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The Event Knowledge Test (EKT) in Polygraph Examination (common notice of tactics)

We have already described how we developed an idea to create the EKT (Saldžiūnas, Kovalenko, 2008). We have also described how we managed to help the police to investigate a homicide using the EKT (Saldžiūnas, Kovalenko, 2008). We would now like to offer for your consideration the tactics that we use in constructing questions and answers while using EKT-related methods. We would like to say directly that this has been proven by our practice. Yet we think that other ways of solution are also possible.

By using EKT methods, we have made sure that the result of a psychophysiological investigation using a polygraph highly depends on the sequence

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in which the questions are arranged and on the answers that are selected. V. Varlamov (1998) states that the success of a psychophysiological investigation while working with modern polygraphs depends 99% on the quality of the questionnaires prepared.

The Krasnodar (Varlamov, Varlamov, 2000) Polygraph School suggests starting a crime or offence investigation with search tests in order to become oriented in the criminal history of the person being investigated. They further propose conducting “indirect” tests, i.e. the GKT. It is suggested that psychophysiological investigation using the polygraph finish with a comparative question test. Resting on our own experience, we think that a single question related to criminal experiences cannot lead towards absolute clarity. This kind of question may only generate a series of explanatory questions, and a psychophysiological investigation may shift to a different direction, and not the one formulated in the task by the initiator of the investigation. It is most often totally purposeless to expand a definite investigation for the sake of achieving concreteness of the investigation itself, for a limited number of auditions and the period of investigation.

S. Oglobin and A. Molchanov (2004) propose a different sequence of auditioning. They suggest starting a psychophysiological investigation with the stimulatory test followed by a control test, three examination tests and finishing with a control test.

While investigating criminal events, we would like to propose arranging the questions provided in the EKT test with regard to the following principles:

1. It is desirable that the first and often the second question should not be directly related to the event under investigation. It is usually the kind of suspects who agree to be investigated using a polygraph who are not guilty of a crime, as it turns out from the investigation. The said suspects are usually being investigated using a polygraph for the first time. They are highly afraid of the aforementioned procedure. In order to diminish their emotional tension, it is obligatory that they get used to the sensors and emotional tension, as well as the equipment itself (polygraph), and make sure that the polygraphologist has told the truth about the polygraph being “not frightening” and that no provocations take place. Polish polygraphers have indicated that there have been cases when suspects who have committed a crime according to the data of later investigations, having signed the agreements to perform psychophysiological investigations, foresee later additional threats and may refuse to take part in an investigation as late as during the phase of investigation. Bearing in mind the first issue, the objective is to “hush” the investigated person’s vigilance and to diminish his/her emotional tension. Therefore, the answers to the questions they are given are most often selected inasmuch as

they are not related with their past criminal activities (regarding the results of the investigation) or are totally neutral to the person being investigated. The opposing polygraphologists (Matte, 1997; Raskin, Honts, 2002; Handler, Nelson, 2008) may state that a stimulatory question is obligatory. It might be a specific characteristic of our region, but we have not yet encountered a person unable to invoke organism reactions using a modern polygraph by providing important questions during a psychophysiological investigation. We know from theory that people might exist who have a different kind of psychophysiological composition, and whose psychophysiological reactions are much more complicated or impossible to invoke. For the said reasons, the tactics we offer are obviously not universal.

2. Questions are arranged in a sequence whereby social significance increase while they are formulated. Here, social significance is not a subjective matter: the polygraphologist and the suspect may evaluate it in different ways. Therefore, polygraphologists may make errors. We investigated a case of a homicide performed a few years before. The suspect investigated was concerned more about the fact that the police may find out the information that the leader of the gang had planned the crime rather than in the fact that it may discover the details of the homicide. The Krasnodar polygraphologist N. Nikolayeva said that one of the suspects she investigated did not manifest any psychophysiological reactions related to a question about killing his wife. It turned out later that he treated his crime as a punishment rather than a homicide. Therefore, we suggest that questions intended for a potential criminal be arranged regarding the growing tension. In our opinion, a suspect may not react any more towards less socially significant questions after a question that is highly socially significant to him/her. In such a case, other necessary questions regarding the event would not be clarified during psychophysiological investigation. Meanwhile, such an arrangement of questions has no essential significance to a suspect not involved in the crime investigated. Experience indicates that such suspects that possess non-unbalanced minds adapt after a number of introductory questions and that their balancing curves gain stability.

3. Whatever principle of investigation is used (deductive or inductive), avoiding consistency is recommended. Although suspects being investigated usually have not developed analytical thinking, educated and sensible suspects are also sometimes encountered. In order to make them misunderstand in what direction the investigation is shifted and not refuse further investigation, it is better to interchange some of the questions with identical social meanings.

4. The question with the highest social significance or importance must go last. This is a consequence of the information we provided beforehand.

5. We recommend that every question be written on an individual paper strip while constructing the questionnaire. Afterwards, interchanging the strips containing the questions is easy when searching for the best question arrangement until the optimal version is found.

In a test similar to EKT, Japanese writers (Nakayama, 2006) recommend using questions on the crime scene, how the criminal action was planned, and what items were acquired. They do not recommend asking questions about colours, amounts of money, the number of crimes, or the date and time of the crime. They also make use of photographs, building blueprints, maps and real items in their questions. We do not fully agree that questions about colours and different numbers should not be asked. We have also confirmed that suspects do not memorise colours and numbers well in all cases. Every case requires an individual approach to questions. We have successfully employed questions related to the colour of a car and the colour of a raped and murdered girl's underwear. We noticed that suspects memorise numbers to a different extent. The majority of suspects memorise approximate amounts of money. It is hardly believable that suspects would memorise the exact time of a crime or the code of a bank vault after a lengthy period. S. Abrams (1989) describes employment of information on amounts of money in questions. J. A. Matte (1997) also states that numbers could be asked about. Additionally, we would like to point out that the way the variations of answers are provided to the questions is also significant. Matte provides strongbox code variations for the suspect having grouped the numbers into pairs, e.g. 9 – 48 – 13. We have learned through practice that having provided a suspect with only one variety of strongbox code, sufficient psychophysiological reactions may not be detected, as the suspect has memorised the code in a totally different way. During an investigation of theft from a bank vault, we provided the suspect with a question on a bank vault code twice. We provided the answers to the first question using detached numbers: 1 – 2 – 3 – 6, 7 – 4 – 1 – 2, etc. We represented the codes graphically for the second question (Figure 1).

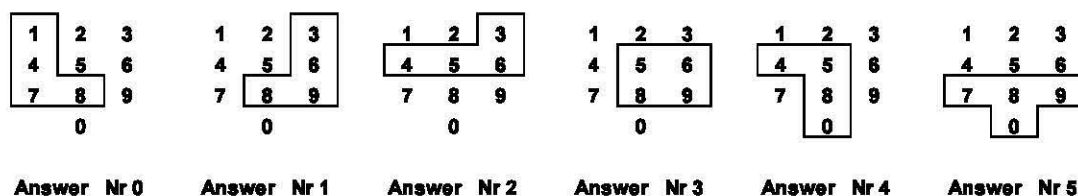


Figure 1. Varieties of bank vault codes

Significant psychophysiological reactions of the suspect to the answers of the first question were not detected. Meanwhile, a conspicuous psychophysiological reaction to one answer of the second question was detected. Therefore, in our opinion, creativity is necessary when preparing questions and answers. In case no significant psychophysiological reactions are obtained after polygraph examinations, performing an analysis is necessary to find out why reactions have been absent. The answers might have been provided in a wrong form. The sequence of the answers should be considered carefully: e.g. ...3. counterfeit money, ...5. money. If the third and the fifth answers are interchanged, the suspect might react to both answers, in case counterfeit money had been taken. It is possible to find more answers, too. It is crucial to consider carefully which answer should be provided first: "debt" or "shortage of money". Personal names should be chosen with care. Similar names should be avoided, and even names starting with the same letter as the suspect's name. It is mandatory to ascertain whether the suspect has several names. The Russian polygraphologist J. Cholodnyi expressed the opinion during a discussion that the answers should be arranged in a closed cycle, i.e. the list should be finished with "other persons" in case names of persons to be identified are enumerated. This could be applied when enumerating crimes, cities, weapons, etc. E. Lewandowski and L. Lewandowski (2008) also apply a closed character of sequence in tests. We have not yet clarified in our investigations whether this gives a result. In our opinion, since formulation of the answer is not specific and has a general character, the suspect does not experience a high level of stress, and psychophysiological reactions of insufficient strength are detected. We have found that low-intellect subjects do not understand such answers. In some cases, it is totally purposeless for tactical reasons to finish a sequence with such a general answer. Afterwards, curves are sometimes obtained having enumerated all the answers forecast by investigators (Figure 2). Figure 2 indicates two versions of how the suspect's general psychophysiological reaction calculated using the ChanceCalc algorithm (Sochnikov, Pelenicin, 2006) may change after every subsequent answer. In the first case, the suspect's psychophysiological reactions decrease significantly after several answers have been given, yet they retain a level that is not very high: in this case probably the suspect is innocent. In the second case, the suspect's psychophysical reactions constantly increase with every answer. Yet when such changes in psychophysiological reactions are detected, one can state that the answers provided do not contain the real answer related to the event. The suspect has "anticipated" and missed the "dangerous" answer. Dilts R. (1999) states, quoting M. Makluchan, that the way information is received and conceived has a greater impact than the information itself. We

have also found out that exposing real instruments of the crime to a suspect is much more efficient than showing their photographs and even more efficient than describing them in words. In a few of our investigations, we exposed photographs to the suspect with a live model dressed in the similar way as the victim in different positions rather than describing the place and pose of the dead body left by criminals. Using a polygraph, we detected very strong psychophysiological reactions caused by stress.

We would like to point out the certain specific circumstances when the suspect is provided with answers in the form of showing a map of a location divided into sectors. Every sector is assigned a number (Figure 3). If the suspect is the criminal and knows according to the map in which sector the instrument of the crime or victim's body is hidden, and sees the sequence of numbers provided, a polygraph detects strong psychophysiological reactions before showing the necessary sector. For this reason, computer-based algorithms are not applied for calculating reactions.

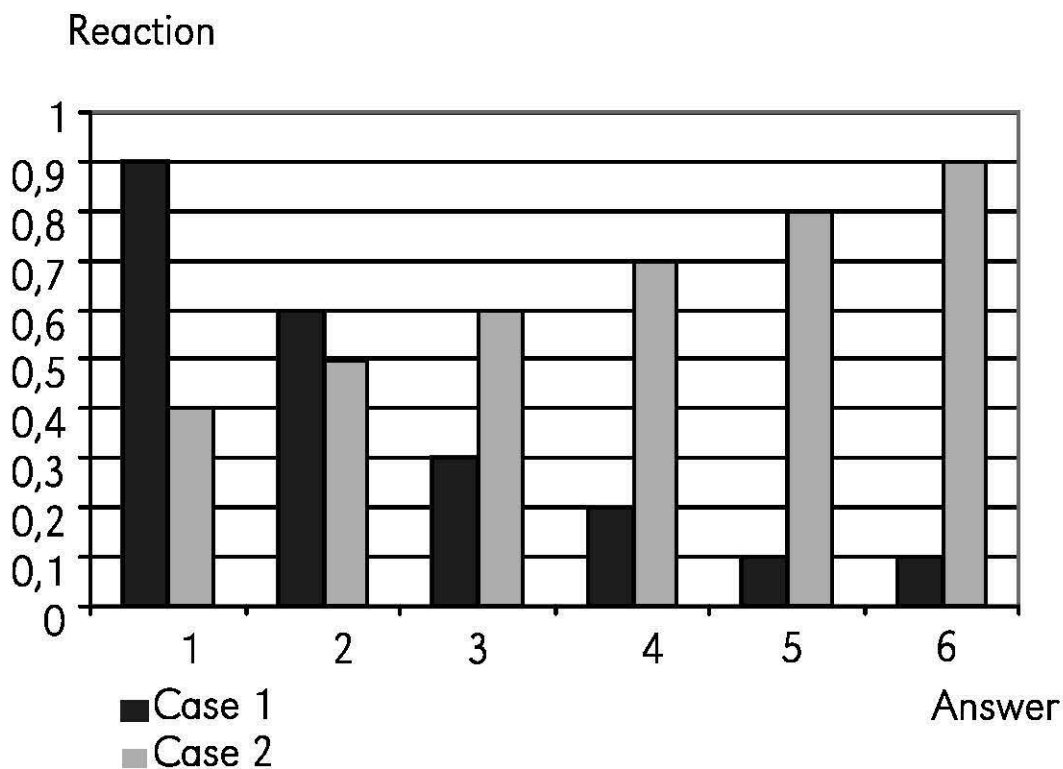


Figure 2. General psychophysiological reaction in a sequence of answers to one question.

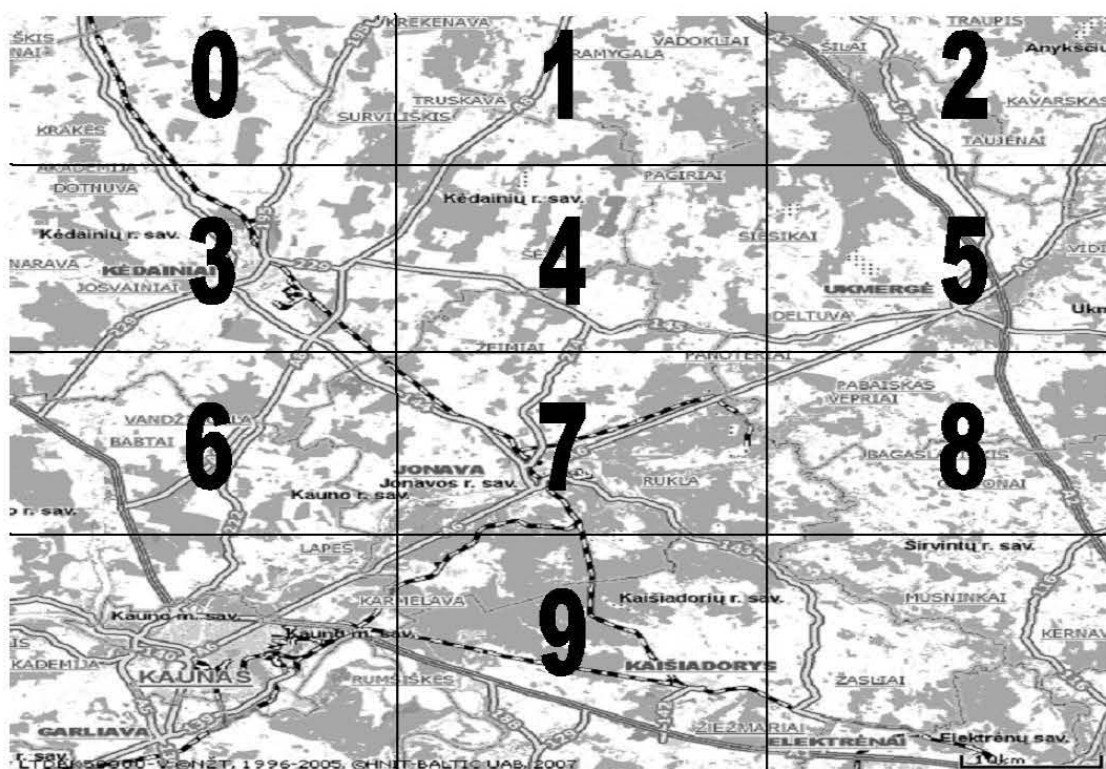


Figure 3. An example of map division into sectors.

For the sake of evidence, in order to demonstrate how we apply some of the principles mentioned here in practice, we present a description of a recent investigation.

In March 2008, a vehicle was stolen from a garage of a state institution. The car was driven out past a security post and its absence noted only after several days. Video recordings were examined, and the way the thief operated was determined. Unfortunately, the recording was taken from a considerable distance, and identifying the thief's face was complicated. According to the thief's actions it was possible to draw conclusions that he knew where he was going in the garage territory, acted in no hurry and with certainty. The police started to investigate the event. A hypothesis was made that the thief was instructed or informed otherwise by a person working or having worked before at the institution.

Police informants indicated a number of persons who could potentially have stolen the vehicle. They were questioned. It was a great success, as one of them was highly similar to the person captured in the video recording. This person, citizen S., told the entire story with no great resistance.

He was walking past a supermarket in the middle of March this year. He wanted to purchase some beer but was short of a few cents, which he at-

tempted to beg from shoppers. When he asked a man passing by (it was later determined by way of detection from the reflection of a mirrored glass that he was citizen V.) to give him 50 cents, V. said to him, "Why beg for money here? I can give you a chance to earn it". Citizen V. gave citizen S. 2 litas and indicated that a vehicle should be stolen, driven towards Žalieji Ežerai Lake District and left there. V. said he would give 500 litas for the job. S. agreed to steal the vehicle, as he needed money. V. said that he should arrive the next day at half past seven in the morning at the address provided. The next day, S. arrived at the indicated spot at the appointed time, where he met V. He took S. to the courtyard of some house and pointed to a nearby high white fence. V. indicated that S. had to climb the fence at the moment, bypass the security post, climb onto the roof of the garage extension, jump from it onto the nearby vehicle and find the dark blue VW Vento vehicle with tinted windows. V. indicated that the vehicle would not be locked and the keys would be inside the glove compartment. S. had to approach the gate in the vehicle, briefly press the sound signal button, and then the guard would open the gate. In the period between 6 pm and 7 pm he had to drive the vehicle to the parking lot next to Žalieji Ežerai lakes. V. instructed S. to leave the keys inside the vehicle. V. gave him 50 litas and asked where S. lived; the answer was Saracėnai Street. He promised to bring the remainder of the amount to S.'s home.

After giving evidence related to detection in the police station, V. recognised S., and V. was consequently arrested. V. did not admit participation in committing the crime and claimed that he did not even know S. The necessity arose to test V.'s claims using a polygraph and to detect whether the suspicion related to V.'s involvement in the said crime was motivated. V. agreed that his statements be investigated by way of psychophysiological investigation using a polygraph.

It is interesting that the specialists involved in this definite psychophysiological investigation using a polygraph knew V. in person before the investigation as a respectable person. It sounded unbelievable to them how he could commit such actions and be involved in the said crime. A hypothesis was made that very serious family-related or other reasons must have encouraged V. if he had dared take such a step. On the basis of material available as well as presuppositions (version), questions and answers were constructed based on EKT (Saldžiūnas, Kovalenko, 2008).

1. What addictions do you have?

0. smoking

1. use of drugs

2. alcohol abuse

3. gambling in casinos

4. having a mistress
5. behaving violently with animals.

2. What actions have you committed this year for which you could be punished by the police?

0. counterfeited money
1. beaten your wife
2. stolen gasoline
3. counterfeited a signature
4. illegally appropriated vehicle parts belonging to the garage
5. injured a person in a vehicle accident.

3. How long before the vehicle theft was the territory of the institutional garage shown to the thief?

0. 5 days
1. 4 days
2. 3 days
3. 2 days
4. 1 day
5. on the day of theft – R (author's note: R – relevant answer).

4. Why did you agree to help to steal the vehicle?

0. for the very idea
1. wife ordered it
2. had some debt
3. "tempted by the devil"
4. desperately needed money
5. blackmailed
6. mistress suggested it.

5. How many litas did you give the thief for stealing the car?

0. 300 litas
1. 200 litas
2. 100 litas
3. 50 litas – R
4. 20 litas.

6. Where did the thief have to deliver the stolen vehicle?

0. next to the stadium

1. next to the garage territory
2. to Naujininkai District
3. next to Žalieji Ežerai Lakes – R
4. next to Kauno Marios
5. to Pašilaičiai District.

7. Who stole the vehicle? photographs of 6 persons are shown/ (third photograph – R).

8. On which street does the vehicle thief live?

0. Žalgirio
1. Apkasų
2. Kalvarijų
3. Saracėnų – R
4. Upės
5. Žvejų.

The first two questions are introductory. They are intended to calm down suspects who are not related to the event. On the other hand, the two questions serve the function of partial probing of potential causes. We state that they serve partially, as they certainly do not embrace all possible life situations. We might have been successful, or the situational forecast may have been good, but we were well-directed. We did not include a question on the amount promised as a reward (500 litas). In our opinion, the number of good questions was sufficient. The most powerful questions are number 7 and number 8. Question 7 is slightly less powerful than question 8, as citizen V. changed the evidence he provided throughout the questioning procedure at the police office. He had already provided the version that he had accidentally seen citizen S. near the supermarket.

The following significant reactions were detected during polygraph examination: question 1 – answer 4; 2 – 5; 3 – 5; 4 – 2 and 4; 5 – 3; 6 – 3; 7 – 3; 8 – 3. We could draw the conclusion that citizen V. had psychophysiological reactions typical of a person who is aware of the circumstances/details of a theft. As five questions are directly related to the theft, the chance that V. was involved in the crime is approximately 99.9% (Saldžiūnas and Kovalenko, 2008). Additionally, based on psychophysiological reactions, a hypothesis can be made that V. had caused a vehicle accident and was indebted to someone. This could trigger V.'s involvement in the theft, as, according to our data, he had no savings. At present, the criminal case where S. and V. are suspected for committing the said crime is undergoing a lawsuit investigation.

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