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## The Event Knowledge Test (EKT) in Polygraph Examination (in case murder)

In our last article we mentioned that in Lithuania the event knowledge test (EKT) is widely available (Saldziunas and Kovalenko 2008 ). Recently we made a psychophysiological test by polygraph which revealed the important circumstances of a crime, helping the police to investigate it.

In September 2007 in a Lithuanian city a 29 year-old car salesman disappeared in mysterious circumstances after meeting a friend. After a few days the missing businessman P's car was found. His disappearance met with a large response in the community.

Police looked over various versions and checked the evidence of witnesses and other participants in the criminal trial. They also conducted a detailed verification of this evidence and investigated objects or inspections. For instance there was rock oil and biological analysis. They analyzed businessman P's way of life. Police officers worked extremely hard, almost without days off. Finally they came to the conclusion that P. was dead, and accordingly

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attempted to find the possible whereabouts of his body. To this end tracker dogs trained to detect dead bodies were introduced, as well as soldiers and a helicopter. After checking all possible versions of the crime officers concluded that only one man could have benefited from P's death. He was in debt with the businessman. They therefore checked the man's evidence: his whereabouts at the moment when the businessman went missing, other possible murder motives, intentions. His way of life was analyzed, his past investigated from school times to the present, and family members, the social and financial status of acquaintances, and possible connections all looked into.

Although during the investigation some facts led to suspicion of U's involvement in P's murder, because the body was not found, it was too early to bring judicial proceedings against him. The matter under investigation was at a standstill, with all possible methods and crime-solving measures exhausted. Detectives appealed to the VIP Security Department under the Ministry of the Interior asking to make a psychophysiological test with a polygraph on the suspect in businessman P's murder, citizen U. Intending to avoid any suspicions from police, friends and acquaintances, and hoping to 'cheat' the polygraph, U. agreed to be tested. For suspect U. a psychophysiological test was prepared over almost two weeks. Polygraph examiners examined all the materials of the investigation and familiarized themselves with the versions and ideas of officers who investigated the case.

According to the material of the investigation and information given by officers psychophysiological test (under EKT method) questions and answers were constructed.

**1. Where did businessman P. stay after his last meeting with you?**

- 0. K. village
- 1. S. city
- 2. P. village
- 3. L. village
- 4. D. village
- 5. A. village

**2. Do you know where P. is at the moment?**

- 0. On holiday
- 1. Hiding at a girlfriend's place
- 2. Gone abroad
- 3. Deceased
- 4. Went to buy a car
- 5. Went to his partner

**3. Do you know what time P. died?**

- 0. Before 2 pm

1. Before 3 pm
2. Before 4 pm
3. Before 5 pm
4. Before 6 pm
5. Before 7 pm

**4. Do you know what happened to P's wallet?**

0. Sold
1. Thrown in fields
2. P. has it
3. Given to a homeless person
4. Burned
5. At the businessman's house

**5. Do you know where P's body is hidden?**

0. In concrete
1. Fed to animals
2. Buried underground
3. Thrown in a pool
4. Loured
5. Quartered

**6. Do you know how P. was murdered?**

0. Suffocated
1. Poisoned
2. Shot
3. Beaten to death
4. Stabbed with a knife
5. Hanged

**7. Do you know where P's body is? (12 photographs are prepared taken near his house, all of them numbered.)**

**8. Do you know where P. was killed?**

0. By the lake
1. In a sport club
2. In the car
3. In the populated locality
4. In the forest
5. In the non-populated locality
6. In fields
7. By the river

**9. Do you know what type of weapon P. was shot by?**

0. An automatic rifle
1. A gun

2. A smoothbore

3. A pistol

4. A revolver

5. A crossbow

**10. Do you know what type of pistol P. was shot with?**

0. BERETA

1. WALTHER

2. MAKAROV

3. BAIKAL

4. CZ

5. TT

6. ASTRA

**11. Do you know how many times the trigger was pulled?**

0. One

1. Two

2. Three

3. Four

4. Five

5. Six

6. Seven

7. Eight

8. Nine

9. Ten

**12. Do you know what type of vehicle P's body was transported by?**

0. Bicycle

1. Car

2. Tractor

3. Truck

4. Trolley

5. Bus

Following the psychophysiological test some psychophysiological reactions to the answers were registered:

- Suspect U. left businessman P. in village P.
- U. thinks that P. is dead
- P. died between 4 and 5 pm
- P's wallet at the moment is near him
- P's body is buried, burned
- P's body might be in the place shown in photo no. 5
- P. was killed in the populated locality, forest, fields
- P's body was driven by tractor

- To the rest of the questions about possible shooting by a weapon, type of weapon and number of shots unambiguous psychophysiological reactions were not stated.

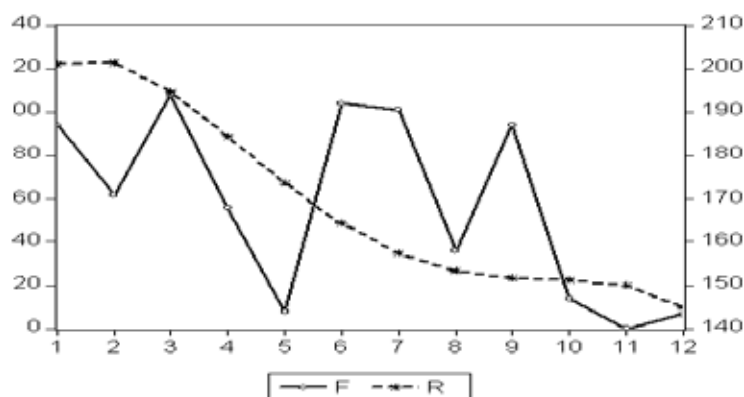
Though the psychophysiological test of suspect U. was made 4 months after businessman P's disappearance, it confirmed one of the police's versions of the disappearance. The results showed serious doubts about U's testimonies and version of his friend's disappearance. At the moment the circumstances of the murder have to be checked, as well as where the body is hidden. Unfortunately because of ambiguous psychophysiological reactions during the psychophysiological test the method of murder was not identified.

After conducting the psychophysiological test police officers investigating this case were instructed how the conclusion of this psychophysiological test could be used in making further investigative actions with suspect U. Using the conclusion of the test the suspect not only made a confession to murdering his friend P. but also confirmed all circumstances which were identified during the psychophysiological test. Later suspect U. showed the place where P's body was hidden.

All the answers to the questions from the described cases were searchable. Thanks to excellent police preparation it was possible to form good indirect questions. Before admeasuring the psychophysiological reactions to the answers the examiner read the questions with explanations one by one. Subject U. answered in each case that he did not know the answer. Accordingly it was suggested to him to say no to each version of the answer.

Thanks to the new computerized polygraph additional analysis was possible. Figure 1 shows how for a number of questions the subject's pulse rate and GSR tonic constituent fluctuated. Varlamov et al. (2001) write that GSR tonic constituent has a very slowly fluctuating skin resistance (potential) which depends on the metabolism in biological tissues. In figure 1 there are horizontally imaged numbers of questions, F – pulse rate (cycles per minute) and R – GSR tonic constituent (kilo ohm). These two values were measured after the question before the first answer was given.

Jaworski (2006) noticed some particular consistent patterns in the pulse rate fluctuation when measuring the pulse rate at the beginning and end of the sequence of questions. In the pulse rate F we did not notice any consistent pattern. As the number of questions was increasing GSR tonic constituent R gradually decreased. Value R does not depend on the question's social significance to the subject at all. The same tendencies were seen when investigating other subjects. It should be thought that the GSR tonic constituent R is decreasing because of adaptation processes.



According to Varlamov et al. (2007), if a person takes drugs R might increase to 400 kilo ohms. So it can be assumed that in the situation analyzed here the subject had not taken drugs. The special computerized program of the polygraph confirmed that during the psychophysiological test the examinee had not taken drugs and/or contra actions. Yet we did not have the opportunity to investigate subjects who use contra actions, and it is possible that in this case variation of the GSR tonic constituent can change by another consistent pattern. Only 12 questions were asked, as this investigation is not laboratory but outdoor. According to consistent pattern variation a solution is possible whereby with further questions the variation of R would decrease, and if this did not happen any changes in the investigation circumstances GSR tonic constituent would be steadied.

## References

- Jaworski R. (2006), *Situational sequencing tests in polygraph examination*, Wrocław, Wydawnictwo Uniwersytetu Wrocławskiego.
- Saldziunas V., Kovalenko A. (2008), *The event knowledge test*, European Polygraph, Vol. 1, No. 3.
- Varlamov V. A., Varlamov G. V. (2007), *Protivodejstviya poligrafu i puti ich nejtralizacii (Counteractions to polygraph testing and ways to neutralize them)*, Krasnodar, Kartika. [in Russian].
- Varlamov V. A., Korovin V. V., Varlamov G. V. (2001), *Testy poligrafnych prov-erok (PV Examination tests)*, Krasnodar, Prosvetschenije-Jug. [in Russian].