictionary/best%20practice>

or proposed as a standard suitable for widespread adoption”. Therefore, if we follow Mullen’s (2002) definition, it will be more accurate to label the polygraph practice as an Evidence-Based Best Polygraph Practice rather than Evidence-Based Polygraph Practice. However, regardless of the different definitions’ semantics, the heart and soul of these allegedly two different practical implications are the same: a practice that relies, based, and rooted on evidence attained by research.

The evidence-based practice philosophy resulted in a growing number of researches that supported the validity of some aspects of the polygraph practice. The top product was the various test data analysis (TDA), especially the OSS (Nelson, Handler & Krapohl, 2007; Nelson, Krapohl & Handler, 2008) and ESS (Nelson et al., 2011), which resulted in a more objective and stable analysis of the psychophysiological outcomes. The TDA studies come along with various validated test formats as shown in the Meta-Analytic Survey report of the American Polygraph Association (2011) and its update (Nelson, 2015) and noticeable growth in applied psychophysiological research and instrumentation.

Based on that, when honest practitioners asked by their clients: “How accurate are your findings? How certain are you that he is guilty? I want to make sure before taking any precautions against him”. Depending on the validated test format utilized, the answer will come around 90%. But, does the test format and the test data analysis research validity rates can be projected to an individual examinee?

Apart from the problem of base rates, which is a major factor in answering this question, there is also a concern to what degree can one be assured that the specific examinee in the specific circumstances of the actual test resembles the common examinee prototype and the range of circumstances that comprised the database for estimating the validity of the test format and version that was used by the examiner this time?

Suppose the specific examinee had trouble concentrating on the pre-test, and suppose in the sample used for the validity research, only ten percent of the subjects had a similar problem, and their effect on the validity outcome was as per their relative portion in the sample, is it reasonable to lean on the validity value that was found to estimate the degree of our confidence in the results found in a subject that his inability to concentrate affect 100% of the test not only 10% as was in the validity research? The same applied to circumstantial variability. These limitations are inherent in the statistical paradigms used for assessing the validity and, of course, in the evidence-based approach if it relies only on research evidence and

ignores anything that was not researched scientifically yet or cannot be researched in one of those paradigms ever due to inherent issues. It is, therefore, that the Evidence-Based–Practice model in medicine includes clinical practice considerations. Shouldn't we too adopt this approach rather than ignore any information that originated from outside the Evidence-Based circle?

In pointing out the importance of individual differences in practicing medicine, Hippocrates said:

“It is more important to know what sort of person has a disease than to know what sort of disease a person has”.

Adapting this view to the polygraph, we should think that although the polygraph test aims to detect the “disease” a person has, namely, detection of deception, in fact, we are busy differentiating between deceptive and truthful examinees. In that sense, we are focusing on the temporal qualities (deceptive or truthful subject, not as traits) that the individual carries during the test and the differences between individuals. The single person, the *individuum*, is the heart of our work. Learning the individuals' differences, though, would not prevent the “disease,” i.e., the deception to occur, it will prevent the polygraph examiner's disease, namely the errors in our work, and improve the quality of our decisions.

The various validated evidentiary test formats claim to have around 90% detection rate and around 10% inconclusive rate. As valuable as this information is, it does not provide the intersections of available individual characteristics such as age, education level, gender, etc. with success or failure of the test to reach correct outcomes. Analysis of these characteristics as well as more sophisticated factors but still simple, such as examiner-examinee opposite genders or age difference, may point out potential influencing factors that bear an effect on the outcome, which in return will enable examiners to fine-tune the test and alter the test to the examinee in a tailor-made style rather than altering the examinee to the test in a one size fits all style, not to mention a higher level of differentiation between the examinees' psychological characteristics and circumstantial differences that might affect the conduct of the test and its outcome.

This notion that contradicts the existing trend in the field that adores strict standardization, and strives for uniformity in the way the test is conducted and analyzed to the point of banning any move which is not Evidence-Based, was introduced to the field by Dr. Ginton in 2013 under the construct “Adaptive Polygraphy”

(Ginton, 2013), calling to drive modern polygraphy towards developing a scientifically-based approach that follows the motto of

“Different Things to Different People and Different Situations”.

Hence, we believe that polygraph research should shift its’ focus from providing valuable test procedure information to providing an in-depth analysis of the examinees’ profiles. Elements such as education level, age, gender, language proficiency, ethnic origin, law obedience or outlaw, emotional or rational personality type, past experience as an interviewee, and alike might influence the examiner-examinee inter-personal dynamics and, in return on the test outcome. The same investment is needed in researching the effects of different circumstances on test outcomes. Evidence-Based practice is more than searching for evidence under the street lamp. It should be active in initiating research in the dark corners that are currently ignored, and polygraph examiners are even warned not to search there.

In addition, we should keep in mind that Evidence-Based has two sides. The first, the most known side, is demonstrating success by research; in other words, it is an Evidence-Based success (e.g., this specific method works well, and it is supported by research that shows it). The second side is something that people, including scientists and practitioners, tend to ignore: evidence-based failure (e.g., this specific method produces mistakes, as shown by research). To prevent misunderstanding, it is not that the Evidence-Based approach fails to work, rather it is the success of the Evidence-Based approach to detect failure in practice. It is an unfortunate fact that this second type of Evidence-Based matters is being neglected.

Take the relevant-irrelevant (RIR) screening test format as an example; Krapohl & Rosales (2014), Nelson (2015), and Krapohl & Goodson (2015), concluded that the decision accuracy of this format is substantially poorer than other validated screening formats yet, many agencies and examiners continue practicing a format that fails, in spite of existing evidence.

Proven errors or mistakes and the enormous amount of information, sometimes critical, hiding in it, are not researched enough. Although it is human to err, mistakes are regarded as failure or, in some instances, as a character flaw, compelling people to play it safe, follow mainstream footsteps, and cling without flexibility to rigid evidence-based standards behavior that eventually leads to a stagnant science.

Evidence-Based Practice is, by definition, a sort of learning from experience by adopting specific research methods and standards, but this is by no means the only

way to learn from experience. Polygraph research must adopt the Incident Investigations Approach that seeks to explain why a procedure failed, learn the lesson and avoid repeating the mistake, as well as why a procedure was successful to replicate it in the future. Only a systematic analysis of failure and success will ensure growth and development.

Absence of evidence is not evidence of absence

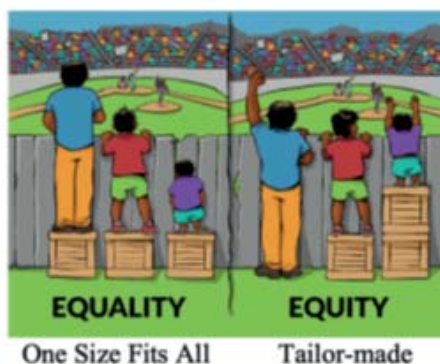
Evidence-Based practice in polygraph testing tends to accept as valid only procedure and methods that have been supported by research. As logical as this approach is, its counter side is the unfortunate wrong logic that treats the absence of statistical evidence as evidence of the absence of the researched phenomenon. In fact, failure to demonstrate the statistical significance of success in using a certain procedure or testing method does not prove they are a fault procedure or testing method. The use of α being it 0.05, 0.01, or any other value is meant to indicate the accepted degree of risk to be mistaken in acting under the assumption that the examined phenomenon exists whereas, in fact, it does not exist in reality. By no means is it a proof of the phenomenon's existence, and the failure to reach statistical significance is not a proof of its absence.

Polygraph practice – Evidence-Based Technique and Art

Decades of prolonged criticism on the validity of the Comparison Question Test (CQT), as well as the various unsystematic of unstandardized test formats, led our industry to continuous efforts to prove otherwise. An extreme strive for rigid standardization in the name of science tends to ignore the complexity of the polygraph practice, and it is based in a way on a simplistic and limited concept of what science is. Let alone that there is more than just science in practicing polygraphy. Along with the efforts in laying scientific foundations to the practice, we should consider the “art” aspects involved, such as the art of interpersonal communication, the art of the examiner to improvise in light of unexpected situations, and others. The probable-lie comparison question phrasing is an excellent example. As mentioned by Krapohl and Shaw in their comprehensive book (2015), under the so-called “Goldilocks Principle, the probable-lie comparison question “...must not be ‘too hot’ nor ‘too cold’ but ‘just right’... “(p. 68), which requires a more artistically rather than a technical approach to set the “right temperature”. (see also Ginton, 2009, p.

210; Ginton, 2019, pp. 190-192). We should adopt the scientific methods not only in favor of standardizing our profession but also to improve our understanding of the “art” quality found in our work rather than suppress it in the name of science and standardization.

Over standardization, in its extreme form, may affect creativity, open-mindedness, flexibility, and human touch, which are essential for further future developments. The significance of personal and situational differences should not be ignored and overlooked even when it seems to be at odds with the developed rigid standardizations. The “tailor-made” adaptive polygraphy approach in conducting examinations should not be abolished in the name of science, and replaced by the standardized “scientific” “one size fits all” mediocre practice which is based on central tendencies, ignoring individual differences among the examinees, irregular cases or situations that are off the main center, or in Thomas Jefferson words paraphrasing Plato’s (Laws)⁹ idea: “There is nothing more unequal than the equal treatment of unequal people” or as demonstrated graphically in Angus Maguire drawing



Reproduced with thanks to Interaction Institute for Social Change | Artist: Angus Maguire¹⁰.

“A picture is worth a thousand words” – Since we are discussing the merits and weaknesses of the Evidence–Based Practice approach, we should stress that one does not need research to see the evidence that one size fits all is sometimes problematic. But we do need research to verify it in polygraph practice to prove and improve the concept of the adaptive polygraph approach.

⁹ Plato, *Laws*, Book 6, p. 757.

¹⁰ <https://interactioninstitute.org/illustrating-equality-vs-equity/>

Epilogue

As the polygraph profession followed the footsteps of medicine evidence-based practice and adopted its philosophy, we should follow the nowadays trend of medicine that shift from simple standardization of diagnoses and treatments to individualized, personalized medicine, which strives to tailor medical treatment to the individual characteristics of each patient considering the patient unique molecular, genetic profile and personal environmental factors recommending which medical treatments will be safe and effective for each patient, and which ones will not be. Personalized medicine can select a therapy or treatment protocol based on a patient's molecular profile that may not only minimize harmful side effects but ensure a more successful outcome (Olechno, 2016). Contrary to the existing trend in our field that, in a way, worship the strict standardization, we suggest steering modern polygraphy towards developing a scientifically-based approach that follows the motto of understanding and conducting “Different Things to Different People and Different Situations”. In other words, we call for developing an adaptive approach or Adaptive Polygraphy (Ginton, 2013) that, based on acquired scientific knowledge, alters the test in a “tailor-made” mode to the individual examinee rather than alter the individual examinee to a “one size fits all” type test.

References

- American Polygraph Association (2011), Meta-Analytic Survey of Criterion Accuracy of validated Polygraph Techniques. *Polygraph*, 40 (4), 194–305.
- Amsel T., (2020), The Centennial Introspection Project 100 Years of Polygraph Practice. *European Polygraph*, 14 (1), 23–26.
- Baker M., (2016), 1,500 scientists lift the lid on reproducibility. *Nature*, 533 (7604), 452–454.
- Ben-Shakhar G., Lieblich I., & Kugelmass S., (1970), Guilty knowledge technique: Application of signal detection measures. *Journal of Applied Psychology*, 54 (5), 409–413. <https://doi.org/10.1037/h0029781>
- Bornmann L., Mutz R., (2015), Growth rates of modern science: A bibliometric analysis based on the number of publications and cited references. *Journal of the Association for Information Science & Technology*, 66 (11), 2215–2222.

Committee on Diagnostic Error in Health Care, (2015), Board on Health Care Services; Institute of Medicine; *The National Academies of Sciences, Engineering, and Medicine*; Balogh, E.P., Miller B.T., Ball J.R., (eds.) 2015.

Diagnostic Errors: Technical Series on Safer Primary Care, (2016), Geneva: *World Health Organization*. Licence: CC BY-NC-SA 3.0 IGO.

Elaad E., (1985), Decision Rules in Polygraph Examination in: *IDENTA 85 – An International Conference held in Jerusalem Israel in 1985: Anti-terrorism, Forensic Science, Psychology in Police Investigations*, 167–179, A Book of proceeding. First Published, 1985 Imprint Routledge. 2019. <https://doi.org/10.4324/9780429036590>.

Elaad E., and Kleiner, M., (1986), The stimulation test in polygraph field examinations: a case study. *Journal Police Science & Administration*, 14 (4), 328–333.

Elaad E., and Schachar, E., (1985), Polygraph field validity. *Polygraph*, 14 (3), 217–223.

Fanelli D. (2009), How Many Scientists Fabricate and Falsify Research? A Systematic Review and Meta-Analysis of Survey Data. *PLOS ONE* 4(5) e5738. Bibcode:2009PLoSO...4.5738F. doi: 10.1371/journal.pone.0005738. PMC 2685008. PMID 19478950.

Ginton A., (1985), A Built-In Validity in Polygraph Field Examinations. in: *IDENTA 85 – An International Conference held in Jerusalem Israel in 1985: Anti-terrorism, Forensic Science, Psychology in Police Investigations*, 167–179, A Book of proceeding. First Published, 1985 Imprint Routledge. 2019. <https://doi.org/10.4324/9780429036590>.

Ginton A., (2009), Relevant Issue Gravity (RIG) Strength – A new concept in PDD that reframes the notion of Psychological Set and the role of attention in CQT polygraph examinations. *Polygraph*, 38 (3), 204–217

Ginton A., (2013, Sept), Adaptive Polygraph. [Paper Presentation]. The annual meeting of the American Polygraph Association, Orlando, FL. USA.

Ginton A., (2019), Essentials of the Relevant Issue Gravity (RIG) Strength; A Theoretical Framework for Understanding the Comparison Question Test (CQT) A detailed outline version. *European Polygraph*, 13 (4), 181–201. DOI: 10.2478/ep-2019-0013.

Ginton A., Daie N., Elaad E., and Ben-Shakhar G., (1982), A method for evaluating the use of the polygraph in a real-life situation. *Journal of Applied Psychology*, 67 (2), 131.

Gustafson L.A., & Orne M.T., (1963), Effects of heightened motivation on the detection of deception. *Journal of Applied Psychology*, 47 (6), 408–411, <https://doi.org/10.1037/h0041899>.

- Gustafson L.A., & Orne M.T., (1964), The effects of task and method of stimulus presentation on the detection of deception. *Journal of Applied Psychology*, 48, 383–387.
- Guyatt G., Cairns J., Churchill D., et al. (1992), Evidence-Based Medicine: A New Approach to Teaching the Practice of Medicine, *JAMA*, 268 (17): 2420–2425.
- Horton R., (2015), Offline: What is medicine's 5 sigma? *The Lancet*, 385 (9976).
- Ioannidis J.P.A., (2005), Why Most Published Research Findings Are False? *PLOS Med*, 2 (8): e124.
- Kleiner M., (2002), Physiological detection of deception in psychological perspectives: A theoretical proposal. In M. Kleiner (Ed.), *Handbook of polygraph testing* (pp. 127–182). Academic Press.
- Krapohl D.J. & Goodson W., (2015), Decision accuracy for the Relevant-Irrelevant screening test: Influence of an algorithm in human decision-making. *European Polygraph* 9 (4), 189–208.
- Krapohl D.J. & Rosales T., (2014), Decision accuracy for the Relevant-Irrelevant screening test: A partial replication. *Polygraph*, 43 (1), 20–29.
- Krapohl D.J., and Shaw P.K., (2015), *Fundamentals of Polygraph Practice*, Academic Press.
- Kugelmass S., Lieblich I., Ben-Ishai A., Opatowski A., & Kaplan M., (1968), Experimental evaluation of galvanic skin response and blood pressure change indices during criminal interrogation. *Journal of Criminal Law, Criminology & Police Science*, 59 (4), 632–635. <https://doi.org/10.2307/1141863>.
- Larsen P.O., & von Ins M., (2010), The rate of growth in scientific publication and the decline in coverage provided by Science Citation Index. *Scientometrics* (2010) 84, 575–603, DOI 10.1007/s11192-010-0202-z.
- Langlois J.P., (2002), “Making a Diagnosis”. In: Mengel M.B., Holleman W. L., Fields S.A., (eds.) *Fundamentals of Clinical Practice* (2nd ed.). Kluwer Academic/Plenum Publisher.
- Leach M.J., (2006), Evidence-based practice: A framework for clinical practice and research design. *International Journal of Nursing Practice*. 12 (5): 248–251.
- Lykken D.T., (1959), The GSR in the detection of guilt. *Journal of Applied Psychology*, 43, 285–388.
- Lykken D.T., (1960), The validity of the guilty knowledge technique: The effects of faking. *Journal of Applied Psychology*, 44 (4), 258–262. <https://doi.org/10.1037/h0044413>.

Mullen E.J., (2002, July), Evidence-Based Knowledge: Designs for Enhancing Practitioner Use of Research Findings (a bottom-up approach). [Paper Presentation]. The 4th International Conference on Evaluation for Practice, University of Tampere, Tampere, Finland. <http://www.uta.fi/laitokset/sospol/eval2002/EvidenceF2002.PDF>.

National Academies of Science, Engineering, and Medicine. (2019), *Reproducibility and Replicability in Science*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25303>.

National Research Council (2003), *The Polygraph and Lie Detection*. Committee to Review the Scientific Evidence on the Polygraph. Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press. <https://doi.org/10.17226/10420>.

Nelson R. (2015), Appendix B: 2015 Update to the American Polygraph Association 2011 meta-analytic survey of validated polygraph techniques. In D. Krapohl and P. Shaw *Fundamentals of Polygraph Practice*. Academic Press.

Nelson R., Handler M. & Krapohl D. (2007, Sept), Development and validation of the Objective Scoring System, version 3. [Poster presentation]. The annual meeting of the American Polygraph Association, New Orleans, LA. USA.

Nelson R., Handler M., Shaw P., Gougler M., Blalock B., Russell C., Cushman B. & Oelrich M., (2011), Using the Empirical Scoring System. *Polygraph*, 40, 67–78.

Nelson R., Krapohl D. & Handler M., (2008), Brute force comparison: A Monte Carlo study of the Objective Scoring System version 3 (OSS-3) and human polygraph scorers. *Polygraph*, 37, 185–215.

Olechno J., (2016), Individualized medicine vs. precision medicine. *DDNews*, 12,5.

Open Science Collaboration, (2015), Estimating the reproducibility of psychological science. *Science*, 349 (6251).

Orne M.T., Thackray R.I. & Paskewitz D.A., (1972), On the detection of deception, A model for the study of the physiological effects of psychological stimuli. In: N.S. Greenfield & R.A. Sternbach (Eds.), *Handbook of psychophysiology*. Holt, Rinehart & Winston, 1972, 743–785.

Pashler H., Wagenmakers E.J., (2012), Editors' Introduction to the Special Section on Replicability in Psychological Science: A Crisis of Confidence? *Perspectives on Psychological Science*. 7 (6). 528–530.

Peng R., (2015), The reproducibility crisis in science: A statistical counterattack, *Significance*, 12 (3), 30–32.

Sackett D.L., Rosenberg W.C., Muir Gray J.A., Haynes R.B., Richardson W.S., (1996), Evidence based medicine: what it is and what it isn't. *BMJ*, 312, 71–72.

Straus S.E., Glasziou P., Richardson W.S. & Haynes R.B. (2011), *Evidence-based medicine: How to practice and teach EBM* (4th ed.), Churchill Livingstone.

The Office of Technology Assessment of the U.S. Congress –OTA- (1983), *Scientific Validity of Polygraph Testing: A Research Review and Evaluation.*,

Webb S., (2001), Some consideration on the validity of evidence-based practice in social work. *British Journal of Social Work* 31 (1), 57–79.

Youngstrom E.A., Choukas-Bradley S., Calhoun C.D., Jensen-Doss A., (2015), Clinical Guide to the Evidence-Based Assessment Approach to Diagnosis and Treatment. *Cognitive and Behavioral Practice*, 2 (1).

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Directed Lie – The Correct or the Easy Way?

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Key words: directed lie, polygraph examination as an evidence

Abstract

Lately there had been a huge push in our profession toward the use to use the Directed Lie Comparison question (DLC). The truth verification field is divided into “pro and con” towards this idea, like many things in life. This article will research whether this “new fashion” is really the correct way or the easy or lazy way to conduct psychophysiological truth verification examinations, as well as make comparisons between the advantages and disadvantages between the DLC and the Probable Lie Comparison question (PLC).

History

Let us first check what a comparison question is: A comparison question (originally known as a Comparative Response Question and later as a Earlier in Life Control Question) is a question designed to elicit responses to compare to the responses in a relevant question (Krapohl, Sturm, 2002).

Matte (1996) in the history portion of his book traces the development of the comparison question as follows:

Dr. Marston, a forensic psychophysiologicalist in the 1920s and 1930s in some cases, would sometimes insert a “hot question” into the test. The description of these questions corresponds to the non-exclusive comparison/control question, which were later published by Reid & Inbau in 1946. When Dr. Marston was asked by Ansley for the reason of not publishing his development regarding his usage of his “hot question” Dr. Marston explained that he did not want examinees to read and learn about it.

Reid (1966) in his book explains that the control question will elicit stronger reactions than the relevant question by the truthful person as he will not be lying to the relevant question, but the guilty will be focusing only on the relevant questions.

Nate Gordon (2017) in his book explains that these questions were designed to cause the innocent examinee to react stronger to these questions and in this way to allow them to be determined truthful.

Tracing the development of the DLC, Matte (1996) in his book mentions that L. S. Fuse reported in 1982 that the DLC has been used for about 16 years.

The question asked is what was the reason for starting to use it? We can find an explanation in Nate Gordon's book (Gordon, 2017). He explains one reason for it was motivated by government examinations. When an examiner needed to test a senior ranking examinee the examiner often encountered problems developing previous life issues. Gordon also mentions that this method gained popularity because it requires less skillful examiners.

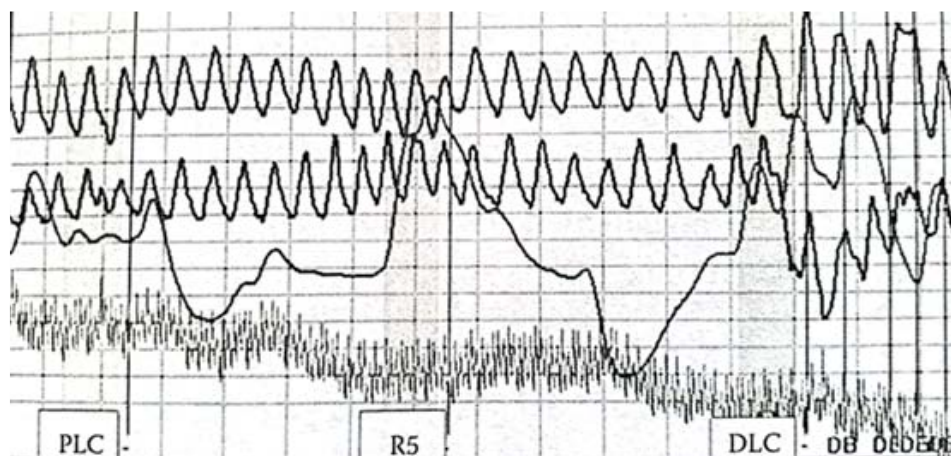
We find a similar justification for the DLC in the terminology reference (Krapohl, Sturm, 2002) Donald Krapohl and Shirley Sturm authored. They explain, “there is some concern about vulnerability to countermeasures; the true strength of the DLCs are that they can be standardized much easier than the PLCs, they are less intrusive, and their effectiveness is less subject to examiner skill”.

Dr. Charles Honts in his research (Honts, Reavy, 2015) states the following: *Probable-lie comparison questions can be difficult to administer in field settings and require psychological sensitivity, sophistication, and skill on the part of the examiner to obtain an accurate outcome. Unfortunately, many polygraph examiners lack adequate training in psychological methods and do not understand the basic concepts and requirements of using a standardized psychological test in a field setting. These problems are exacerbated when the examiner attempts to formulate individualized probable-lie comparison questions for each subject.*

We can conclude from this that employing the DLC, instead of requiring higher skills from professionals, requires less skill and allows better outcomes for less skilled examiners and leads our profession down a path toward mediocracy.

Polygraph is an art based on the sciences of Psychology and Physiology. The knowledge from the fields of psychology and physiology can be passed to almost anyone, but the art or skill of the examiner cannot. We can compare it to an analogy of a cloth manufacturing; some people will perfectly fit into clothes right off the rack, but others need adjustments. A question to all DLC enthusiastic supporters is “Would you like a family member or a friend of yours to be tested by a skillful examiner or by a mediocre one?”

Regarding the possible increase of countermeasures, with the PLC a skilled examiner can disguise the question in a few known or innovative ways. Unlike the DLC, where the examiner explains to the examinee these are the comparison questions and physiological reactions must appear to them to show reaction capability when the examinee lies or the test results can only be deceptive or inconclusive. This actually invites examinee distortions regardless if the examinee is truthful or deceptive. In addition, in this technological age, many examinees will have already searched the Internet looking for ways to cause reactions and defeat the examination. An example from Nate Gordon’s book (Gordon, 2017) in which a deceptive person would show his lie on the charts correctly with no DLC.



Nelson in his article (Nelson, 2020) mentions that in PLC examiners tell the examinee that he must pass all questions otherwise he will fail the test. This obviously increases the importance of the PLC to the innocent examinee. Regarding the DLC the subject is told that it is important for the examiner to observe significant physiological responses to the DLC's otherwise it indicates the examinee lacks the ability to show physiological responses when lying, and the test outcome can only be inconclusive, This means that they won't pass the test.

In both cases the examinee is led to understand the importance of the "Comparison" questions". Again, in the PLC psychological set and salience is established to the PLC for only the truthful suspect, where in the DLC both truthful and deceptive examinees are made aware of the importance for physiological reactions to occur to these questions for them to have a truthful determination.

In both types (PLC and DLC) we find the letter "L". The letter "L" stands for the word "Lie". As in any scientific research we cannot compare "cats and dogs" so the question becomes what is a lie? The best definition which we can give is: **"A false statement made with deliberate intent to deceive; an intentional untruth"**. Let us ask ourselves, does an examinee feel that he or she is lying when instructed to answer no? Why should they? The examinee knows in his or her mind they are not deceiving the examiner. They are only complying with orders. This actually decreases the natural psychological set created by the PLC for the truthful examinee. In the truthful examinee's mind the relevant questions can affect his future while the

comparison is only fulfilling an order. The DLC actually appears to increase the rate of both false/positives and false/negatives

Let us make a table of pros and cons:

Pros of DLC	Cons of DLC
1. Easy to administer.	1. Causes the examiner to be less professional.
2. Less examiner professional skill required.	2. The effect of complying with an order will not elicit a proper balanced reaction which might increase the false positive rate.
3. Helps avoid intrusiveness.	3. Makes it easier for the examinee to recognize the need and place where they should produce CM's.
	4. This can make the examinee fear that the examiner will use this chart against him and present him as a liar

In our research we tried to look for a situation and format that would create a similar situation as the DLC, and decided to use the standard Acquaintance/Stimulation Test.

Matte in his book (Matte, 1996) describes the history of the stimulation test as being introduced by Keeler (1936) as a test to determine the examinee's reaction capability. The way he administered it was to have the examinee pick a card then instruct the examinee to give a negative answer to all of the test questions concerning which card was picked. The examiner would then demonstrate to the examinee the accuracy of the test by identifying the card the examinee selected and lied to by giving a speech of how great the deceptive reaction was and how easy it was to distinguish between the examinee's truth and lies.

Some examiners show the chart to the examinee to convince him about the efficiency of the instrument. Unfortunately, in many cases there was no reaction, so the examiners did some adjustment to the GSR tracing for the purpose of convincing the examinee the test was accurate. Many examiners believe the chart should not be shared because it may increase the examinee's knowledge concerning counter-measures.

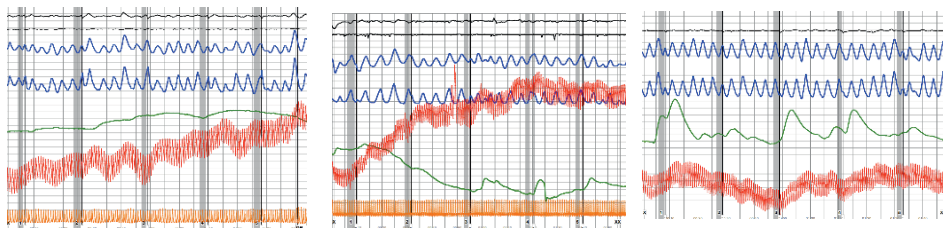
The request from the examinee to lie to see his reaction in the DLC is equal to a acquaintance/stimulation test. When examiners have been asked by us how often the charts actually show significant reactions on the selected number/card the answer

we received many times are, “we don’t see reaction on the selected number”. From the experience of Shurany, he finds more reaction on the number when he employs a “hidden card test” (the examinee picks a card and doesn’t show it to the examiner as originally used by Keeler) than to a known number test. Shurany believes that in the hidden card test the curiosity introduced into the test creates a strong factor resulting in more identifiable results.

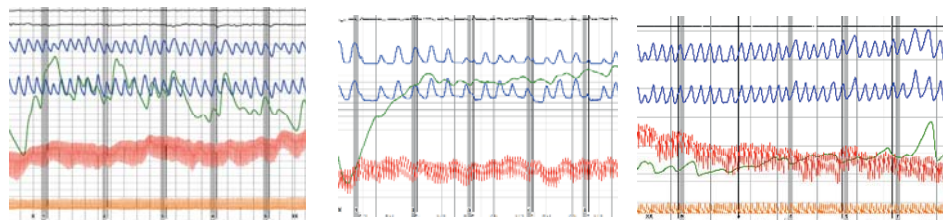
In order to see the reaction in a stim test a fellow examiner was asked to send charts of his stimulation test.

We received 12 charts, some of which are shown below.

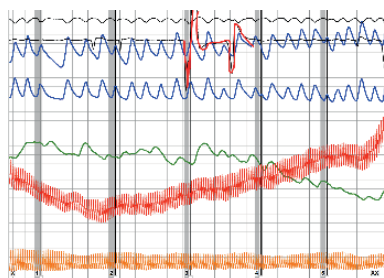
Group A



Group B



Group C



Out of the twelve charts we found seven with anticipatory reactions as demonstrated in group A, four showed no reaction to the number as demonstrated in Group B, and one indicating possible CM's to the number selected (the movement is emphasized in RED).

Excluding the chart where a CM was employed, 36.36% of the cases we did not see significant reactions to the selected number.

In our research we decided to check the reactivity of the “key” (the number the examinee chose) question on a “stimulation test.” In order to make it more similar to a CQT (Comparison Question Test) and not to a POT (Peak of Tension) the numbers were not reviewed and asked in an ascending order which is usually the procedure in a POT.

Here is the presentation we used to introduce the test:

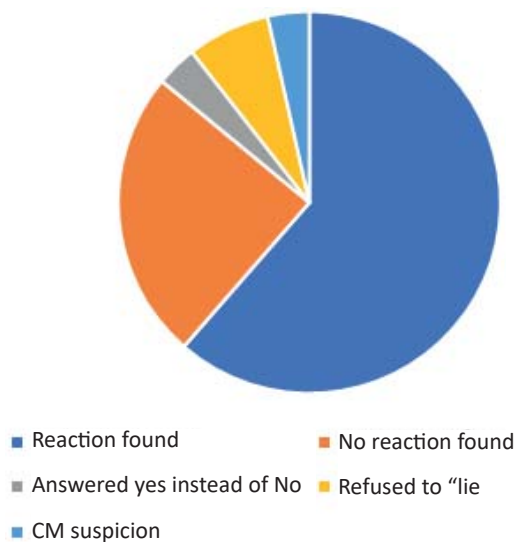
Look John, not all people can take the test, mainly those who can't have some mental problems, based on our brief acquaintance you are not that kind of person, I correct? In order to verify your body's capability to respond correctly we are going to do short test. Before we start the test I need you to write a number between 3 and 7 on this paper (what ever number the examinee writes the examiner will add 2 numbers before the 3 and 2 numbers after the 7). Now if I ask you in this test did you write (the first number the examiner wrote) what will be your answer be? Here we expect “no” for an answer. Now if I ask you in this test did you write (the second number the examiner wrote) what will be your answer be ? Here we expect “no” for an answer. Now if I ask you in this test did you write (the number the examinee wrote) what will be your answer be? Here we expect “yes” for an answer. Now if I ask you in this test did you write (the third number the examiner wrote) what will be your answer be? Here we expect “no” for an answer. Now if I ask you in this test did you write (the fourth number the examiner wrote) what will be your answer be? Here we expect “no” for an answer. Now John, if I ask you to answer “No” on the number you wrote what will you be doing? Here we expect the answer, “I will be lying”. Ok, so in the test we are now going to run I want you to answer “No” to every question, including the number you wrote ... is this understood?

We chose two examiners to participate in this research. Both examiners are private examiners, both were trained by Shurany. One was trained 17 years ago and the other 12 years ago, and both had a wide range of examinations and experience. The stimulation tests were conducted in both pre-employment and specific cases.

The research included 57 examinees, and these were the result:

Finding	No.	Percentage
Reaction found	35	61.4%
No reaction found	14	24.6%
Answered Yes instead of No	2	3.5%
Refused to “lie”	4	7%
CM suspicion	2	3.5%
Total	57	100%

“Reactions” to directed lie – Stim Test



The examinees who refused to lie gave the following explanations:

My values prohibit me to lie and I will not do it (1 examinee).

I came here to tell the truth and that is what I a going to do (2 examinees).

My future depends on this test and I don't know if you want to manipulate the test.

When we eliminate these three tests we have the following results:

Finding	No.	percent
Reaction found	35	71.4%
No reaction found	14	28.6%
Total	49	100%

Analyzing these results can see that in 28.6 percent the “directed lie” did not provoke a reaction. We would expect that in the stim test the percentage of provoking reactions would be higher due to curiosity.

Once a manager asked Shurany “How can we quantify and decide who is a good examiner?” The answer was “We need to check the number of errors (even though it will take time to find out) and check the number of inconclusive results,” as we all know that there are no inconclusive examinees only inconclusive results.

The strongest weakness of the CQT and the common arguments of the CQT critics are twofold: we don’t know the past of the examinee so how can we be sure that the PLC will work and cause sufficient strength of reaction to overcome the reactions caused by the fear of the innocent posed by the being accused of the relevant test issue, and on the other hand, how can we assure the PLC is not too powerful resulting a false negative reaction.

When using the “DLC” we have the additional factor of whether question is good enough and we add to it the following problems:

1. How much to emphasize the question?
2. Does it increase the outside issue (lack of trust)
3. It helps the examinee find the place to apply CMs.
4. Decreases the strength of the question as some examinees will consider the question unimportant.
5. Entices truthful examinees to use CMs to ensure there are reactions to the DLC and allow them to pass the test.

Conclusion

There is no reason to stop utilizing the PLC and apply something which has more problems than what we currently experience.

Acknowledgments

We would like to thank Oded Gelfer (USA) and Fabiola Chaves (Costa Rica) for conducting tests in the requested way and sharing their Charts and results.

References

- Gordon N.J., (2017), *Essential of Polygraph and Polygraph Testing*. New York, CRC press.
- Honts C.R. and Reavy R., (2015), *The comparison question polygraph test: A contrast of methods and scoring*. *Physiology & Behavior* (143) 15–26.
- Krapohl D., Sturm S., (2002), Terminology Reference for the Science of Psychophysiological Detection of Deception, *Polygraph*, 2002, 31 (3).
- Matte J.A., (1996), *Forensic psychophysiology using the polygraph*, J.A.M. Publications, p. 20.
- Nelson R., (2020), A discussion of DLC question procedure and ironic process theory, *APA Magazine*, 2020 (53).
- Reid J., Inbau F., (1966), *Truth and Deception*, The Williams & Wilkins Company, 1966.
- Reid J.E. and Inbau F.E., (1977), *Truth and deception: The polygraph(lie-detector) technique*. Baltimore, the Williams & Wilkins company.
- Shurany T., Gordon N.J., (2016), *The Pre-test interview; the Foundation of Polygraph, CreateSpace Independent Publishing Platform*.

The Use of Narcoanalysis by Polish Counterintelligence in the 1930s

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Key words: narcoanalysis, "truth serum", Polish counterintelligence, Second Department of the Polish General Staff

1. Introduction

The initial idea of using narcoanalysis for investigation purposes arose soon after surgeons began using narcosis (sedation) to induce sleep during surgery.

There are four phases that a patient goes through in general anaesthesia (e.g. with ether or chloroform): the state of shock or analgesia (*stadium analgesiae*), the state of delirium (*stadium excitationis*), the state of surgical anaesthesia (*stadium anaesthesiae chirurgicae*), and the stage of respiratory arrest (*stadium asphycticum*) (Danysz, Gryglewski, 1982).

In the second of these (*stadium excitationis*), patients as a rule show strong psychological and motor stimulation, and are talkative with symptoms of disinhibition. The prin-

ciples of medical ethics require that the physician keeps whatever they heard from the patient in this phase secret (Danysz, Gryglewski, 1982) for it is assumed that, unable to control what they say in that phase, the patient may disclose something they would rather was not disclosed were they in full control, e.g. offend someone.

Perhaps the first proposal for interrogating a patient in this phase in a criminal case was that noted by Jurgen Thorwald (Thorwald, 1992). This was the case of the murder of a New York stock exchange investor and philanthropist Benjamin Nathan on 28 July 1870. One of the victim's sons, Washington Nathan, was suspected of the murder. However, the investigation had to be terminated due to the lack of proof. When Washington Nathan was waiting for a surgical procedure nine years later, the idea of asking him a handful of questions connected to the murder while in sedation was raised. Eventually, Washington Nathan underwent no surgery, the concept was never put into practice,¹ and one of the most mysterious murders was never solved.

It also remains unknown what kind of sedation was proposed at the time. It could have been chloroform as well as ether, as both methods were used in contemporary surgery.

Sedation with ether was first applied during a surgery on a neck tumour in Boston in 1846 (Jurczyk, Sikorski, 2001) and a limb was amputated, also under ether sedation, in London in the same year (Brzeziński, 2015). A year later, in 1849, James Young Simpson (1811–70) demonstrated chloroform sedation in Edinburgh (Brzeziński, 2015).

2. "Forensic anaesthesia"

The development of anaesthesia in the second half of the 19th and early 20th centuries and the observation of patients in sedation, especially at the stage when they did not control their utterances, presented a natural temptation to those who wanted to use it for investigative purposes.

Around 1804, a German chemist Friedrich Wilhelm Sertürner (1783–1841) isolated an alkaloid from opium. It was called morphine, the name being derived from the Roman god of sleep – Morpheus (Keys, 1996). The production of medical morphine commenced in Germany in 1827. Originally, the medicine was used for alleviating pain and

¹ "Horrible Murder. Benjamin Nathan, the Broker, Assassinated in His Own House", *The New York Times*, 30 July 1870; J. Nathan-Kazis: "A Death in the Family", *Tablet Magazine*, 13 January 2010 ([https://www. Tabletmag.com/sections/community/articles/a-death-in-the-family](https://www.Tabletmag.com/sections/community/articles/a-death-in-the-family)) (last visited on 17.02.2021); *Who Killed Benjamin Nathan?* (www.murderbygaslight.com/2013/08/who-killed-benjamin-nathan.html) (last visited on 17.02. 2021).

for the treatment of alcohol and opium addiction. Up to 1914 morphine was available in the US as a non-prescription drug.

Mescaline (peyote) was known and used by the native peoples of Mexico and the south of the United States since ancient times (Jay, 2019) and was likely the first psychedelic substance known in the world (El-Seedi *et al*, 2005).

The first to isolate and identify mescaline (1897) was a German pharmacologist and chemist Arthur Heffter (1859–1925). In 1918, an Austrian chemist Ernst Späth managed to produce the compound synthetically (Späth, 1919). Mescaline is known for its psychedelic and hallucinogenic effects (not unlike LSD). Its medical use is fairly limited. It may be used for treating depression and in alcohol therapy (Danysz, Gryglewski, 1982).

In 1892, the German pharmacist, a professor of Marburg University, Ernst A. Schmidt (1845–1921) obtained $C_{17}H_{21}NO_4$, which he called *scopolamine*, to honour Giovanni Antonio Scopola, an Italian physician and botanist (Schmidt, 1892). In 1900, Eduard Schneiderlin (1875–?) recommended the use of scopolamine for surgical anaesthesia (Schneiderlin, 1900).

Early in the 20th century, barbiturates revolutionised anaesthesia. In 1899 in Munich, H. Dresser introduced hedonal (Keys, 1996), a compound that the Russian N.P. Kravkov and his assistants used during surgery in St Petersburg in 1905. Soon afterwards the results of using the drug in 530 cases were described in Russia (Keys, 1996).

In 1932 two German chemists, Walter Kropp (1885–1939) and Ludwig Taub (1887–1956), and a pharmacologist Hellmut Weese (1897–1954) discovered hexobarbitone: “Evipan”.² In Poland, Evipan and its medical use were first described in 1933 (Grantowicz, 1934), and since that time it has been in general use in anaesthesia (Rafiński, 1938).

Soon all these compounds – mescaline, morphine, Evipan, and scopolamine even more so – were tested not only for medical purposes but also to be used as a “truth serum”.

At a session of the Section on State Medicine and Public Hygiene of the State Medical Association of Texas at El Paso held on 11 May 1922, a professional physician from Texas, Robert E. House (1875–1930) delivered a paper on “The use of scopolamine

² D.A. Cozantis: *ibidem*; see also: W. Storm van Leewen, A. von Szent Györgyi: “On scopolamine-morphine narcosis”, *Journal of Pharmacology and Experimental Therapeutics*, 1921, 18 (6), 449–454; see also: P. Serocca: “General intravenous anaesthesia with Evipan-sodium”, *British Journal of Anaesthesia*, 1934–35, vol. VII, 78–80.

in criminology”, and proposed using the compound for investigative interrogations. In September 1922, a few months later, his work was published in a local medical journal, *Texas State Journal of Medicine*. Nine years later, after House’s death, it was reprinted in the prestigious *American Journal of Police Science* (1931, 2, 4, 328–336). In his original article, House had raised the reservation that he discussed the use of scopolamine in criminology not as a criminologist (i.e. a lawyer) but only as a physician. He admitted that various lawyers made him aware that interrogating a human under the influence of scopolamine or a similarly acting drug is a violation of US law.

It was not only the legal admissibility of such a test that caused doubts; here the key argument was that using narcoanalysis on a suspect is a violation of the amendment to the US Constitution prohibiting anyone being compelled to act as a witness against him or herself (Despres, 1947; Dession, Freedman, Donnelly, Redlich, 1953; Winter, 2005). The diagnostic value of the method was also disputed³. The most frequent argument in this case was that, under the influence of a psychotic drug, a subject may weave unconscious fantasies and may also be especially vulnerable to suggestion. These put the investigative use of the method in doubt.

The discussion about the value and admissibility of narcoanalysis in investigations continued throughout the 1920s and the 1930s. Back in 1925, House argued that the use of scopolamine should be admissible in an investigation (House, 1925). Participants in the discussion included John A. Larson, the inventor of the polygraph, whose attitude to narcoanalysis was quite sceptical and Fred Inbau, a professor of Northwestern University in Chicago and director of the Scientific Crime Detection Laboratory which, incidentally, also experimented with scopolamine. Inbau considered the results of those experiments as “fairly satisfactory” (Inbau, 1934). It was at this time, more precisely in 1932, that Calvin Goddard called scopolamine “the truth serum” for the first time (Sheedy, 1969).

That stage of the discussion was in a way wrapped up by Inbau, who claimed that “the results of experimentation with scopolamine indicate that in experimental cases the drug produces truth-telling effects in practically every instance. In actual cases, however, positive results have been obtained in approximately fifty per cent of the cases. Nevertheless, the fact that any results are obtainable warrants its use under any circumstances.” (Inbau, 1934). At the same time, in the *State v. Hudson* case, the Appellate Court rejected evidence from an interrogation under the influence of scopolamine in 1927 (289 S.W. 920).

³ „One hundred years of barbiturates and their saint”

There is no proof in literature that any state services in the world routinely used narcoanalysis before the Second World War, or even commissioned testing it as a method. **Therefore, there are fair grounds to believe that the routine use of narcoanalysis by the Polish counterintelligence while interrogating people suspected of espionage in the 1930s was among the first such uses in the world (see below).**

Another argument in support of that hypothesis is the fact that large-scale experimental studies of narcoanalysis were only commissioned by the federal authorities of the US and Germany during the war, that is in the 1940s.

In the case of Nazi Germany, the experiments were conducted extensively on inmates of Dachau and Auschwitz concentration camps (see below).

3. Polish counterintelligence before the Second World War

Between the first and second world wars, that is in the Second Republic of Poland (1918–39), all intelligence and counterintelligence remained in the hands of the military. The headquarters of the Polish intelligence and counterintelligence was the Second Department of the General Staff of the Polish Armed Forces. The Second Department operated six branch offices (*ekspozytury*), and also had the autonomous Intelligence of the Border Protection Corps (KOP) protecting the borders with the USSR and Lithuania reporting to it. The KOP intelligence performed tasks of counterintelligence in the border zone, and of shallow intelligence on the territories of neighbouring states. Independent of these, the ten territorial corps commands operated Independent Information Offices (SRI) dealing with counterintelligence and combating communist propaganda in the army.

The structures of the Second Department included the Independent Technical Office (SRT) (Dubicki, 2015), providing technical services for intelligence and counterintelligence activities. It was an institute with modern facilities employing several dozen military (especially military physicians) and civilian staff. A fair share of its staff had doctoral degrees. One of the fields of investigation of the institute was the preparation of “injections weakening the will” of those interrogated. The leader of the experiment was a military physician, Cpt. Ludwik Krzewiński, MD⁴.

⁴ Cpt. Ludwik Krzewiński, PhD, was born on 19 May 1898, and served in the Polish Army since 1918. After the defeat in September 1939, he served the Polish Army in France and later in the United Kingdom. After 1945 he emigrated to the US. (L. Krzewiński personal file, CAW Sygn. 1769/89/2710 AP).



Fig. 1. Cpt. Ludwik Krzewiński M.D. (WBH-CAW Sygn. 2710)

4. The practice of using “injections weakening the will of the interrogated” in Poland

The composition of “injections weakening the will of the interrogated”, also known as “truth inducing injections”⁵ as both names were in use, was as follows: 0.01 g morphine, 0.001 g pilocarpine, and 1 cm³ distilled water (BU 0298/524, 20). It seems that there were later more components of vegetal origin added to the injections, certainly scopolamine.

Special plants for the production of these injections were cultivated in the garden of the Independent Technical Office of Office II, run by Zofia Wojtucka (BU 0298/524, 21, 86, 129, 146, 148), who had a master’s degree in agronomy. The plants included the yellow foxglove (*Digitalis grandiflora*), staghorn sumac (*Rhus typhina*), henbane aka stinking nightshade (*Hyoscyamus niger*), and even agaric toadstools (*Amanita spp.*). The seeds of henbane were used to obtain the alkaloid hyoscine (scopolamine), and the fly agaric toadstools to obtain muscarine, which were used in the production of “injections weakening the will” (BU 0298/524, 21). All these plants, and especially henbane (*Hyoscyamus niger*), are quite common in Poland.

⁵ Neither the name “truth serum” nor “narcoanalysis” were used.



Fig. 2. Henbane aka stinking nightshade (*Hyoscyamus niger*)

Therefore, there is no doubt that scopolamine must have been used for the injections “debilitating the will” from some point in time. What however remains unknown is whether it was delivered on its own or with adjuvants and, if so, then in what proportions with other substances, especially morphine.

In the late 1930s, Evipan (BU 0298/524, 48, 21) was considered for the purpose of narcoanalysis, which at the time was called “weakening of the will of the interrogated”. However, there is no proof that Evipan was used for this purpose. Perhaps the considerations of using it for narcoanalysis never went beyond just the preliminary considerations.

The use of “injections weakening the will of the interrogated” was routine at least from early 1935. The injections went into practical use, and the method decidedly went beyond just the experimental phase, which does not mean that the practice did not undergo continuous improvement. The fact that “Dr Krzewiński’s injections” enjoyed popularity among the officers of the counterintelligence (BU 0298/524, 20) is proof of the above, as well as indicating that the orders for applying them arrived at the Independent Technical Office from various field offices of Polish counterintelligence.

DOWÓDZTWO OKREGU KORPUSU Nr. IX.
 samodzielny Referat Informacyjny.
 L.dz.1616/Inf.Tj.Kier.
 Tel.19.
 Brześć n/B., dnia 19 II.1935 r.
 Kierownik Sam.Ref.Tańmianicznego Oddziału II
 Sztabu Głównego
 / do rąk własnych kpt.Harskiego Ignacego/
 W a r s z a w a:
 Proszę Pana Kapitana o spowodowanie przybycia
 do Sam.Ref.Inf.OK.IX.Pana Kapitana lekarza Dr.Krzewiń-
 skiego w sprawie przeprowadzenia dochodzeń doświadczal-
 nych w myśl ustnej relacji Pana Porucznika Szartowskie-
 go Stefana.
 Proponuję, jako termin przyjazdu 23-24, wgl.
 25.II.35 r.
 Kierownik Sam.Ref.Inf.OK.IX.
 Nowak kpt.

Fig. 3. Order SRI DOK No. IX (Brześć) for performing “an injection weakening the will” of 19 February 1935 (AAN 842 Prok. Gen. sygn. 21/75, I, k. 272)

The application of such injections has been documented towards people suspected of espionage for both Nazi Germany and the Soviet Union. The first more extensively documented, albeit almost certainly not at all the first use of an injection “weakening the will”, is the case of interrogating a person suspected of spying for Germany in Starogard (SRI DOK Toruń) (BU 0298/524, 20). The following more extensively documented case of administering “an injection weakening the will” is that of a woman suspected of spying for the USSR on a commission from SRI DOK in in Brześć Litewski (today Brest, Belarus) . Neither the dosage nor the composition of the injection are known. Previously denying all the accusations, under the impact of the injection the woman “broke down entirely and admitted to the charges levelled” (BU 0298/524, 20). Some incompletely preserved materials demonstrate that two German spies admitted to their crimes after being administered “injections weakening the will” (BU 0298/524, 20). These facts were decisive for the increasing popularity of those injections. The later documented cases of administering narcoanalysis to suspected spies include those commissioned by the SRI DOK Grodno, the Intelligence Office of the KOP, SRI DOK Brześć, and SRI DOK Poznań (BU 0298/524, 20). The last documented case of re-

sorting to narcoanalysis took place in the spring of 1939 in Wilno (today Vilnius in Lithuania) (SRI DOK Grodno) and most probably concerned a suspected soviet spy (BU 0298/524, 129). There is no data on the total number of such injections that were administered.

Contrary to what the investigative agencies of communist Poland claimed (BU 0298/524, 29), there is no proof that narcoanalysis was in general use in the Polish Police and Border Protection Corps before 1939. Moreover, such a practice seems absolutely improbable.

One case of application of narcoanalysis by Cpt. Krzewiński, MD was described in detail by another military physician who was a passive participant in it: “within several minutes [from the injection – author’s note] the interrogated subject began to sweat a bit, and half an hour later he informed us that he felt a bit poorly, and that the injection can’t have been against headache. The subject disclosed symptoms of a certain sleepiness, and answered the questions he was asked slowly, as if with difficulty, in short sentences, confirming the answers that were suggested to him. This condition intensified for around half an hour, after which time he began to return to normal. When he had his statement delivered under the impact of the injection read out to him, he did not uphold what he had testified” (BU 0298/524, 20).

This short description demonstrates that the subject was not told about the true purpose of the injection; on the contrary he was assured that the injection was for medical purposes (in his case, to eliminate the headache that the subject must have indicated). It remains unknown whether testifying under the impact of the injection and confirming suggested answers to questions, the subject confirmed true facts or suggestions that did not necessarily conform to the truth. It is not known either whether counterintelligence later acquired any confirmation of the answers obtained under the impact of those injections.

5. Experiments with narcoanalysis for intelligence and counterintelligence purposes in the USA and Nazi Germany

Another fact worth noting is that the first experiments with narcoanalysis commissioned by governmental agencies only began in the 1940s. In 1942 it was the newly established US spy agency known as the Office of Strategic Services (OSS) that was the first to commission its experts with the creation of a “truth serum” designed for the interrogation of prisoners of war (Rinde, 2015). Like in Germany, the initial attempts used mescaline, however the experimentation turned back to scopolamine, which had been used in isolated criminal cases in the US back in the 1920s and 1930s.

A claim may be made that the use of narcoanalysis by the Polish counterintelligence in the latter half of the 1930s and the Polish experience of its scope predated those of Nazi Germany⁶. Looking for efficient methods of narcoanalysis, the Nazis only tested them on the inmates of Auschwitz and Dachau concentration camps in 1944. This is how one of such experiment from early 1944 was described: “a Medical Commission arrived from Berlin to conduct experiments on several Jews. They had some preparation injected intramuscularly, and had their reactions meticulously investigated. A quarter of an hour later the subjects were taken out to the courtyard, and forced to do physical exercises for half an hour, after which time the members of the commission asked them whether they wanted to die, whether they felt fear, and who their personal enemies were. Very likely the Gestapo had worked on the discovery of a preparation inducing such psychological changes that would result in extracting testimonies easily. The inmates showed symptoms of slight bewilderment, drowsiness, and lack of proper orientation” (BGKBZK 1946,1).

Similar experiences were performed in Auschwitz by the camp’s physicians: SS Hauptsturmführer Bruno Weber and Untersturmführer Werner Röhde together with the head of the camp’s pharmacy Victor Capesius, also a member of the SS (Sterkowicz, 1981; Posner, 2019). Most probably the inmates subjected to the experiments were given coffee laced with mescaline. Having drunk their coffees, the inmates entered a state of agitation. After increasing the dose, they lost consciousness and died several hours later (Olbrycht, 1971; Kłodziński, 1965). Similar experiments were performed in Dachau in the autumn of 1944, in which Dr Kurt Plötner tested mescaline on the inmates (Sterkowicz, 1981). The supply of larger batches of mescaline to the camps early in 1944 is validated by preserved archival documents (Sterkowicz, 1981).

Also in 1944, Werner Röhde⁷ and Bruno Weber,⁸ together with Victor Capesius⁹, tested coffee and tea laced with combinations of morphine and Evipan to find the best way of sedating, kidnapping (and also interrogating?) a British agent. The experiment ended with the death of the inmates on whom the drugs were tested. All that Röhde noted was that they “died joyfully” (Posner, 2019).

⁶ It should be added that Nazi experiments conducted on camp inmates usually ended in their death.

⁷ Werner Röhde (1904–46), physician and SS officer sentenced for war crimes to death by the British Military Tribunal in Wuppertal.

⁸ Bruno Weber (1915–56), physician and SS officer; he was also tried after the war, not sentenced, he died in Hamburg in 1956.

⁹ Victor Capesius (1907–85), a Romanian German, doctor of pharmacy, a member of SS since 1943. Since February 1944 he was the head of the pharmacy in Auschwitz. Sentenced to 9 years in prison in the Second Auschwitz Trial in 1965, he was released in 1968.

The selection of morphine and Evipan for the purposes of narcoanalysis seems better than that of mescaline. This is because mescaline is mostly a hallucinogenic drug, and when answering the questions asked, people under its influence may unconsciously present the contents of their hallucinations, which defies the purpose of the whole exercise. Incidentally, it is worth noting that experiments with hypnosis to force evidence were carried out in Auschwitz at an even earlier time, that is, in late 1943. The experimenter was a Jewish inmate, a physician psychiatrist of unknown name from Vienna, who credited himself as a psychiatry *dozent*. He attempted hypnosis on volunteer inmates before the SS staff. Allegedly, the attempts with putting the subjects into a hypnotic sleep and having them follow his orders were highly effective, however the attempts to force testimonies evidently failed as the inmate hypnotiser was unable to put anyone in hypnotic sleep against their will. As a consequence, further experiments were discontinued, and the inmate hypnotiser executed (Orzeszko, 1975). It seems that it was only after the failure of experiments with hypnosis that the Germans moved on to experimenting with narcoanalysis.

6. Conclusion

Today the use of narcoanalysis in criminal cases is rightly prohibited in most countries of Western civilisation. However, its use for intelligence and counterintelligence purposes is still a temptation that sometimes seems hard to resist. The history of narcoanalysis after the conclusion of the Second World War is a separate problem, and one of not only a historical nature (Kinzer, 2019). However, it lies beyond the scope of this work.

References

- 289 S.W. 920 – 289 S.W. 920 (Mo. 1926), published in St. Louis Review 215, 1927.
- BU 0298/524, 20 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 20.
- BU 0298/524, 21, 86, 129, 146, 148 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 21, k. 86, k. 129, k. 146, k. 148.
- BU 0298/524, 21 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 21.
- BU 0298/524, 48, 21 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 48, k. 21.

BU 0298/524, 20 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 20.

BU 0298/524, 20 – AAN 842 Prok. Gen. sygn. 21/75, I, k. 95; Archives of the Institute of National Remembrance, BU sygn. 0298/524, k.20

BU 0298/524, 20 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 20.

BU 0298/524, 129 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 129.

BU 0298/524, 29 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 29.

BU 0298/524, 20 – Archives of the Institute of National Remembrance, BU sygn. 0298/524, k. 20.

“Horrible Murder. Benjamin Nathan, the Broker, Assassinated in His Own House”, *The New York Times*, 30 July 1870;

BGKBZK 1946,1 – *Biuletyn Głównej Komisji Badania Zbrodni Niemieckich w Polsce*, 1946, No 1 “Obozy koncentracyjne i zagłady Oświęcimia”.

Brzeziński T. ed. (2015), *Historia medycyny*, PZWL, Warszawa, p. 321.

Cozantis D.A., (2004), One hundred years of barbiturates and their saint, *Journal of Royal Society of Medicine*, 97 (12), 594-598

Danysz A., Gryglewski R. ed., (1982), *Farmakologia. Podręcznik dla studentów medycyny*, wyd. II PZWL, Warszawa, pp. 268–269.

Despres L.M., (1947), Legal Aspects of Drug-Induced Statements, *The University of Chicago Law Review*, 14, 4, 601–616

Dession G.H., Freedman L.Z., Donnelly R.C., Redlich F.C., (1953), Drug-Induced Revelation and Criminal Investigation, *The Yale Law Review*, 62, 4, 315–347

Dubicki T., (2015), *Samodzielny Referat Techniczny (SRT) Oddziału II Sztabu Generalnego (Głównego) Wojska Polskiego. Geneza, organizacja i personalia* [in:] *Sekretna wojna. Z dziejów kontrwywiadu II RP*, Z. Nawrocki (ed.), Wydawnictwo Zys i S-ka, Poznań, pp. 221–237.

El-Seedi H.R., De Smet P.A., Beck O., Possnert G., Bruhn J.G., (2005), Prehistoric peyote use: alkaloid analysis and radiocarbon dating of archeological specimen of *Lophophora* from Texas, *Journal Ethnopharmacol.*, 101, (1–3), 238–242.

- Geis G., (1959), In Scopolamine Veritas, *Journal of Criminal Law and Criminology*, 50, 4, p. 348.
- Grantowicz J., (1934), Narkoza dożylna z zastosowaniem 'Evipanu- natrium', *Wiadomości Terapeutyczne*, VI, 3, 99–105.
- House R.E., (1925), Why 'truth serum' should be made legal, *Medico Legal Journal*, 42, 138–148.
- Inbau F., (1934), Methods of Detecting Deception, *Journal of Criminal Law and Criminology*, 24, p. 1155.
- Jay M., (2019), *Mescaline: A Global History of the First Psychedelic*, Yale University Press,
- Jurczyk W., Sikorski M., (2001), Anestezjologia w Wielkopolsce, *Anestezjologia Intensywna Terapia*, 2, 1–4.
- Keys T.E., (1996), *The History of Surgical Anesthesia*, Wood Library-Museum of Anesthesiology, Park Ridge, (reprint) pp. 38–40.
- Kinzer S., (2019), *Poisoner in Chief. Sidney Gottlieb and the CIA Search for Mind*, Hernry & Comp., New York.
- Kłodziński S., (1965), Zbrodnicze doświadczenia farmakologiczne na więźniach obozu koncentracyjnego w Oświęcimiu, *Przegląd Lekarski*, 1, 40.
- Krzewiński L. personal file, CAW Sygn. 1769/89/2710 AP).
- Logan J.C., (1905), The use of scopolamine in anaesthesia, *The American Journal of Nursing*, 6, 3, 166–170.
- Marcon A.F., (1913), Scopolamine-morphine as adjunct in inhalation anaesthesia, *Proc. R. Soc. Med. (Sect. Anesth.)*, 62–66.
- McCardie W.J., (1911), The use of scopolamine, morphine, atropine and similar drugs by hypodermic injection before inhalation anaesthesia, *Proc. R. Soc. Med. (Sect. Anesth.)*, 43–56.
- Nathan-Kazis J. (2010), A Death in the Family, *Tablet Magazine*, 13 January 2010 ([https://www. Tabletmag.com/sections/community/articles/a-death-in-the-family](https://www.Tabletmag.com/sections/community/articles/a-death-in-the-family)) (last visited on 17.02.2021).
- Who Killed Benjamin Nathan?* (www.murderbygaslight.com/2013/08/who-killed-benjamin-nathan.html) (last visited on 17.02. 2021).
- Olbrycht J., (1971), *Sprawy zdrowotne w obozie koncentracyjnym w Oświęcimiu* [in:] *Okupacja i medycyna*, pp. 19–39.

Orzeszko T., (1975), *Relacja chirurga z obozu oświęcimskiego* [in:] *Okupacja i medycyna*, Książka i Wiedza, Warszawa, p. 64.

Posner P., (2019), *Farmaceuta z Auschwitz. Historia zwyczajnego zbrodniarza*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków, s. 67.

Rafiński T., (1938), *Uśpienie za pomocą Evipan-Natrium*, unpublished doctoral dissertation, Uniwersytet Poznański, Poznań.

Rinde M., (2015), *Stranger than Fiction. Is there any truth serums?*, 2 December 2015 <https://www.sciencehistory.org/distillations/stranger-than-fiction> (last visited on 9.03.2021).

Schmidt E.A., (1892), Ueber Scopolomin (Hyoscin), *Archiv der Pharmazie*, 207.

Schneiderlin E., (1900), Eine Neue Narkose, *Aerzliche Miteilungen aus und für Baden*, 10, 101–103.

Serocca P., (1934-35), General intravenous anaesthesia with Evipan-sodium, *British Journal of Anaesthesia*, vol. VII, 78–80.

Sheedy Ch.E., (1969), Narcointerrogation of a criminal suspect, *Journal of Criminal Law and Criminology*, 50, 2, p. 120.

Späth E. (1919), *Über die Anhalonium-Alkaloide I. Anhalin und Mazcalin*, *Monatshette für Chemie und Verwandte Teile Anderer Wissenschaften*, 40, (20) 129–154.

Sterkowicz S., (1981), *Zbrodnie hitlerowskiej medycyny*, Wydawnictwo Bellona, Warszawa, p. 206.

Thorwald J., (1992), *Stulecie detektywów*, Polish translation, 2nd ed., Wydawnictwo Literackie, Kraków, pp. 110–111.

van Leewen W. Storm, von Szent Györgyi A., (1921), On scopolamine-morphine narcosis, *Journal of Pharmacology and Experimental Therapeutics*, 18 (6), 449–454

Winter A., (2005), The Making of ‘Truth Serum’, *Bulletin of the History of Medicine*, 79, 500–533.

Book reviews

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**Ocinka dostovirnosti: Naukovi doslidzhennia ta praktyka
(in Ukrainian, literally “Assessment of credibility: scientific
research and practice”), Kolegiya Poligrafologov Ukrainy
(Association of Ukrainian Polygraphers),
Kyiv 2020, No. 3, 304 pp.**

The Association of Ukrainian Polygraphers has published another issue of its journal, *Credibility Assessment: Scientific Research and Practice*. The articles within are grouped into five parts:

Part 1: Theoretical and legal basis

Part 2: Scientific research and practice (field examinations)

Part 3: Psychology and psychodiagnosis

Part 4: Excerpts from books by foreign authors

Part 5: Outstanding authors on the subject of the detection of deception

The authors of the articles are Ukrainian experts in polygraph examination and foreigners, mostly from the US (C. Honts, M. Handler, D. Datton, D. Krapohl, B. Stern, R. Nelson, and D. Ostin) but also from Belarus (V. Kniazev) and Slovakia (M. Kormoš).

The Ukrainian translation of the article on subjectivism in polygraph examination by J. Widacki and M. Gołaszewski, written originally in Polish, is published in Part 4.

The last, fifth part contains short biographical notes on outstanding authors and pioneers of polygraph examination including C. Lombroso, A. Mosso, W. Marston, J. Reid, L. Keeler, D.T. Lykken, and R. Weir.

Jan Widacki

The Basic Information for Authors

To publication will be accepts unpublished research papers as well as review article, case reports, book reviews and reports connected with polygraph examinations.

Submitted manuscripts must be written in English.

All papers are assessed by referees (usually from Editorial Board), and after a positive opinion are published.

Texts for publication should be submitted in the form of normalized printout (1800 characters per page). Use ScholarOne Manuscripts (for online submission and manuscript tracking).

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- A main document file with abstract, keywords, main text and references, which should be kept anonymous if the journal you are submitting to uses double-blind peer review;
- Figure files;
- Table files;
- Any extra files such as supplemental material or biographical notes.

The total length of research papers and review article should not exceed 12 pages, case reports – 6 pages, and other texts (book review, report) – 5 pages.

The first page of paper should contain: the title, the full name of the author (authors), the name of institution where the paper was written, the town and country.

Figures should be submitted both in printed form (laser print, the best) and electronic form.

Tables should be numbered in Roman numerals and figures in Arabic ones.

Figures, tables, titles of figures and titles of tables should be included on a separate page. The places in the text where they are to be included should be indicated.

The references should be arranged in the alphabetical order according to the surnames of the authors.

The references should be after the text.

Each reference should include: the surname (surnames) of the author (authors), the first letter of author's first name, the title of the book, year and place of the publication, the name of publisher, or the title of the paper, the full title of the journal, the year, the volume, the number and the first page of the paper.

For example (in references):

Reid, J., Inbau, F. (1966), *Truth and Deception: the Polygraph ("Lie-detector") Techniques*, Baltimore: Williams & Wilkins.

Abrams, S. (1973), Polygraph Validity and Reliability – a Review, *Journal of Forensic Sciences*, 18, 4, 313.

and (Reid, Inbau, 1966), (Abrams, 1973) inside text.

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Preparing your files

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