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TESTING PROCEDURE OF THE POLYGRAPH EXAMINATION

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Abstract: *There are several methods to examine the testimony, and the same applies to the instrumental methods establishing the truth. The legislator shall only allow the use of the appropriate methods and instruments seeking the truth. In Hungary the most common method for the instrumental examination of the testimony is the polygraph, which provides relevant information for a criminal case. It is conducted with the involvement of an advisor and allows the advisor to conclude, from the physiological changes, generated by the denials of the person being tested, whether the denial was trustworthy, i.e., whether the answer to the question asked by the advisor was deceiving. The polygraph is used by the Hungarian law enforcement authorities since the end of the 70s, after the technical and methodological foundations were created. During the first few years of the use of the polygraph most of the concerns were raised regarding the scientific nature of the examination. The main reason for that was that in the 60s it was regarded as a "capitalist pseudoscience", it was believed that the application of the polygraph prejudices the fundamental principles of the criminal procedure. These days there have been doubts about the validity of the polygraph, and this makes the biggest dispute on this instrument. The goal of this study is to review the operation of the polygraph. The study presents the course of the examination and reviews the questioning techniques (the concealed information tests and the control questions technique) and presents these through a concrete case.*

Keywords: *polygraph, polygraph examination, testee, adviser, Control Questions Test, Concealed Information Test*

1. The course of the polygraph examinations

Polygraph examination methods are not the same in every country, even in Hungary there are differences between advisors. In the following I will demonstrate what happens in the examination room with the help of a widespread examination methodology in Hungary.

1.1. The Consultation

During the preparations the polygraph examiner discusses the testee and the given criminal case with the official in charge of the case. The adviser generally asks the following questions:

- What is the case?
- Who is the testee? How is he connected to the case?
- What does he know about the case (from the media, from the police etc.) and what doesn't?
- Does he agree with the examination? (Kerekes 2015)

After being answered the examiner studies the documents of the investigation, establishes the aims and directions of the examination and defines the data needed to be clarified by the examination. Then he elaborates the sequence of questions and defines the course of the examination. According to the practice the advisor compiles 4-6 sequences of questions in advance, expecting that the testee will say at a critical question that he has already heard the right answer from somebody. In this case that sequence of questions can not be used, so some more sequences of questions come handy. Before the polygraph examination he again discusses the case with the person in charge if needed.

1.2. The interview before the examination and the discussion of the test questions

After the preparations the examination starts with a preliminary interview, during which the examiner decides if the examination can be performed on the testee. The polygraph examiner must have a clear picture of the state of health of the testee as well as his intellectual qualities and self-awareness. The examiner asks questions from the testee, like: Do you smoke? Did you take drugs in the few days before the examination? How many hours did you sleep before the examination? Etc.

Although the examiner prepared control questions on the basis of the documents of the investigation this short talk is a good means to find out some more control questions if needed. A good control question is the basis of the examination and must be followed by a negative answer.

It is important that it must not be a routine question (for example. "Have you stolen anything in your life?" "Have you ever hurt somebody?") otherwise it will not fulfil its task, and might lead the examination astray if the non-guilty testee is more afraid of the critical (or relevant) questions than the control questions. A way to find good control questions is to ask the testee whether he has taken drugs, then inquire if he has tried hard drugs and if the examiner gets a positive answer he asks if he has ever tried to sell drugs. According to practice the answer to this question is negative because the testee knows that it is more serious crime. This way the examiner can have a good control question, supposing that a person taking hard drugs usually sells them. If he does not, the examiner asked a bad control question, which might result in inaccurate result. Questions about the profession may be useful in finding a good control question, because there are some jobs which might go with different, irrelevant crime (if somebody is a driver he might have stolen some petrol from a car). It is also a good idea for an ideal control question if the examiner knows about an earlier robbery case of the testee, in which he denied the crime and was cleared in default of sufficient evidence. The question concerning the robbery might be a good control question provided that he did commit it, but it is not sufficient if the actual case is in connection with a lesser crime than robbery, if it is more serious (for example manslaughter) then the question is suitable. During

the interview the examiner keeps an eye on the behaviour of the testee and decides if he is suitable for the examination and alters the prepared sequences of questions if necessary. He must also make sure about the consent of the subject and ask him if he maintains his decision to participate. If he maintains his consent and there are no other factors prohibiting the examination the examiner informs the testee about the essence and course of the examination and discusses the questions with him in the same order as they will be asked. At the end of this procedure the testee gives his consent again and the examiner places the sensors of the polygraph on him.

In the USA a good polygraph examiner is considered to be friendly and reassuring. He can behave so by starting conversation with the testee about topics like fresh news, weather, TV programmes or sport. According to Janniro the conversation must never be started with questions because it implies that the examiner is an accuser as well. He must be interested in the case and sympathetic. The examiner must not behave in a disparaging and sarcastic way as a rule, and he must not shout or be hostile with the testee. Janniro believes the testee must not perceive what the examiner thinks of him and his role in the case. (Janniro 1991. pp. 32-33)

1.3. Applying question techniques

Questions are asked by the examiner in sequences organized by pre-defined rules. A sequence contains 7-14 questions, so allowing 20-25 seconds for each question the examination takes 5 minutes approximately. During this time the testee must sit still. The examination is successful if the testee believes that he is revealed if he lies. The examiner tries to make the testee be afraid of being revealed. During the examination the examiner does not tell the testee how he reacted to the questions only implies it. He does it to get more unambiguous answers and make the testee react stronger to the critical questions.

Hungarian examiners examines usually in the following way:

- 1) Control Question Test - CQT
- 2) Card test
- 3) Control Questions Test - CQT
- 4) Oral stimulation
- 5) Control questions test (with shuffled questions)
- 6) Concealed Information Test - CIT
- 7) A silent or a Yes test in some cases (Horvath-Reid 1972. p. 285)
- 8) In some cases a Control Question Test
- 9) Terminating polygraph examinations

1.3.1. Control Question Test

In the CQT critical questions (“Are you sure, that you know who killed Pista?” “Did you give any help intentionally with killing Pista?” “Did you kill Pista?”) and control questions (“Have you ever stolen petrol?”) are mixed with neutral questions (“Is it Tuesday today?”). The control question “refers to an unpleasant and hidden action of the testee, which can not be in connection with the given crime.” (Kertész 1990. p. 107) If the control reaction is strong, i.e. the reaction of the testee to the control question is stronger than his reaction to the critical

question, then he is supposedly did not commit the crime and does not know who committed it either. If the control reaction is strong the testee is probably sincere, but to be on the safe side CIT is also performed to exclude the possibility that the testee knows some relevant information, for example in our case he knows who killed the victim or maybe he is the offender. According to past experience the physiological changes are stronger with non-guilty testees at the control questions, while in the case of guilty testees it is just the opposite, the reaction indicating deceit is weaker with this questions and stronger with critical questions.

The so called "card test" is an accompanying procedure of the CQT. The testee pulls a card from the pack then the examiner asks one by one which card he is holding in his hand. The testee must give a negative answer to each question and the examiner finds out the card with the help of polygraph. The card test is reassuring to the non guilty testee, because he knows that finding out the right card proves the dependability of the polygraph and it will show that he did not commit the crime.

In the USA card test is not usually used, a so called demonstration test is performed (Krapohl 2010. pp. 1-8) and the other difference is that it is not performed after the first sequence of questions but at the beginning of the examination. The testee is asked for example to think of a number and the examiner tries to find it out.

Another stimulation test consists of the following steps:

- 1) The testee is informed about the questions in advance.
- 2) The testee is told that the polygraph will be set by a special test.
- 3) He is assured that the test will not be difficult and he will be told the questions before the test.
- 4) The testee is told that a neutral question will be asked first. His name will be asked for example.
- 5) It will be followed by another neutral question, for example about his place of birth.
- 6) In connection with the third question he will be told a simple math problem, which he will have to solve. For example: $6 \times 6 - 11$ (It is used because the examiner wants the testee to think before he answers.)
- 7) Then he is told that he will be asked if he had taken drugs or medicine on the day of the examination.
- 8) The fifth question: "Do you intend to give sincere answers to the questions of the test?"
- 9) After they finished with discussing the test questions the testee gets some time to prepare for the examination.
- 10) They start the examination, there are 20-25- second-long brakes between the questions.
- 11) The examiner keeps an eye on the changes of reactions at each question and draws conclusions about the testee. (Krapohl 2010. pp. 2-3)

In Hungary the demonstration test, the card test, is followed by another sequence of control questions and the examiner checks if there were any physiological changes at the critical questions of the second sequence compared to the critical questions of the first sequence. If there were he might come to the conclusion that the testee committed the crime but he can not be absolutely sure about it.

The sequence of questions after the card test has great significance because the non guilty testee starts to feel uneasy at the control questions and the perpetrator at the critical questions. Both are aware after the card test that the instrument will reveal their insincerity. After the first sequence of questions far-reaching consequences can not be drawn, because the testee is usually afraid, has angst from the examination, thus the results are not valid in most cases.

The second sequence of questions is usually followed by oral stimulation. The examiner draws the attention of the testee that he is not sure in the sincerity of his answers. He does it in order to make the testee react even stronger to the critical questions of the third sequence of questions if the card test was not stimulating enough. The examiner changes the order of the questions of this sequence.

1.3.2. Concealed Information Test

In the second part of the examination sequences of CIT are used by the examiner to check the knowledge of the offender of the testee and find out if he knows any information that probably is known only by the perpetrator of the crime but non guilty testees are unaware of, unless they received relevant information. CIT is usually applied with witnesses because they typically have little information about the case (If they are not perpetrators). CIT is based on the principle that the physiological changes of the perpetrator are the strongest when he hears the critical questions (“Do you know it for sure that Pista was shot down?”) and in case of non guilty testees – as he does not know the circumstances of the crime – the physiological changes are not stronger at critical questions than at neutral, irrelevant questions (“Do you know it for sure that Pista was strangled?” or “Do you know it for sure that Pista was hanged?”). During the examination blood pressure is found to be rising until the critical question and then it starts to fall.

Two types of CIT are used. In the first case “the examiner does not know the answer either, the aim of the test is not to check the sincerity but to reveal relevant information” – sums up Imre Kertész the essence of the method. (Kertész 1990. p. 110) In this case the number of perpetrators is asked for example (“Do you know that ... people killed ...?” In the real case the testee’s reactions were the strongest with one perpetrator.) (Heves County Police Headquarters 10000-116/2006.) or the time of the criminal offence. It is usually known when the victim was last seen and when his corpse was found, the period of time between the two dates is divided into equal parts. A similar sequence of questions is compiled in connection with money stolen from a safe. It is known when it was seen in it last time and when its disappearance was discovered. In a case HUF 8.100.000 disappeared from a furniture safe. The question of CIT was “Do you know that the money was stolen between ... and ...?” From the reactions of one of the testees it could be concluded that it had been stolen on Saturday between 0 and 6 o’clock. It was interesting that his reaction were the same to “between 0 and 3” and “between 3 and 6 o’clock”. (Bács-Kiskun County Police Headquarters 22/2007) In cases of disappearance the questions are aimed at the way the victim was killed and the place of the corpse.

In the second type of CIT particular details of the case are unknown by the public but the investigative authority and the examiner know them. The question in connection with the detail of the case is the critical question, and it is put among the neutral questions by the examiner. In this way he can make sure if the testee has any information about the details of the case. At first those questions are asked to which the examiner expects strong reactions when he examines the perpetrator. A sequence of questions of this type can refer to the way of the murder or the sum of the stolen money. In the latter case the examiner must be careful as the victim may exaggerate even if it was a burglary and he would like to get more money from the insurance company. Because of the exaggerations of the victims the examiners ask about the TV set and not the jewellery as the chance that the TV was stolen is bigger.

In both types of concealed information tests the compilation of the questions is more difficult if the testee has relevant information in connection with the case. It generally happens when the suspect has already been interrogated because the investigating authority usually told him some information. It is easier to compile the questions with witnesses as they usually do not know the details of the case.

If the testee reacts (i.e. physiological changes can be detected) to the critical questions of two or three sequences of questions the examiner finishes the examination. If it can not be decided whether he has the knowledge of the offenders more sequences of questions are asked (even the same sequence repeatedly), which does not mean that a longer examination is capable of revealing that the testee has the information unknown to other people besides the perpetrator.

According to the practice in the USA if the examiner is convinced that the testee is insincere he does not ask any further questions but tries to get a confession of guilt from him. (Janniro 1991.p.67) Contrary to the USA the minutes of the examiner is presented to the court thus Hungarian examiners try to illustrate the reactions of the testee at as many critical questions as possible.

1.3.3. Technique of questioning illustrated by a particular case

Nógrád County Police investigated on the bases of well-founded suspicion in a murder case violating the Subsection 1 of Section 166 of the Hungarian Criminal Code (Btk). It accused Géza Cs. that he had murdered Mónika O. in January 2002. (Nógrád County Police Headquarters 130/81-25/2004.)

The suspect denied committing the crime so the investigating authority asked his polygraph examination two years later.

The examiner asked the following critical questions in the CQT:

1. Did you kill Mónika?
2. Do you know it for sure where Mónika is now?
3. Do you know if Mónika has been killed by somebody?

The testee gave a negative answer to all three questions. The examiner established that on the basis of physiological changes the testee had given insincere answers to the critical questions.

Then ensued the CIT to help the authorities get to the information they did not possess earlier. The testee gave negative answers to all of the questions. The aim of the first sequence of questions was to reveal how the victim had been murdered:

Do you know it for sure that Mónika was

1. electrocuted?
2. poisoned?
3. strangled?
4. shot down?
5. struck dead?
6. hanged?
7. stabbed to death?
8. hit by a car deliberately?
9. killed in an unintentional accident?

The polygraph examiner measured the strongest changes after the fifth question (struck dead).

The aim of the next sequence of questions was to reveal the instrument of the crime:

Do you know it for sure that Mónika was killed by

1. a revolver?
2. a screwdriver ?
3. bare hands ?
4. a brick ?
5. a baseball bat ?
6. an axe ?
7. a piece of wood ?
8. an iron tube ?
9. a tool ?
10. a pocket knife ?

The testee gave the strongest physiological reactions after the ninth (with a tool) question.

The aim of the third CIT was to find out how many people took part in the crime according to the knowledge of the testee. The number of people from 1 to 7 was asked in a mixed order in the following way: "Do you know it for sure that ... people killed Mónika? The testee gave a negative answer to all the questions but his reactions were the strongest with the question about two perpetrators.

Then the examiner tried to find out the place of the corpse.

Do you know it for sure that Mónika was

1. put into slaked lime?
2. burnt?
3. thrown into a lake?
4. dug?
5. thrown into a river?
6. put into a sewage canal?

7. thrown into a well?
8. hidden in a building?
9. hidden in a forest?
10. hidden on a building site?
11. hidden in a cellar?
12. hidden by a road?
13. thrown into an animal corpse disposal well?
14. hidden in an industrial estate?

The testee gave negative answers again. His reactions were the strongest after questions number 4, 9 and 12. On the basis of the test it was revealed that the corpse had been dug near a forest road.

The aim of the fifth sequence of questions was to find the exact place where the corpse was dug:

Do you know it for sure that the corpse of Mónika is hidden

1. at Salgó-kapu?
2. at Szállásbérc?
3. at Salakhegy?
4. at Órhegy?
5. at Ponyi-puszta?
6. at Kútház-valley?
7. at Művésztelep?
8. at Pécskő-puszta?

At this sequence the strongest reactions were measured after the fifth (Ponyi-puszta) question. After defining the exact place of the corpse the examiner asked about the identity of the other perpetrator:

Do you know it for sure that the other person contributing in the crime was

1. P. Arnold?
2. L. József?
3. G. Mihály?
4. H. Attila?
5. Cs. Sándor?
6. O. Géza?
7. O. Ferenc?

In this last sequence the strongest physiological changes were measured after hearing the name of Cs. Sándor.

After the examination the suspect having been confronted with the result confessed committing the crime (murdering his cousin) and showed the place where he had dug the corpse.

1.4. Terminating polygraph examinations

CIT can be followed by a silent test (the testee has to answer the questions only in thought) or a YES test in certain cases. In YES tests the advisor calls the attention of the testee to the fact that denying committing a crime is a lie such as admitting a crime that he has not committed. Then he asks him to give a positive answer to all of the questions in the CQT, even to those ones he earlier gave a negative answer to. The polygraph examiner watches the behaviour and physiological reactions of the testee so he can come to new conclusions in connection with the examined person. In the end if the advisor thinks it useful he can repeat the CQT.

At the end of the examination the testee is asked in an interview why he reacted so to certain critical questions. According to Janniro if the testee confessed the crime the examiner must encourage him to continue, but his reaction must never be judgemental after the encouragement and the confession. (Janniro 1991. p.67) An encouraging sentence could be useful, such as. "Good, Mike, that is what I thought all along." According to past experiences the examined person will continue the confession. Then the most important aim is to make him reveal his role in the perpetration of the crime. Questions focus on the elements of proof must be asked then and they must be formulated in a way that they require short answers from the suspect. After the suspect confessed the crime and told the whole story another set of questions are asked regarding the details of the case. Before asking the suspect to write down his confession the examiner has to make the suspect confess orally. He can ask such questions as:

- Who else knew about this?
- What happened next?
- Where is the money now?
- When did it happen?
- How many times has this happened before?
- Why did you do it?

When the polygraph examiner thinks that the suspect made a full confession he has to ask him to put it into a written format. "Don't wait - as soon as the suspect regains his problem solving capabilities, he is going to start questioning himself, and the fact that he has admitted to the crime." (Janniro 1991. pp. 67-68) Contrary to the USA, where the polygraph examiner is a member of the investigative authority, thus he is entitled to interrogate and the polygraph examination itself is a special, instrumental interrogation, in Hungary the polygraph examiner can not get a full confession as it must be obtained by the investigative authority. There are some examples in Hungarian practice that at the end of the minutes the advisor records what the suspect said in connection with the crime - actually his full confession - after he was confronted with the result of the polygraph examination. It is controversial whether these statements can be used as evidence, especially when the suspect signs this part of the minutes - as it sometime happens – thus verifying that he had made them. In my view it can not be used as evidence as the examiner is not entitled to interrogate and he can not call the attention of the suspect to tell the truth. He can only encourage the suspect to tell the investigative authorities the same things that he told him. According to the American practice

interrogation done by a member of the authorities can result in evidence without any reservation. If a member of the interrogative authority and not an independent expert were entitled to perform the examination in Hungary, the polygraph examination would not result in evidence since the member of the interrogative authority is not entitled to produce evidence in an interrogation performed by him.

1.4.1. Procedural acts following the polygraph examination

In an ideal case the polygraph examination is followed by an interrogation as soon as possible so the investigator in charge of the case stays in the neighbourhood of the examination room to be able to consult about the results with the examiner after the end of the instrumental lie-detection.

If the reactions of the testee were not unambiguous the examiner tell the investigator that it was not the suspect who committed the crime, but later when he compiles the minutes containing the results of the examination he can come to other conclusions after reviewing and evaluating the collected data. Without unambiguous changes in the reactions of the suspect the opinion of the expert is quite elusive. The authorities are also aware of the doubts and supposedly not only the phrases “deceptive”, “non-deceptive”, “can not be decided” are used in the minutes referring to the answers to the questions asked by the examiner but also the number of the questions to which the answers were unambiguous and the reactions strong. The uncertainty of the examiner may cause that the suspect considered falsely not guilty is not interrogated right after the examination thus the chance to get a full confession from him diminishes, because it can be expected with high probability only if he is confronted with the result of the examination right after the test.

If the suspect is interrogated by the investigator, he may give a full confession or keep silent. If he does not make a confession and does not say anything to the examiner in connection with the criminal offence the polygraph examination was not necessarily in vain because its aim might have been to reveal his knowledge of the offender or the exact place of material evidence, which can be found by the authority in an ideal case. If there is no material evidence and confession, the examination may be an argument for or against the investigation against the suspect, or in the case of witnesses whether to be accused with committing crime or regarding them as witnesses in the future, too.

2. Practical experiences of using polygraph

2.1. Polygraph examination in case of unidentified perpetrator

If the identity of the perpetrator of a criminal offence is unknown the aim of the polygraph examination is to help in identifying the offender. In this case the CQT aims to reveal whether the testee committed the offence, and whether he knows who did it. CIT is used to find out if he has knowledge of the offender or may help the authorities to find hidden material evidence or evidence in unknown places.

2.1.1. Polygraph examination in cases of manslaughter

In cases of manslaughter – similar to other criminal offences - the authorities try to get an answer to the most basic question with the help of polygraph, that is whether the examined person is the perpetrator. A witness was examined by polygraph in a case when - according to an investigation - the victim was pushed out of a train from Miskolc between Galgahévíz and Hévízgyörk and suffered lethal injuries. The CQT aimed to reveal if the examined person was involved in the criminal offence. The testee gave negative answers to the critical questions (1, Did you push the young woman out of the train? 2, Did you collaborate in the commission of the crime? 3, Do you know who pushed the young woman out of the train?) and the examiner could not find signs of deceit in any of his answers. (Pest County Police Headquarters 272/2008.)

If authorities believes that the examined person is the perpetrator than they suppose that according to the circumstances his involvement can also be revealed (offender, abettor, coactor). In another case the examined person was accused of manslaughter with exceptional brutality to the injury of an individual under 14. The investigative authority wanted to clarify if the testimony of the suspect was truthful or he tried to deceive the authority in connection with the course of the offence and the coactors. According to the findings of the investigation in 2010 H. Gábor abused his child by hands, with a belt, a wooden spoon for 20-30 minutes. Following the abuse the victim felt ill and died in a hospital on the same day. The following critical questions were asked in the CQT:

1. Did you kick Gábor or stamp on him?
2. When beating him did you use any other instrument beside the belt and the wooden spoon?
3. Did you ever tie Gábor with anything?
4. Did you punish Gábor by denying him food or drink?

The suspect gave negative answers to all four questions, the truthfulness of his answer to the first question could not be decided by the polygraph examination, he gave deceptive answers to the second and third questions, and he gave a true answer to the fourth one. The questions of the CIT aimed to reveal the number of perpetrators. He gave a positive answer to the question containing a sole perpetrator, and negative ones to the others, but the examiner recorded in his opinion that “Definite indication can not be experienced at any items.” Thus the result of the polygraph examination suggests that he probably committed the offence on his own. (Pest County Police Headquarters 291/2010)

Polygraph examinations can also reveal if the examined person has any information concerning the identity of the offender. The testee accused with manslaughter was asked the following critical questions in the CQT:

1. Did you abuse your mother on January 28th?
2. Did you cooperate in the criminal offence against your mother?
3. Are you sure that you abused your mother on January 28th?

The suspect gave negative answers to all three questions, but according to the examiner the answers were deceptive. (Budapest Police Headquarters 01000/735/2010)

The authority can also get an answer to the question whether the examined person has knowledge of the offender. According to the data of the investigation an elderly woman was stabbed to death and the CIT aimed to reveal if the testee knew what was on the table at the time of the manslaughter:

Do you know that at the time of the manslaughter there was on the table?

1. bottled apple
2. apricot jam
3. sour cabbage
4. cucumber prickles
5. mixed prickles
6. bottled plum
7. bottled pear
8. peach

(Hajdú-Bihar County Police Headquarters 340-2/2009)

If the testee is guilty the methodology of the examination helps the investigative authority to find unknown data in connection with the offence, those that can have evidentiary relevance. Polygraph is most successfully used in manslaughter cases because this offence leaves such a strong stamp on the mind of an average offender that he is unable to behave indifferently in connection with this type of crime and the possible future punishment is severe. But it is the case only with average offenders because with psychopaths no physiological changes can be detected at the questions referring to the crime.

It is typical with a manslaughter case that the procedure is started as a case of disappearance. Following the polygraph examination – after collecting the evidence – the case can be qualified as a manslaughter one.

2.1.2. Polygraph examination in cases of disappearance

If the disappearance of a person is absolutely baffling and circumstances indicate that criminal offence might have been committed the police examines that person with polygraph in whose interest the supposed manslaughter might have been. In cases of disappearance the possibility of suicide also must be considered.

In a case of disappearance a well-balanced man of over 60 lived in a family house with his sister, her husband and their child. A few days before Christmas when only he and the child stayed at home, he had lunch and left the house. According to the testimony of the child he did not go by bike as he routinely had done. The administrative procedure revealed that he had taken loans although his pension was rather high, and no one knew what he had spent the money on. The police found that he had regularly supported the child of his sister. As the police could not explain the disappearance it performed a polygraph examination, which indicated that no criminal offence had been committed. A week later the corpse of the man was found, he hanged himself. This case illustrates that excluding criminal offence can also be a successful result of a polygraph examination.

In another case of disappearance crime could be suspected due to the circumstances, but even the polygraph examination could not help. Based on the facts of the investigative

authority, the husband, his wife and their child lived in the same house, but the parents quarrelled frequently, and later the wife had a new common-law spouse who also moved into the house. The woman and her spouse had a baby and the man sold his house and used the money on refurbishing his new home. Later – according to the suspicion of the investigative authority - the first husband and the woman strangled the spouse while he was asleep. The polygraph examination was performed five years later and it could not only reveal that based on the physiological reactions of the testees manslaughter could have happened but also that the corpse might have been carried out of the town and dug near a bridge over the river Tisza. The ex-husband and the wife denied committing the offence so in the absence of a full confession the questions of the polygraph examination were aimed to reveal the exact place of the corpse. The investigation was difficult as the corpse had probably been carried away by car, so it was great help that the examiner defined the possible place of the corpse in the neighbourhood of one of the bridges over the river Tisza. If it had been dug in a garden or in the yard of a summer house there would have been a good chance finding it. Since the corpse was not found and there were no full confessions and evidence the criminal procedure was not started.

The next case illustrates how successful polygraph examinations can be in spite of shortages in the investigation procedure, but it needs a cooperative suspect, who makes a full confession after being confronted with the result of the examination. The offender spent more than 10 years in a penitentiary institution because of manslaughter and after being released started working in a plant. One day he lured a girl into the plant promising a turkey to her father. Then he started to be violent with her, started to strangle her and wanted to rape her when he was disturbed by some people arriving at the plant, so he let the girl go. The investigation started and he confessed that he would have killed the girl if he had not been disturbed because he had not wanted to get into trouble because of the girl. A case of disappearance was also attached to this case: a friend of the almost raped girl disappeared and the man was the main suspect. He denied the criminal offence, but the polygraph examination indicated that he might have dug the corpse in a garden, but failed to reveal the exact location. When he was confronted with the result of the examination he did not make a confession but three weeks later he confessed committing the criminal offence and showed the place where he had dug the corpse.

In cases of disappearance the main aim of the polygraph examination is not to establish the truthfulness of the testee but to find material evidence, in this case the corpse, since without it the procedure is usually not started. The sequence of CIT questions had the same aim, when it focussed on the place of a new-born baby. The examiner found the negative answer to the question “Did you throw it into the river?” deceitful but also noticed weak reactions at the questions: “Did you put it into slaked lime?” and “Did you throw it into a well?”. (Jász-Nagykún County Police Headquarter 29/2009.)

The result of a polygraph examination alone is not enough to start the investigation procedure, it needs a corpse or a confession or some material proofs, for example a bloodstain or a piece of hair of the victim in the boot of a car if the corpse was transported by car.

According to criminological practice the majority of disappearance manslaughter cases are committed by offenders of clear criminal record (usually a family member, a friend or a neighbour), who have not been involved in criminal procedures even as a witness, and they rarely refuse the polygraph examination. Those who have been involved in criminal procedures usually refuse the examination either because they know the method or they are afraid that other offences will be revealed if they are tested as they generally have committed other offences earlier.

2.1.3. Defining the exact number of offenders

After the authorities mapped the network of personal relations of the testee before the polygraph examination, the instrumental test can reveal the identity of the coactor – if the presence of coactors is supported by the physiological changes. Polygraph examination was used in the fraud case committed to the injury of a Budapest citizen when the police tried to find out if the testee played any role – and if he had, what exactly – in it. The following questions were asked in the CQT:

1. Do you know it for sure who withdrew the money from M.K.'s account?
2. Did you get any of the money fraudulently withdrawn?
3. Did you help anyone purposefully in committing the fraud?

According to the examiner all three negative answers were deceitful. The CIT aimed to reveal the exact number of the perpetrators. The strongest reactions were observed at the answer to the question containing two perpetrators and weaker reactions to the question containing three perpetrators. (BRFK XIV District Police Headquarter 154-264/2004.)

It is not enough to accuse somebody if the presence of a coactor is supported only by the polygraph examination or only one or two witnesses recognised him. Further evidence is needed. The Nógrád County Court stated" on the basis of the findings of the evidentiary procedure the culpability of the defendant in the second degree is supported only by the expert's opinion on the polygraph examination contrary to the consistent denial of the defendant. But according to the opinion of the County Court this sole evidence is not enough to establish the culpability of the defendant in the second degree without any doubt, thus referring to the Paragraph b) of Subsection (3) of Section 6 of Be. (Act on Criminal Procedure) the Court clears the defendant of second degree of the charges for lack of evidence according to the Subsection (1) of Section 331 Be. (Nógrád County Court, 6.B. 17/2008/117)

If the investigative authority possesses a confession or traces from the perpetrator or the alibi of the coactor is contradictory, the suspicion can be substantiated and the suspect can be informed. In the lack of the above mentioned evidence accusation can not be made, but polygraph examination may orientate the investigation towards successful results. In a robbery case the aim of the polygraph examination was to clarify the testimony of the witness, in which he said that he had been forced by arms to give the income and tokens of his workplace to the offender. The investigative authority argued for the necessity of the examination claiming the testimony contained contradictions and was not realistic. The CQT included the following critical questions:

1. Do you know the name of the person who stole the 35 thousand Forints?
2. Did you cooperate in stealing the 35 thousand Forints?
3. Did you steal the 35 thousand Forints?

According to the examiner the negative answers to questions 1 and 3 were deceitful, and he could not form an opinion on the trustfulness of the negative answer to the second question. (Vas County Police Headquarter 48/2006.)

Polygraph is not only used to reveal the possible coactors but also to clear somebody of the charges, but it must be kept in mind that polygraph alone is not capable of screening. The following critical questions were included in the CQT:

1. Did you put the drug found at the border into the car?
2. Was the drug found at the border in your possession?
3. Do you know it for sure who put the drug into the car?

The negative answers to the first two questions were not deceitful according to the examiner, and the truthfulness of the negative answer to the third question could not be decided. (BRFK XIV District Police Headquarter 154-264/ 2004.)

Polygraph has proved in many cases that it is capable of defining the exact number of offenders, but the investigative authority can not make a mistake by making decisions based on only the polygraph examination and use it instead of investigation. It must be avoided to close the investigation referring to the result of the polygraph examination and the large number of unfinished cases if there is a possibility to interrogate, search for witnesses or conduct further procedure. It is beneficial if polygraph examination is performed to tighten the circle of possible offenders, but there are other causes of closing the investigation or a new direction can be defined by polygraph. The investigative authority must be careful to avoid the model called "false clearing" when as a result of the polygraph examination the testee is unjustly cleared.

2.1.4. A witness or a suspect

When a testee is confronted with his failure at the polygraph examination he usually loses his hope and makes a full confession. Others do not admit committing an offence and try to explain that the unfavourable result is due to another criminal offence committed by them. According to Lykken several polygraph examiners consider the received full confession more important than the precision of the examination and reckon the examination successful if the testee makes a confession or a full confession after the test. (Lykken 1987. p.270)

A full confession is enough to make a witness a suspect. In a case the police was reported by a man that his car, which had been bought by his mother on hire purchase had been stolen outside a pub by an unidentified person. The CQT was used in the polygraph examination to reveal whether criminal offence had been committed. To the first critical question: "Was it a lie when you said that your car had been stolen in ... ?" the answer of the testee was negative and his reactions indicated deceit. To the second critical question: "Did you deliberately contribute in stealing the Skoda?" his answer was also negative and his reactions indicated deceit again. To the third critical question: "Do you know it for sure where your car is now?" the question was negative but his reactions did not indicate deceit. When he was confronted with the result of the examination he made a full confession.

It was also a full confession following a polygraph examination that solved the murder case of a lone 81-year-old pensioner in 1982, in the early days of polygraph tests in Hungary. It was clear at the beginning of the site inspection that the offence was occasional as the offender was searching for money. After lengthy investigation the circle of possible offenders was limited to two individuals, so both of them and the wife of one of them were examined by polygraph. The result of the examination revealed that one of them had been at the site of the crime on the day of the murder, had seen the person in the neighbouring farm and he had also been seen. It was also established that he had known the exact sum of the stolen money and the instrument of commission and his clothes, which he washed later had been stained with blood. It could also be deducted from the polygraph examination that the wife knew that her husband had committed the offence and it was she who washed the blood stained clothes. The examination of the other possible offender did not give any assessable changes of physiological reactions. After the examination the wife made a full confession and later her husband also confessed having committed the crime. The culpability of the husband was proved in this way and he was sentenced to 12 – year imprisonment. (Olasz 1988. p. 62)

In another case a German couple disappeared. At first two people were accused of fraud, but they were not supposed to have committed manslaughter to the injury of the couple. On the following day the car of the couple was found by the police in a parking lot. The suspects were tested by polygraph and it revealed that they might have been involved in the manslaughter case as well. The polygraph examiner also defined the instrument used by them for the criminal offence, that their offence is in connection with the farm of the couple, and it was them who left the car of the couple in the car park. Confronted with the result of the examination one of the suspects cracked under the questioning and demonstrated on the site how they had killed the victims and how they had transported them later for 40 kilometres to a well out of use, where their corpse had been found by the police.

In the USA polygraph examination is followed by a full confession in several cases. The next case is not about a criminal procedure but it well illustrates that as the result of a polygraph examination the revealed untruthful testee makes a confession. At Salinas police in California an ideal policeman with good reputation would have liked to apply for a position. Prior to the polygraph examination he did not mention his past criminal record. Following the polygraph examination that revealed that he was deceitful, he confessed that he had committed more than a dozen burglaries while on duty. He transported the stolen goods in the police car, smuggled drugs into the pockets of innocent suspects and arrested them and used the car to have sex with women victims. (Ekman 2009. p. 196)

2.2. Polygraph examination in cases with a suspect

In cases with more suspects the CQT is usually used to reveal which suspect could commit the offence. When the suspect is informed about the accusation he gets some information that makes the concealed information tests examining the knowledge of the offender meaningless, besides CIT is usually used in cases with more possible perpetrators.

Typical cases with a suspect are those against sexual morality when the application of polygraph is justified as both the suspect and the victim are suspected of providing the authorities with false information. Victims questioned as witnesses sometimes deliberately do not reveal all the details of the crime even the private motion could be fictitious. The accused if he makes a confession at all usually denies the crime and admits only the sexual intercourse denying violence or direct threat against life or physical integrity. The investigative authority possesses several means to clear the case: it can order forensic examinations, site inspection, confrontation of the victim with the suspect, search or body search and questions witnesses. Besides the above mentioned, polygraph can also support or question the truthfulness of the testimony.

The victim can be checked as a witness whether his private motion is factitious, if the crime was really committed and if it really was, was it committed in the way as it was said by the victim in her testimony. During the polygraph examination she is asked for example if she was engaged in the sexual relationship on her own consent, voluntarily.

According to Imre Kertész the widespread practice of the examination of the victims of rape in the USA can not be accepted since as a result fewer and fewer victims report the police. "Although there were cases when they tried to deceit the police, made fictitious testimonies or falsely accuse somebody with committing crime against sexual morality it can not cause that everyone who reports an offence of this type is treated with doubt, questioning her sincerity. Polygraph can be used in clarifying the case if the truthfulness of the witness or the victim is dubious." (Kertész 1991. p. 11)

3. Summary

The usefulness of polygraph examination as an instrumental lie detection method lies in its ability to help the investigation, orientate the investigative authority and provides the authorities with direct or indirect evidence. In spite of its usefulness polygraph is not a silver bullet; the examiner can err just like other, ordinary people. The consequence of his error might be a false conclusion during the investigation, which can be dangerous if the authority in charge of a given case is not sceptical enough with the result of the examination and the method itself. That is why present judicial practice does not regard polygraph examination as an infallible method, just as one piece of evidence out of many. It is unquestionable though that the result of the examination can be one of the arguments for or against the culpability of the testee.

The accurately performed polygraph examination can be a blessing, because it contributes in law enforcement, but on the other hand it could be a curse as it can mislead the investigation and innocent people may be sentenced or guilty ones may be cleared by the court as a consequence. The possible errors can be avoided if the limits of polygraph examination are considered carefully by the authorities.

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