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Andrzej Frycz Modrzewski Krakow University



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Jerzy Konieczny*

Andrzej Frycz Modrzewski
Krakow University
Krakow, POLAND

Polygraph Examination and the Crisis of Traditional Concept of Forensic Identification

For some time now, certain practical and theoretical achievements of forensic sciences have become subject of a very serious criticism. It is difficult to say what was at the root of this process: whether it was the glaring neglect on behalf of the experts and others in the trial of the so called “Birmingham Six” (although this very case is often considered a milestone in expertise quality), or other, unfortunately numerous examples of drastic expert errors, which led to penalizing innocent persons, or the increase of methodological awareness of some academic authors. Undoubtedly, both factors had their role here – dramatic social response to the judicial mistakes, as well as essential deepening of the interest in epistemological aspects of forensic sciences. The

* jerkonieczny@wp.pl

latter has to be considered more important, since without questioning the very basis of hitherto assumed identification theory, the expert errors and as a consequence also judicial ones, would probably be regarded accidental in the generally efficient mechanism, based on – except for DNA tests – views of the 19th century founders of the forensic system, their direct successors, and the experience of the generations of police officers dealing with identification, and transfer of this knowledge to (often uncritical) juridical groups.

Polygraph examination has always been a subject of controversies, which leads to the question if the current wave of criticism, directed basically against certain classic foundations of the forensic identification, can reach also this technique. The purpose of present comments is to attempt to decide this question.

First, let's consider if the most general theoretical assumptions of the polygraph examination are coherent with classic theoretical views of forensic science.

The first rule, determining the possibility of even performing forensic identification, is the rule of transfer – formulated in 1920s century by E. Locard. Put most simply, it states: every contact leaves a mark. Participation in an event, or more generally: conceiving by a person of information about certain event leaves a memory trace. Therefore the transfer leads from event (known from participation, or from third party account) to person. The subject of the transfer is an information, and emerged mark – a memory trace in mind of this person. As every trace, also this one should be protected – its integrity should be preserved, degradation should be limited, and contamination should be avoided (K. Inman, N. Rudin 2001, p. 355–256).

Two situations of such trace should be distinguished. Until its bearer becomes a “candidate” for polygraph examination, nobody has influence on the trace's lot, exactly as nobody has influence on the marks left on a crime scene, before someone finds it. However, when a bearer at least potentially becomes a candidate for examination, then the postulates of protecting the trace become substantial, same as in case of any other trace.

Every human mind stores a huge number of memory traces. The goal for polygraph examination, technically speaking, is to establish if the inventory of traces of the examined person contains traces that are interesting e.g. to the

criminal investigation that is being led. If so, then the record of examination will show – as an impact of stimuli – responses of certain intensity. In order to affirm if registered responses are evidence of existing memory traces containing information hid by the examined person (thus proving their deception), the stimuli should be differentiated.

In a polygraph examination, the stimuli are questions, which can be divided into relevant and “other”. As a result of the examination we obtain two sets of responses: these recorded after relevant questions, and these after the “other” ones. Because in the course of specific examination it is impossible to ask all the questions that could relate to the investigated case, these sets can be considered as samples taken from one or more general populations. (C.G.G Aitken, F. Taroni 2004) It is easy to notice that the situation is typical for so called scientific evidence, and methodology of polygraphy elaborated techniques of deciding the tests results.

In general, the following results of forensic expertise are possible: true, false, false negative, false positive, inconclusive, no result (K. Inman, N. Rudin 2001, p. 357). In case of polygraph examination the possibilities are exactly the same: the result can be true (if a “sincere” person is indicated as “sincere” and “insincere” is indicated as “insincere”), false negative (if an “insincere” person is indicated as “sincere”), false positive (if a “sincere” person is indicated as “insincere”), inconclusive (if obtained record of responses do not give ground to indicate the examined person as either “sincere” or “insincere”). It is also possible to arrive at a situation where there is no result, because the subject had not agreed to be tested.

From general duties to be fulfilled by a forensic expert, we can list the following: (1) obligation to deliver material hitherto unknown or supporting certain vision concerning the examined event, (2) material localized in context of the evidence collected so far, (3) facilitating the decision for the trial decision-maker and (4) material obtained only in person, or under personal supervision. (B. Caddy, P. Cobb 2007). It is clear that also in this case, the duties remain the same for the polygraph expert.

Now, let us consider what today is the subject of criticism towards the traditional theory of forensic science.

First of all, it is noted that the central assumption of identification, i.e. that if two traces are indistinguishable from one another, than they are produced

by one object, is theoretically and practically groundless. As a result, another assumption is made: if two traces do not come from one object, then they differ from each other (Reader would kindly notice that the second assumption is not a logical conclusion of the first). We also have the third assumption, which is that some traces are characterized with “discernible uniqueness”, meaning that they are individual and unique and therefore the first or second assumption must be true (M.J. Saks, J.J. Koehler 2005, p. 892–895).

In addition to that let us say that the pronouncements about the individuality of the trace (which usually is one of the first things done by expert), concluded with a remark that “the trace has individual features” and thus are suitable for examination, is often made subjectively, basing on the expert’s experience, so clarifications that are sometimes added, such as “the traces have forensically indistinguishable features” are justified only by the subjective beliefs of the expert, and nothing more. These weaknesses do not prevent experts from deriving actual advantages from applying the individualization rule, by giving firm, categorical opinions, with definite conclusions. Moreover (and it is hard to say what is worse), “discernible uniqueness” releases experts and excuses forensic scientists from developing methods of measuring features of the examined objects, gathering data characterizing their population, studying the distribution of variance of features, testing their independence or calculating and explaining the probability of accordance of the observed features of investigated material (M.J. Saks, J.J. Koehler 2005).

The result of attacking the forensic individualization rule is the lack of theoretical and practical justification of the expert opinion of handwriting, fingerprints, tools traces, hair (at least in case of microscopic methods), teeth, bullets, footprints and footwear – in short all these expert opinions that rely on comparing the traces which are considered to present discernible uniqueness (M.J. Saks, J.J. Koehler 2005, *ibid.*)

We can find the continuation of this determined criticism of the expert evidence applying the individualization rule, in the work of M.J. Saks, J.J. Koehler (2008, p. 199). The reasoning is the following. Forensic identification consists of two steps: first we compare an item of evidence (questioned sample) to an item gained from a known source and determining the level of their convergence. The second step is to determine the probability that they originate from the common source. Both of these steps present risk

of making a mistake, however this risk is not researched. Not only does the practice show the possibility of expert errors, there is also data proving that the same experts examining the same material (unknowingly, at some time interval) arrived at different conclusions, probably influenced also by differing information about the cases contexts given to them (*sic!*). There is – according to authors – no scientific argument supporting the use of the individualization rule. The expert, even if stating a full accordance of features of the evidence and comparative material, should not categorically conclude a common source of their origin. “Expert should explain that, in finding that two patterns match, they have placed the suspect object or person in a pool of one or more objects that match the evidentiary marks. The strength of the likelihood that the known object or person shares a common source with the questioned object or person depends on the size of the pool. No scientific justification exists for assuming that the size of the pool is one” (M. J. Saks, J.J. Koehler 2008, s. 216–217).

From these reservations the authors exclude only the DNA expert opinions, stipulating urgent exclusion of the traditional forensic expert opinions in the present shape from the trial application.

Besides, even forensic examinations of DNA had its affair with the notion of uniqueness. Some time ago FBI announced that they will authorize its experts to give opinions about person’s individual identification based on blood, sperm or other biological materials found at the crime scene, if the probability of the compatibility of the DNA sample features derived from the questioned trace and the other, randomly selected sample is lower than 1/260 billion. In this situation the expert could decidedly state that the level of the scientific certainty is sufficient to exclude from the group of donors the questioned material all the other people in the world, besides the donor of the comparative material; the certainty of common source of both samples was not to be doubted. This concept was criticized by many specialists: they pointed out the lack of the logical and meritorious foundation of this solution, the lack of the possibility of conducting presenting counterevidence (e.g an alibi) and limiting the court in the establishing of judicial standard “beyond reasonable doubt” (C.G.G. Aitken, F. Taroni 2004, p. 86–87).

It was also shown that traditional opinions, with the use of the principle of individualization, are disadvantageous for the defendant, and they increase the jurors’ inclination to pronounce guilt. The lack of the persuasive efficiency of cross-examination, opposing expert and instruction for jury in the traditional expertise was emphasized (D. McQuiston-Surret, M.J. Saks 2008, a good list of the critical literature about the traditional identification methods can be found there). Similar criticism can be also presented in

the moderate version; particularly the ontological foundations, logical and mathematic principles of individualization and its general forensic sense are defended, however without the support for the present experts' practice in this field (see D.H. Kaye 2008). The last is also being attacked more and more ruthlessly, with indication that forensic expert opinion can work perfectly without the concept of "uniqueness" and "individuality", and abandoning both ideas will result in increased methodological examinations standard, with all the positive consequences of this fact (S. A. Cole 2009). S. A. Cole argues that: uniqueness is not needed, because its process cannot be well motivated, it is also irrelevant taking under consideration its evidential value of forensic assays. The idea of individualization can be supported after conducting a sophisticated theoretical construct, but its usage is maleficent and it stops the development of the forensic areas that apply „individualization". The price of the elimination of the uniqueness and individualization will be resignation from the definite opinions, but it will be more honest; the example of DNA examinations showed that "forensic science can live without individualization" (S. A. Cole 2009, p. 17). The problem is that the change of the paradigm of opinions requires a) an immense effort of scientists and experts, b) which is not in the interest of the latter, and c) not necessarily is beneficial for the courts of justice which were freed from the labor of thinking by traditional expert opinions.

The three points above are the deepest manifestation of the crisis, which is discussed here.

The American National Research Council of the National Academies in its moderate report states directly that in the recent years in the USA many different factors led to the increase of the requirements towards the incoherent and underfinanced forensic infrastructure, which raised serious questions and anxieties regarding validity and reliability of some forensic methods and techniques, as well as the ways of presenting expert opinions' in courts (National Research Council (NRC) 2009, section 1–4). Radical authors (like the above-cited S. A. Cole and D. H. Kaye and others; see further paragraphs) criticized this report despite embracing its conclusions, and indicating the lack of determination in formulating the proposals for improvement.

The end of the era of the categorical experts' opinions will come along with the end of the lawyers' complaints about the "expert's dictatorship". What is even more important – according to A. P. A. Broeders – „Forensic scientists should not be allowed or should not take it upon themselves to usurp the role of the expert is to pronounce upon the weight of the forensic evidence, not to address the ultimate issue" (A.P.A. Broeders 2007, p. 332).

Consequently forensic science has found itself – not only in US – “under siege” (K.M. Pyrek 2007). It’s not the kind of siege where the attacking forces intend to exterminate the local population upon capture (at least not in its entirety). It is rather an attempt to force the defenders to engaging into substantial discussion, to establishing a reliable overview of situation and to implementing major revisions.

However sometimes the besieged stumble somewhat. It was in 1997 that a consortium of American traders produced an *amicus curie* letter in which we can find following comment: “the great bulk of expert testimony provided by law enforcement officers does not involve scientific theories, methodologies, techniques, or data in any respect (...) Instead, law enforcement officers testify about such things as accident reconstruction, fingerprint, footprint and handprint [identification], handwriting analysis, firearms markings and toolmarks and the unique characteristics of guns, bullets, and shell casings, and bloodstain identification” (after M. J. Saks, J.J. Koehler 2005). Along with M. J. Saks and J.J. Kohler, consider the irony of this pronouncement. Probably it was caused by that kind of temporary weak-mindedness, which was known, already to St. Peter. But did the besieged themselves note it?

In this context, polygraph examination rather should not find itself at the risk of a new wave of criticism, mostly because its theory does not use either the concept of the individualization or the uniqueness. However, there is a possibility of new suggestions for modernizations of expression of probability (or larger: uncertainty) during determination results of polygraph examination. This tendency was clear already in the recent report of National Research Council concerning polygraphy (National Research Council (NRC) 2003).

But there is no space for doubts: “All results for every forensic science method should indicate the uncertainty in the measurements that are made ... (NRC 2009, section 6-1)”, and at the Recommendation 3 of the report we can find: “The National Institute of Forensic Science (NIFS) should competitively fund peer-reviewed research in the following areas: (...) (c) The development of quantifiable measures of uncertainty in the conclusions of forensic analyses” (section 6–6).”

In comparison with similar forensic techniques like handwriting analyses, tool identification, bite marks identification and other above-mentioned techniques, forensic polygraphy is in a very good situation. Validity, reliability and accuracy of basic techniques and tests in polygraph examination are well known. Moreover, strictly fixed values of that factors determine admission of specific method to practice (D. Krapohl 2006).

The problem of relaying the uncertainty of the examination results in the reports from field examinations is not solved yet. It is well understood that there is a lot of sources of uncertainty and thus one clearly positive aspect of the current crisis is, or will be, that the experts will be coerced into giving the measures of the uncertainty of results, and so definite opinions will be eliminated. There is no clear idea how to present the information about uncertainty in practice. There are many possible options and discussion about it is needed. It should be focused on epistemic/cognitive aspects of examinations. If so, results of examinations presented in a disciplined manner and made clearly understandable for the audience will become a new element of quality. As M. Redmayne accurately points out: the expert opinion “must be communicated in clear and meaningful terms, and be accompanied by sufficient background information to enable other decisions-makers to contextualize the results.” (M. Redmayne 2000, p. 311).

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Vitas Saldžiūnas*

VIP Protection Department Ministry of the Interior
Vilnius, LITHUANIA

Aleksandras Kovalenko**

Police Department Ministry of the Interior
Vilnius, LITHUANIA

Problems of Questions in Event Knowledge Tests

When reviewing application possibilities of event knowledge tests (GKT, CIT, EKT), all authors (Abrams, 1989; Ben-Shakhar and Elaad, 2002; Krzyscin, 1998; Lykken, 1981; Matte, 1997; Nakayama, 2002; Soshnikov et al., 2008) state that the application of event knowledge tests is limited due to the following:

1. It is difficult to formulate a sufficient number of relevant questions;
2. The number of questions reduces because the information about the details of an event is publicised in the media and sometimes it is made public by incompetent criminal police investigators or prosecutors.

We have been unable to find in any literary sources any descriptions of experiments on the impact of the information about a criminal event which

* vitas.saldziunas@vad.lt

** aleksandr.kovalenko@policija.lt

was made public on the results of polygraph testing. We are planning to collect more experimental data about this phenomenon and when we are ready to comment on the results they will be announced.

Polygraph testing is aimed not only at identifying the perpetrator. The major target is to objectively determine the circumstances and the actors of the crime. When a polygraphist is assigned a task and starts working with a subject examined, he does not know whom he/she is facing – a person completely unrelated to the event, a witness, an accomplice or a perpetrator of a crime. In cases when several people committed a crime, each of them may have contributed to the crime in a different way.

We prepared two tactics of questions and tested them in the investigations of criminal offences.

PERPETRATOR IDENTIFICATION TACTICS. It has been already mentioned that we do not recommend using the so-called direct questions and answers in EKT tests (Salžičūnas and Kovalenko, 2008). The following example illustrates the aforesaid. Investigators have to find out who stabbed a victim with a knife. A question and multiple-choice answers are formulated in the following way:

Who stabbed the victim with a knife?

0. Walter
1. Otto
2. Ivan
3. Peter
4. Simas
5. Arthur
6. Someone else.

The names: Walter, Otto, Ivan, Peter, Arthur are foreign, and only Simas is Lithuanian.

The polygraphist is examining Simas who claims that he does know who stabbed the victim. The circumstances of the event under investigation have been discussed with Simas. He is aware that the investigation conducted concerns the murder of Mr. K., he knows the time, place of the murder and how the victim was murdered. The polygraphist reads out the question and explains that during the polygraph testing he will be told several names and if he does not know some of the names or is not sure that this person committed this crime, he has to respond – NO. Due to the fact that according to Simas he does not know who the murderer is, it may be assumed that he will say NO to each option of the answer. Option 0 contains the name of a person

who certainly could not commit the murder (Salžiūnas and Kovalenko, 2008). Option 6 says “Someone else” and according to Y. Kholodny, E. Lewandowski and L. Lewandowski (2008) it should close the entire circle of suspects.

Possible results:

1. The polygraphist records the strongest psychophysiological response after the answer NO to the name Simas. There is a response, however, the polygraphist cannot make any conclusions. The psychophysiological response may be elicited because he is the murderer or only because of the subject's fear of polygraph (Ekman, 1992) (In this paragraph and further in the article other potential stimuli that could elicit a psychophysiological response are not considered (Salžiūnas, Kovalenko and Soshnikov, 2009).
2. The polygraphist records two strong psychophysiological responses after the answers NO to the name Simas and “someone else” or another one. The polygraphist may assume that the other person may be associated with the crime, however, it is completely unclear what was Simas' role in the crime (a perpetrator, an accomplice, a witness) due to the aforementioned reasons.
3. The polygraphist records the strongest psychophysiological response after the answer NO to any of the names with the exception of the subject's own name. If this is backed by responses to certain options of the answers to other questions, the polygraphist may conclude that it is the name of a potential murderer.
4. The polygraphist does not record any significant psychophysiological responses. It is very likely that Simas is neither a witness nor a perpetrator.

It is not possible to judge about Simas' role in this crime on the basis of the question-answer example and the analysis of responses demonstrated above. Therefore, we modified the answers to the question:

Who stabbed the victim with a knife?

0. Walter
1. Otto
2. Ivan
3. Peter
4. Robert
5. Arthur
6. Someone else

The name Simas was replaced with Robert, i.e. the answers do not contain the subject's name. After the polygraph testing, if the polygraphist records

the strongest response after the answer NO to option 6 – Someone else – the conclusion may be drawn that the crime was committed by the subject examined or a person whose name is not on the list. Undoubtedly, the final decision is made only when the results of the entire complex of polygraph testing questions are obtained (Salžiūnas and Kovalenko, 2008). When assessing the subject's psychophysiological responses one should not forget about the effect of waiting for a "dangerous" option of the answer which has been already discussed (Salžiūnas and Kovalenko, 2008). We suppose that when using the combination of both techniques of multiple-choice answers demonstrated above, more detailed information may be obtained about the person who committed the crime.

When we started applying the **PERPETRATOR IDENTIFICATION TACTICS**, we thought that we may face a problem when working with persons of low intellect, i.e. they might not understand the last option – Someone else. We had to examine a barely literate suspect of Roma origin from the rural area of the country. To our great joy, he understood the option of the answer and the tactics proved right.

PERPETRATOR ROLE IDENTIFICATION TACTICS. We prepared this tactics on the analogy of the classical SKY test (Abrams, 1989; Matte, 1997) and situational sequencing test (Javorski, 2006). The roles of a witness and a perpetrator are distinguished in these tests.

The application of this tactics is illustrated by the following example. The perpetrator or several perpetrators injured a person with a knife and the injured bled to death. Post-mortem experts usually identify the number of blows with a knife, yet very seldom due to certain reasons they are not successful in this. We suggest formulating two questions with the options of answers in the following sequence.

Do you know how many times the perpetrator (perpetrators) stabbed the victim with a knife?

0. 6 (six) times
1. 5 times
2. 4 times
3. 3 times
4. Twice
5. Once
6. Not a single time

How many times did you jab (stab) the victim with a knife?

0. 6 (six) times

1. 5 times
2. 4 times
3. 3 times
4. Twice
5. Once
6. Not a single time

The polygraphist reads out the questions to the suspect and when conducting polygraph examination gives the answers in succession and the suspect responds to them YES or NO.

Possible results

1. The polygraphist does not record any significant psychophysiological responses neither to the answers of the first question nor to the answers of the second question. It is highly probable that the subject under examination did not commit the crime and did not see how the crime was committed.
2. The polygraphist records the psychophysiological responses to the same answers of both questions, for example 4. It may be assumed (if it is proved by other questions) that the examined subject thinks or remembers that he delivered the number of blows indicated in these answers (twice according to the example). In such cases the examined subject nearly always responds YES to the sixth answer of the second question and after this answer the psychophysiological response is also recorded.
3. The polygraphist records the psychophysiological responses to one of the answers to the first question (to answers 1–5 in the example) and does not detect any reliable psychophysiological responses to the answers of the second question. If this is backed by further examination, the examined subject is a witness or an accomplice.
4. The polygraphist records the psychophysiological responses to the answers of both questions which are not the same (for example, answer 3 to the first question and answer 2 to the second question). In this case a deeper analysis is required. In the event when the crime was committed by several perpetrators, it may be identified how many blows with a knife each perpetrator delivered by analysing the responses to the answers. Sometimes the suspect vaguely remembers the event or does not remember how many times the victim was stabbed. Due to this reason, there may be discrepancies between the responses to the answers of the first and the second questions. Due to the same reason, the number of blows with a knife may not correspond to the

number of blows established during the post-mortem examination. There may be other reasons as well (Salžiūnas, Kovalenko and Soshnikov, 2009).

Both tactics broaden the possibilities for EKT test application and help criminal investigators to identify more circumstances of the crime. Such an explanation is easily understood and accepted by participants of legal proceedings – lawyers, prosecutors and judges.

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Jan Widacki*

Andrzej Frycz Modrzewski
Krakow University
Krakow, POLAND

When should the Polygraph Stimulation Number Test be Performed?

In his recently published monograph *Badania poligraficzne – podręcznik dla zawodowców*, literally “Polygraph testing – a handbook for professionals”, Jerzy Konieczny recommends performing the stimulation number test as the first in the series, opening the examination (Konieczny 2009, 151, 155). Besides him, a few other authors recommend that this test begins the examination.

In *Truth and Deception*, a work that has become a classic, J. Reid and F. Inbau (1976, 38) recommend using the stimulation test second, after conducting the first test of control questions, and before its repetition.

Similarly, Abrams recommends using the stimulation number test second (Abrams 1989, 120). The US Army polygraph school adopted the stimulation test administered as the second test (Matte 1996, 308–312). There were also several other authors who compared the changes in reaction intensity in

* jan.widacki@gmail.com

control question tests (CQT) separated with a stimulation (number) test (see: Senese 1978; Matte, Reuss 1989).

This order of tests – control question test, stimulation number test, and repeated control question test – is also recommended in numerous works of Polish literature (e.g. Widacki 1981, 98; Widacki 2008, 377).

Tests were carried out in this order in practical polygraph examinations performed in Poland.

The justification for this order of conducting tests was the assumption that having learned the results of the stimulation number test, a subject who answered the critical questions in the first control question test deceptively will become convinced that his or her reactions to critical questions are recognizable, and shall react more strongly in the repeated control question test. In turn, a subject who answered the critical questions in the first test truthfully, but was afraid that his or her reactions may be improperly interpreted, will calm down after the control question test, becoming assured that the result of the examination will remove any unfair suspicion from him or her.

This theoretical assumption was verified in Polish research. Analyzing polygraph recordings of 30 individuals considered deceptive subjects (DI) in tests performed according to the Reid technique, Krzyścin discovered that in 22 (63%) cases, reactions to critical questions in the second control question test performed after the stimulation number test were greater than in the first series before the stimulation. In other cases, these reactions did not change or were even smaller (Krzyścin 1980, 145).

In another study, the quantitative analysis of polygraph recordings of 14 subjects considered DIs and examined in criminal cases proved that the sum total of numerical values of reactions in the first Reid test was 158 points, while the sum total of the value of reactions in the repeated test following the stimulation number test stood at 169 points. Nevertheless, in as many as eight (57 %) cases there was a slight drop in the intensity of reaction, while an increase in the reaction occurred only in six cases, yet in all those cases the increase in reaction was highly significant, which was decisive for the overall average (Widacki 1982, 51–52).

In fact, the case was similar in the group of 22 subjects considered non-deceptive, truthful subjects (NDI) and examined in criminal cases. In this group, the total numerical value of the reaction was 73 points in the first Reid control question test, while in the test repeated after the stimulation number test the total numerical value of the reactions in fact slightly dropped – to 65

points. Yet even in this group of subjects – in 11 cases, that is 50% – reactions to critical questions in the repeated Reid test remained at the same level, if not slightly increased (Widacki 1982, 56–57).

The result of this research allows us to state that claims about the increased reaction in control question tests repeated after the stimulation number test in the DI group are true for the entire body of cases, while for each individual case this can be misleading.

The situation is the same for individuals considered as NDI. The claim about reduction of the reaction to critical questions after the stimulation number test is true for the entire body of cases, yet can be misleading in reference to an individual case.

It seems that only the ascertainment of a marked increase/reduction in the reaction following the number test may be of accessory diagnostic significance, helping to tell the difference between the DIs and the NDIs. A slight change in the magnitude of reaction following the number test is not as a rule diagnostically significant.

One could believe that falling upon this premise for diagnosing could be more precise, if one had additional knowledge of the degree of trust of the person tested to the test itself, and about that person's conviction about the reliability of the method.

The following situations are theoretically possible:

The subject	Trusts the examination	Does not trust the examination	Reaction intensifies	Reaction is reduced	Incidental reaction (remains the same, increases or decrease)
DI	+				+
DI	-	+	+		
NDI	+				+
NDI	-	+		+	

Thus, in the case of a DI person trusting the test and convinced about the reliability of the examination, the magnitude of the reaction following the

number test will be the same, slightly greater or slightly smaller than in the test performed before the stimulation number test. The change therefore remains inconclusive in relation to the number test.

In the case when a DI person does not trust the examination and/or examiner, this person's trust for the examination increases after the number test and consequently his/her reactions should grow.

In the case of an NDI person trusting the polygraphic examination and the examiner, their reactions following the number test may remain the same, increase or decrease, which will be the result of factors other than learning the result of the number test.

In the case of an NDI who trusts neither the examiner nor the polygraph test, trust after the number test should grow and consequently the reactions to critical questions should diminish.

The circumstance whether the subject believes the polygraph test to be efficient and trusts the examiner may in most cases be decided during the interview preceding the examination. In conjunction with this information, the increase or decrease in reactions in the second Reid control question test conducted after the number test may be of greater diagnostic significance than at present.

It seems that, for the reasons given above, the stimulation number test should be considered as the second, dividing two tests of control questions.

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Book reviews



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Daniel T. Wilcox (Ed.)

*The Use of the Polygraph in Assessing, Treating and
Supervising Sex Offenders. A Practitioner's Guide,*

Wiley-Blackwell, Chichester, 2009, pp. 332

This newest book on the global market devoted to polygraph testing is edited by Dr. Daniel T. Wilcox, a famous British clinical and forensic psychologist. It is a joint effort, including contributions mostly by British and American authors, as well as those from Australia, New Zealand and the Netherlands. The volume consists of a foreword, followed by fourteen relatively lengthy chapters. Each of the chapters is highly competent, well documented and comprehensive in scope, and focuses on the subject matter of polygraph post-conviction sex offender testing (PCSOT).

The introduction, authored by the former president of the American Polygraph Association and current chair of the APA PCSOT committee, states that polygraph testing of sex offenders is the most rapidly developing sector of polygraph examinations in the world. In the USA such examinations are used in 46 states, and the remaining 4 states are in the analytical stage of the process of their introduction. Never before in the history of polygraph testing did such examinations have such support in this area as they do now. Apart from the natural support of polygraphists, these tests are also endorsed by the judiciary and by politicians.

It is likely that these circumstances, coupled with the fact that Great Britain is now preparing for the introduction of PCSOT on a large scale, are where the book stems from.

Overall, the volume presents the scope of the use of polygraph testing in rehabilitation of sex offenders. Irrespective of the complex and varied corrective and therapeutic concepts, a constant element of working with offenders who were convicted and then released on parole is their comprehensive monitoring, aimed at the reduction of the possibility of their committing another crime. Clearly this job is well suited for polygraph testing. The use of polygraph examinations for monitoring sex offenders on parole was initiated by Stanley Abrams in 1973. Despite certain shortcomings in terms of scientific grounding, PCSOT was developed in the USA in a number of wide-ranging programmes.

The polygraphist who carries out the PCSOT is one of the elements of the triad: therapist (rehabilitator) – probation officer (usually a police officer) – polygraphist; usually in the monitoring capacity and with the task of supplying the other two officials with information on the offender.

The programmes carried out nowadays usually consist of four types of examinations. The first group consists of examinations aimed at obtaining a confession with regard to the offence that was the basis of conviction. This naturally applies only to offenders who had not confessed earlier during the criminal trial, hence the name: specific issue denial testing. If the offender acknowledges his/her guilt status, further corrective methods are easier to apply.

The second group consists of sexual history disclosure examinations, which allow for a better understanding of the past interests and sexual behaviours of the subject, as well as a better selection of measures and more accurate estimate of risk and direction of possible re-offending.

The third group contains maintenance polygraph examinations, where the extent to which the offender on parole implements the requirements of the court is examined. Tests deliver up-to-date information on the behaviour of the offender and are conducted every 3-6 months.

The last group consists of monitoring polygraph examinations, which are directed at discovering possible new offences or breaches committed while on probation. The tests are conducted on the basis of information obtained by the authorities pertaining to the fact that the offender fails to observe the requirements imposed upon him/her, e.g. he/she was seen meeting minors with no supervision, visited websites with banned material or used public libraries for accessing such materials, or entered an area where he/she was not allowed to go.

Clearly, PCSOT is conducted not with the purpose of learning more about the crimes which are under investigation (with the exception of monitoring examinations), but rather in order to make the offender acknowledge his/her

guilty status and accept rehabilitation as a value. This is reflected both in the way the offenders are motivated to take the tests (e.g. by informing them of the consequences of being deemed “liars” at the current phase of probation), as well as the offenders’ perception of the examinations. These perceptions are usually favourable, since the very fact of appropriate cooperation with the polygraphist creates the opportunity for improving the offender’s image.

Polygraph examination also improves the cooperation of the person undergoing rehabilitation in their contact with the therapist. Moreover, it is a source of new useful information for both the therapist and the probation officers. Of course, the close cooperation of all parties involved is a key factor. This cooperation is carried out within the framework of a rehabilitation plan, drafted individually for each offender. There is a lot to be said for the utility of polygraph tests in predicting the risk of future undesirable behaviours of subjects. In this respect, it is vital to discover the past frequency of offending and of failing to observe probation requirements. The possible discovery of unknown facts pertaining to using violence within a sexual context is also crucial.

Questions arise as to the diagnostic value of polygraph examinations in this context. Scientific knowledge in this respect is largely imperfect, since most experiments and studies have so far focused on the effectiveness of polygraph testing pre-conviction. The modest scope of research material does provide scientific grounding for optimism, albeit with a clear recommendation to treat results which are unfavourable to the subjects as “red flags”, i.e. warning information only, which should not become the sole basis for further actions.

The American Polygraph Association has been working on developing a set of standards for examinations of this type. The minimum has been set at completion of a 40-hour specialist course for polygraphists intending to carry out PCSOT. Many state jurisdictions in the USA have accepted this requirement either in its original form or with adaptations to their own specific circumstances.

There is no intention to hide the deficit of knowledge on validity, reliability and accuracy of polygraph examination in the case of convicted sex offenders. Moreover, there is no option to release the polygraphist community from the duty to diligently research the effectiveness of polygraph examination in PCSOT usages. The following questions remain in force: Would those people who are being monitored and rehabilitated be more honest if polygraph examinations were excluded from the inventory of measures used towards them? Are the tools of clinical diagnostics available to therapists and the control measures used by probation officers more efficient than polygraph

examinations? These are no easy questions. It seems, however, that negative answers to them are more justified. One must also agree with the following statement: "Errors with deceptive individuals can lead to new offences against children, whereas errors with truthful individuals can devastate people's lives" [T. Cross, L. Saxe (2001), Polygraph testing and sexual abuse: The lure of the magic lasso, *Child Maltreatment*, 6, p. 203]. While this caution is important to remember, the same errors can be made without the polygraph and result in similar consequences" (p. 212).

The last part of the volume to some extent broadens its primary scope. Namely, it appears that the same assumptions that underlie the use of polygraph examinations in rehabilitation of sex offenders are applied also in respect to other offenders, and in particular to perpetrators of acts such as stalking, domestic abuse and other violent behaviours, some with the sexual aspect included. Despite the first – and encouraging – attempts to use polygraph examinations in these types of cases, the considerations on this new field of research remain in the realm of speculation. However, they give rise to hopes on the expansion of post-conviction examinations. It is natural that there is a tendency to appreciate a potential new source of independent information on an offender.

The book ends with a few notes on the tactics of interviewing and interrogation, alternate new technologies of lie (deception) detection (a very interesting review of the newest research in this area) and a final review on forensic (but other than polygraphy) assessment of sexual interest.

As I mentioned earlier, all of the constitutive parts of the volume are very well written. The language is clear and, as far as it is possible to be so in scientific texts, simple. The editing of the volume is also excellent, with the possible exception of the (perhaps inevitable?) repetitions of historical references. It is worth stressing again that the documentation of each article/chapter is impressive.

Since it is very difficult to criticise what the book contains, let me say a few words on what it fails to contain and what it in my opinion definitely should contain, considering that the focus of the volume is, apart from the sex offender, on the polygraphist-practitioner. This polygraphist-practitioner should be able to find in this book two more chapters: one on the specific role and the details of the pre-test interview in PCSOT, and another on the optimal techniques of examination. These issues are mentioned in the book on rare occasions only, and are scattered throughout the volume. This is certainly insufficient. Possibly in future editions these matters will be dealt with in more depth. Maybe a monograph is in the works already, and the authors and the publisher are aware of that? That would be very good news.

The final conclusion is clear: we have gained a book that is very good and very important for lawyers, criminologists, forensic scientists, police officers, experts on polygraphy and those concerned with the penitentiary system, therapists, probation officers, activists and everyone interested in counteracting sex crimes.

May 27, 2009

Jerzy Konieczny*

* jerkonieczny@wp.pl

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) and in electronic form (diskette, CD), or sent by e-mail to Editorial Office.

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):

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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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"European Polygraph"
Andrzej Frycz Modrzewski Krakow University
ul. Gustawa Herlinga-Grudzińskiego 1
30-705 Kraków (Poland)

Or e-mail: margerita.krasnowolska@kte.pl