

POLYGRAPH EXAMINATION OF THE SUSPECT AND ITS “EVIDENTIARY” VALUE IN THE CRIMINAL PROCEDURE

1. General remarks

The polygraph, very often referred to as a lie detector, does not discover directly the false answers of the tested person, but rather the emotions of fear and anxiety that usually follow the fake answers.² In other words, the physiological phenomena that the instrument measures and that the chart preserves are believed to reveal deception, but the instrument does not register the deception directly. Rather, it is said to measure physiological responses that are believed to be stronger during act of deception than at other times.³ To be able to understand the meaning of the polygraph testing, and therefore to assess how reliable it is to determine guilt or innocence, we need to focus on the issues concerning the idea and the problems behind the polygraph.

When one is being questioned, not only his answers matter, but the examiner always pays attention to the other reactions that the person manifests, like his posture, breathing, mimics, gestures, voice intonation – all factors that help the assessment whether the person is telling the truth. This logic is based on the known fact, that when a man is lying, usually he experiences anxiety and disturbance because of the fear that the lie would be disclosed, as well as greater psychological tension when answering the questions. In some people, the mentioned anxiety is noticeable through their confusion, or turning red, or their speech becoming insecure. On the contrary, others are more skilled at lying and controlling these manifestations. It is where, one of the basic rules of the criminal procedure arises from – the rule of immediacy of the presentation and evaluation of evidence.

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² See: Z. ROSO, *Neka aktuelna pitanja o poligrafskoj tehnici i uslovima za njezinu primenu*, in: *Primjena poligrafske tehnike u organima unutrašnjih poslova u SFRJ*, Zagreb, 1984, p. 93.

³ See: National Research Council of the National Academies, *The Polygraph and Lie Detection*, Committee to Review the Scientific Evidence of the Polygraph, Division of Behavioral and Social Sciences and Education, The National Academies Press, Washington DC, 2003, p. 13.

For as long as human beings have deceived each other, people have tried to develop techniques for detecting deception and determining truth.⁴ Thus, already in ancient China, the suspect was given to chew rice during the interrogation, and after a few minutes he had to spit it. It was believed that if the rice was dry, then the person was guilty and that he lied during the answering, and if the rice was melted, then the person was innocent. One can easily notice that this so called „God's judgment” from the standpoint of the modern knowledge of the psychophysiological reactions and their connection to the fear, is actually based on the fact that the enhanced emotional activity, decreases the secretion of saliva.⁵

Later, the development of the natural sciences and the technology, as well as their application in the forensics and the criminal procedure, evolved the idea that these psycho-physiological changes can be measured with precise instruments, and not be left solely on the assessment of the investigator. The earlier studies on psychophysiology and psychotherapy used heart rate and skin conductivity as a measure of physiologic reactivity. Measuring the heart rate and skin conductivity soon became popular because the method was non-invasive and relatively inexpensive in comparison to others. The instruments used to measure this were portable, thus test could either be performed within a laboratory as well as at an outside suitable environment.⁶

Thus, using the results already existing, the first polygraph (lie detector) was constructed in 1921 in USA by John Larson. The basic principle, on which the polygraph is based is the assumption that once a person is lying, in the body it creates a state of psychological tension followed by psychophysiological reactions.

2. How does the polygraph function?

The polygraph practically registers psychophysiological changes that occur in a person during the questioning. A polygraph test and its results are a joint product of an interview or interrogation technique and a psychophysiological measurement or testing technique. It is a misleading to characterize the polygraph examination as a purely

⁴ Ibid, p. 11.

⁵ See: Ž. ALEKSIĆ, *Kriminalistika*, Drugo izmenjeno i dopunjeno izdanje, Savremena Administracija, Beograd, 1982, p. 241; M. DAMAŠKA, *Okrivljenikov iskaz kako dokaz u suvremenom krivičnom procesu*, Narodne Novine, Zagreb, 1962, p. 150.

⁶ See: M. WOODROW, *The Truth About the Psychophysiological Detection of Deception Examination (Polygraph)*, 2nd Edition, 2012, Lulu Press, NY/Dublin/Chicago, p.17.

physiological measurement technique.⁷ Although there are various constructions of polygraphs, most of them measure the changes in: breathing, blood pressure, the pulse and psycho-galvanic reflex i.e. electro-dermal reaction. When a person is being polygraphed a number of questions are posed to him and he is asked to answer with “yes” or “no” answers. During the interrogation, instruments are attached on the person’s body that register the mentioned psychophysiological changes and afterwards the examiner interprets the polygraph results by giving his opinion whether the person speaks the truth.

There are several types of polygraph tests, such as, experimental tests, identification tests, group tests, general test etc. However, tests that are most commonly used are: method of relevant and irrelevant questions which is also called direct method, and test of the Peak of the Tension (POT or indirect method).

A polygraph test is part of polygraph examination, which includes other components. A typical polygraph examination starts with a pre-test interview which has multiple purposes, such as to gain preliminary information, which can be later used for control questions, to explain to the examinee how the polygraph works, emphasizing that it can detect lies and that it is important to answer truthfully. Thus, it can be used, as often happens in practice, to convince the examinee that the polygraph chart will detect any lie or deception and in that way, to make him confess. Sometimes, this process involves a demonstration in which the examinee is asked to lie about unimportant matter. Then the actual test starts. Some of the questions asked are *irrelevant* – designed to ease the tension and create an emotional balance, others are *probable-lie* - control questions that most people will lie about, and the remainder are *relevant questions*, that the examiner is most interested in. The test is passed if the psycho-physiological responses during the probable-lie control questions are larger than those during the relevant questions. If this is not the case, examiner may start another exam called a Peak of Tension.

The Peak of the Tension exam is a technique where the questions are asked in a way which means inevitably approaching towards the critical question that only the perpetrator could know, while an innocent person could not know which of the questions

⁷ See: National Research Council of the National Academies, *The Polygraph and Lie Detection*, Committee to Review the Scientific Evidence of the Polygraph, Division of Behavioral and Social Sciences and Education, The National Academies Press, Washington DC, 2003, p. 16.

is critical, hence the polygraph will not show any specific reactions.⁸

3. Factors that influence the results of the polygraph test

It is important to emphasize that, although the polygraph measures the psychophysiological reactions in a person, yet, it does not give, by itself the answer whether the person committed the crime, that is, as Damaška says – the polygraph isn't a kind of „*pushbutton evidence*. ”⁹ This is so, because the polygraph does not determine the truth in a direct manner. On one hand physiological changes measured by the polygraph can also be consequence of other influences and not only as a result of persons' lying and on the other hand, the meaning that will be given to the registered psychophysiological changes, i.e. the interpretation and reading of the polygram (polygraph chart), practically depend on a human factor, that is on the skills of the polygraph examiner.

The central issues in dispute regarding the validity of polygraph testing concern the physiological responses that polygraph registers. For example, there is a doubt if they are strongly and uniquely associated with deception, and that there are conditions other than deception that could produce the same responses. Moreover, does this association depend on particular ways of selection or asking questions, and if so, do examiners ask the right questions and make the right comparison between physiological responses to different questions? Is it influenced by an examiner's expectations about whether the examinee will be truthful?

Even the bad construction of questions can cause unrealistic specific reactions, and the changes in the polygraph chart sometimes can be as a result of muscle movement, whereas in the person that is disturbed and upset because of the interrogation - as a result of retention of breathing, which can be seen on the polygraph chart even regarding the irrelevant questions. Furthermore, if we take into account that the polygraph examiner does not form the opinion solely on the chart, but also on the person's behavior before the test, then there can be a problem having in mind that certain behaviors such as anger and arrogance, are common to both the guilty and innocent.

Also, given that polygraph measures psychophysiological response which occurs due to fear of disclosure, among those who maybe are guilty of the crime, but don't have

⁸ See: Ž. ALEKSIĆ, op.cit, p. 247.

⁹ See: M. DAMAŠKA, op.cit, p. 152.

the fear, the polygraph won't notice any changes. What's more, there is always a chance that some people are capable of „cheating” the polygraph by concentrating on something else. On the other hand, sometimes innocent people only because of the fact that they are accused of a crime, show psychophysiological reactions on the polygraph test.

Certain categories of persons are not "eligible" for polygraph testing, such as ones who are under the influence of alcohol or drugs, people under hypnosis,¹⁰ pregnant women, children, heart patients, people with mental illness or mentally retarded etc., because polygraph results can be influenced by their situation.¹¹

What is important is that, polygraph testing does not only include the questioning part, but component of the test is also the analysis of the person's behavior and reactions just before and after the testing, which has influence on the chart results interpretation. In fact, experience shows that quite a number of people, faced with the outcome of the testing confess the crime immediately before the test starts and some give confession after the polygraph examination ends. As Richard Nixon once said: "I do not know if the polygraphs work, but I do know that they scare anyone who has to take one."¹²

4. Value of the polygraph examination results in the criminal procedure

Opinions regarding the value of the polygraph are divided, starting from those who believe that the polygraph is an illegal method of examination in the criminal procedure, to those who approve of its use, and even explain the necessity of it. In any case, it can not be denied that polygraph examination can significantly help separating suspects from a wider circle of people, or that it can refer to other evidence in the procedure. But the question of whether the polygraph results can present autonomous evidence in the procedure on which the judgment will be based, is quite another matter.

It is important to note that, even in the United States, where the application of the polygraph first began in the police stages of the procedure, and where is often used, in most cases the courts do not accept polygraph examinations and diagnosis resulting from them, as evidence in criminal procedure, although they emphasize that polygraph

¹⁰ See: M. WOODROW, *The Truth About the Psychophysiological Detection of Deception Examination (Polygraph)*, 2nd Edition, 2012, Lulu Press, NY/Dublin/Chicago.

¹¹ See: V. KRIVOKAPIĆ, *Kriminalistička primena poligrafa s osvrtom na praksu organa unutrašnjih poslova*, in: *Primjena poligrafske tehnike u organima unutrašnjih poslova u SFRJ*, Zagreb, 1984, p. 22-31.

¹² See: R.A. LEO, *Police interrogation and Criminal Justice*, Harvard University Press, Cambridge-Massachusetts-London, 2008, p. 78.

is a useful investigative tool to detect traces of the crime.¹³ However, there are cases where the Supreme Court of Arizona in the early sixties of the last century assessed that, although there is a lot to be done to improve the lie detector, yet the Arizona court considered that it was sufficiently developed that its results provide enough reliable evidence.¹⁴

The objections addressed to polygraph testing as a method of finding out the truth in criminal procedure most often refer to few points. Namely, some consider the polygraph as not enough reliable, or polygraph examiners as not sufficiently trained, or that since the essence of a polygraph test is measuring the internal reactions of the suspect, which occur independently of his will, it practically represents interference with his right to defence.¹⁵

In the same manner, Vodinelić says that the legal application of the polygraph is only "...parameter for tolerating tactical means, disputable from legal and ethical point of view."¹⁶ He further elaborates his attitude with the following arguments: he says that the polygraph test is not interrogation and conversation because the examinee does not answer with sentences, but with yes/no and therefore the examinee is not a subject, but an object of the testing; then, information are gathered from the person's segment that no one is able to manage or control, hence it is unconsciously and unwillingly given; as well as, he says that the application of the polygraph test means much deeper entering in the psyche of the suspect than it is a case with the other types of interrogation. Vodinelić argues that the aim of the polygraph test is only to create intense and tempestuous emotions of stress and frustration in a suspect so that he won't be able to freely decide whether he wants to say something or not, thus the polygraph for him represents a tool for intentionally putting the suspect in such an emotional state, so that he confesses to a crime. Hence, although there is consent from the suspect to be examined on a polygraph test, yet it happens without his will.¹⁷

Moreover, some authors provide a critical overview of the scientific status of the control question test (CQT), the type of polygraph test most likely to be used in forensic

¹³ See: *Scientific Validity of Polygraph Testing: A research Review and Evaluation*, A Technical Memorandum, Office of Technology Assessment, United States Congress.

¹⁴ See: *State v. Valdez*, (1962).

¹⁵ See: A. МАКРА, *Mjesto i uloga poligrafa u kriminalistici i krivično-procesnom pravu*, in: *Primjena poligrafske tehnike u organima unutrašnjih poslova u SFRJ*, Zagreb, 1984, p. 16-21.

¹⁶ See: В. ВОДИНЕЛИЋ, *Криминалистичка тактика I*, Центар за образование на кадри од областа на безбедноста, Скопје, 1995, p. 429.

¹⁷ *Ibid*, p. 429.

settings, arguing that the CQT is based on an implausible set of assumptions that makes it biased against innocent individuals and easy for guilty persons to defeat using countermeasures. Due to serious methodological problems that characterize research on CQT validity, it is not possible to use the existing literature to provide a satisfactory error rate estimate, since it is very difficult to conduct research on polygraph test validity that provides an accurate estimate of how well it works in real life. Scientists, including members of the Society for Psychophysiological Research and APA Fellows, hold negative views about the CQT. They do not believe that it is based on sound theory, that it has adequate psychometric properties, or that it should be used as evidence in court.¹⁸

At the same time, there are indicators that the guilty can beat a CQT by augmenting artificially their responses to control questions. This can be accomplished using simple countermeasures such as curling the toes, lightly biting the tongue, or performing mental arithmetic when control questions are asked. Additionally, members of scientific organizations who have the requisite background to evaluate the polygraph test are overwhelmingly skeptical of the claims made by polygraph proponents.

However, despite the continuing lack of consensus in the scientific community about the validity of polygraph testing, it is treated as a highly valid technique for detecting deception and guilt.

In our opinion, when talking about the value and application of polygraph and the results in criminal procedure, it is necessary to distinguish the question of the value of polygraph as evidence on the one hand, and on the other hand - the assessment of the value of polygraph as investigative means, operative tool, used for detection of traces or other evidence of the crime, or to separate the suspect from a wider number of persons.

Thus, we believe polygraph examination can not be, by itself, a proof in the procedure, upon which the judgment would be based. But, on the other side, there is no room for a dispute regarding its use as an operational means that will be undertaken by the police in the course of investigation in order to detect the perpetrators of crimes. In fact, it should be understood as a kind of circumstantial means. We do not consider correct nor sustainable the objections that the polygraph should be considered a prohibited method of examination of the suspect. Namely, we find the argument, that it

¹⁸ See: IACONO, W. G. Forensic 'Lie Detection': Procedures Without Scientific Basis, *Journal of Forensic Psychology Practice*, Vol. 1 (2001), No. 1, pp. 75-86, <https://antipolygraph.org/articles/article-018.shtml>.

is contrary to the rights of the suspect to register psycho-physiological changes that occur without his will or even against it, quite unjustified and here is why.

Even when it comes to "classic" examination, which does not include polygraph testing, the examiner does not make a decision on the truthfulness of the statement of the suspect solely on the basis of his verbal expression. On the contrary, he also takes into account non-verbal and involuntary reactions of the suspect. This means that also, during the so-called "normal" interrogation manifestations of the personality of the suspect that are independent of his will or consent, are considered. Moreover, it is certain that the interrogator who conducts the hearing, even if he wants, could not ignore those reactions of the suspect.

Likewise, professor Bayer, believes that the polygraph examination should be used to obtain information during investigation, but not as evidence in court. He arguments this attitude saying that diagnosis about someone's guilt obtained by polygraph testing, is still not reliable *enough*.¹⁹

As already mentioned, the experience from polygraph examinations indicates that often suspects confess to the crime right before the polygraph test is conducted, or immediately thereafter. A major goal of polygraph testing is to solve crimes by extracting occasional confessions from those who fail the tests. As W. Iacono says, indeed, it is this benefit of polygraph tests that justifies their use in the absence of compelling validity data.²⁰ This entails the question of the validity of such confessions. In our opinion, this confession is not an issue, given that neither is elicited by the application of any prohibited methods of examination, nor is obtained by fraud, misleading or otherwise. The fact that the person who has committed a crime facing the polygraph examination, subjectively feels the polygraph test as a "threat" which will reveal the truth, does not qualify the polygraph examination as objective means of threat or intimidation. It is true that the polygraph examiner, in the conversation before the testing, points out to the suspect certain information about how the polygraph functions and thus practically induces the suspect to confess to the crime. Nevertheless, we do not find this different than encouraging the suspect to confess during the ordinary course of interrogation, by pointing out the evidence found at the place of the crime, which indicate

¹⁹ See: V. BAYER, *Jugoslavenko krivično procesno pravo*, Knjiga druga: *Pravo o činjenicama i njihovom utvrđivanju u krivičnom postupku*, Četvrto izdanje, Pravni fakultet u Zagrebu, 1986, p. 79 – 90; V. BAYER, *Instrumenat za otkrivanje laži – Lie detector*, Beograd, 1958.

²⁰ See: IACONO, W. G., *op. cit.*

that he is the perpetrator, such as his fingerprints, or underlining the contradictions in his statement during the interrogation.²¹ These are all elements that are part of the usual interrogation of the suspect, and they are nothing less than incentive to the confession than is the facing with polygraph examination and pointing out the effect of its results.

What is important is for the polygraph examination to be conducted correctly without any abuses or bringing the suspect in misconception, as well as it must not last long with an intent to cause fatigue in the suspect.²²

5. Polygraph examination in the Macedonian criminal procedure

5.1. Polygraph examination in the former Law on Criminal Procedure and its application in the practice

Polygraph examination was not stipulated in the 1997 Law on Criminal Procedure (LCP), but it was introduced by its amendments in 2004, when art. 143 paragraph. 3 and 4 which refer to the polygraph, were added.²³ Thus, according to this provision, the Ministry of Interior may use polygraph examination on the person for whom there are grounds for suspicion that he has committed a crime. The polygraph testing is a voluntary testing, as the Law stipulated that it can be taken only with the written consent of the person.²⁴

In this Law, the restriction on polygraph use, was put by determining following categories as utterly unsuitable for testing: a person under the influence of alcohol, narcotic drugs and psychotropic substances; a person with severe heart disease; a person with visible signs of mental illness or retarded mental development, pregnant woman or woman immediately after birth. Also, polygraph testing was forbidden for use on children under the age of 14. For younger and older juveniles polygraph examination was provided as an exception, if there are grounds for suspicion and only upon a written consent of a parent or a guardian. Quite understandable, the reason for such limitation is

²¹ Same: M. DAMAŠKA, *Okrivljenikov iskaz kako dokaz u suvremenom krivičnom procesu*, Narodne Novine, Zagreb, 1962, p. 159.

²² See: O. KRSTIĆ, *Tehničke i metodološke inovacije poligrafske tehnike u sveti (suvremeni trendovi razvoja)*, in: *Primjena poligrafske tehnike u organima unutrašnjih poslova u SFRJ*, Zagreb, 1984, p. 32-41.

²³ See: Law on amendments of the LCP, Official Gazette no. 74/2004.

²⁴ See: art. 143 para. 3 LCP, Official Gazette no. 15/97, 44/2002, 74/2004, 83/2008, 67/2009, 51/2011.

that they lack the psychological activity expected to be caused by the questioning. Children on the other hand, due to lack of maturity, are unable to distinguish the false from truthful answer.

From how the legal provisions were set down, it appeared that polygraph testing was understood as a police authorization undertaken in the investigation procedure. Furthermore, this interpretation was indicated also by the location of the provisions in the part of the Law which refers to pre-trial procedure. But in the practice polygraph examination has been implemented differently than it was normatively defined. What's more, it needs to be underlined that a special rulebook which would regulate polygraph examination was never adopted. Hence, practically, the implementation of polygraph testing is (and was) conducted in accordance with established practice so far, which can be evaluated as problematic from several aspects.

Namely, the polygraph testing is conducted in a polygraph laboratory within the Department of forensic examinations of photo, video, audio and digital data in the MoI. But, in the absence of an act that would regulate all aspects of the polygraph testing, laboratory practice is to prepare a "report" regarding the polygraph test, which in its form and content resembles the records made for the expertise. The reports are prepared by crime which polygraph testing refers to, and not by person that has been subject to polygraph test, that is, if there are three people subjected to polygraph test regarding one crime, then there will be only one report prepared which will have for each of the three persons separate opinion. The wording used in the opinion of the report, usually reads ... "We believe that a person has nothing to do with the crime," or ... "We believe that a person has to do with the crime."

Eventhough most often polygraph tests are performed in the phase of detection and upon the request of the police,²⁵ - as LCP stipulates, yet in practice there were orders for polygraph testing from investigating judges issued after the adoption of the decision to conduct the investigation, is increasingly high, as well as orders for polygraph test issued by trial judges when the trial had already begun. Also, in one case, polygraph test was ordered by a judge even in an appeal procedure.²⁶

This kind of application of polygraph examination, already in an advanced stage of the procedure, goes against the spirit of understanding the polygraph as operational forensic tool used for elimination of suspects, identifying perpetrators of crimes, finding

²⁵ As well as on a request of the Ministry of defense, Customs Administration.

²⁶ This polygraph testing did not give any results because of great contamination of the memory.

clues, objects or other evidence of crime, and was even less in tune with the LCP. All the more, in practice, once the court receives the report from the conducted polygraph test, the polygraph examiners are called in the court as an experts to explain it. Hence, it seems that in the practice court treats the polygraph testing as an expertise, that is, it is implemented in the same procedure as the expertise – with court order, report with findings and opinion and statements at the trial. Then it remains only to the judge to assess the polygraph results in context of the other evidence in the judgment, that is whether he will give the polygraph test treatment as any other evidence. Clearly, this was not the intention of the LCP.

The court orders that we had the opportunity to read, usually require "polygraph test to be conducted in order to provide information and evidence necessary for successful criminal proceedings, which can not be otherwise collected" or they require polygraph to be undertaken "regarding all the circumstances of the crime."

Our practice also confirms the experience that often a person confesses to a crime when he faces the polygraph test of immediately after the testing.

5.2. Polygraph testing in the new LCP from 2010

Unlike in the previous LCP, the polygraph examination is not at all contained in the provisions of the new LCP from 2010, which instead of solving the problem, creates even greater one. Given this, it was added to the Law on police with its amendments from 2012, as authorization of the police.²⁷ This means that with the termination of the application of the old LCP and the beginning of the new, the polygraph examination remained regulated solely by the provisions of the Law on police.

But, we have to point out that the provisions in the Law on police are not satisfactory, on the contrary they only produce more space for misuse. According to the provisions in the Law on police, the polygraph testing is undertaken in order to detect a perpetrator of a crime and the police officer must inform the person who will be subjected to a polygraph test with the way the polygraph functiones as well as to obtain his written consent for use of polygraph testing. The police officer is obliged to stop the test if the person after giving the written consent, stated that he was withdrawing it. Furthermore, the law stipulates that the polygraph test must not be applied to the

²⁷ See: Art. 65-a, 65-b and 65-c of the Law on police, Official Gazette no. 114/2006, 6/2009, 145/2012.

following persons: a) a person under the influence of alcohol, narcotic drugs or psychotropic substances; b) a person who has severe heart disease; c) a person in a stressful situation; d) a person who takes tranquilizers; e) a person who manifested obvious signs of mental illness, retarded mental development or other especially serious emotional disturbances and, f) a woman during pregnancy and immediately after birth.

Problem occurs precisely regarding to this provision, since, intentionally or not - it does not include children up to 14 years, as was in the former LCP, nor provides for younger and older juveniles that polygraph examination can be applied in exceptional cases only if there is a reasonable suspicion that they committed a crime and only upon a written consent of a parent or guardian.

Furthermore, since the new LCP does not contain provisions regarding the polygraph test, and in the same time, it doesn't rank the polygraph as a forbidden means, the question of its use in the criminal procedure arises. Firstly, given that in the Law on police it is stipulated that the polygraph test is one of the police authorizations which will be taken at the discretion and finding of the police in the during the police investigations, or if it is ordered by the the public prosecutor within his right to direct and manage the actions of the authorities responsible for detecting and reporting of crimes and their perpetrators,²⁸ at this stage of the procedure, it can be interpreted that polygraph test has its basis in the provision of Art. 276 of the LCP, which regulates police authorizations during police investigations, since paragraph 2 states that, despite the explicitly enumerated authorizations, "the police can take other necessary measures and actions envisaged by the law."²⁹ However, in the investigative phase, after the order of the public prosecutor that the investigation begins, article 295 stipulates exactly which investigative actions can be undertaken. Hence, the question is, which provisiosn of the LCP will be applied for the use of the polygraph in this phase of the procedure.

Namely, it can be interpreted that the prosecutor has the right to impose a polygraph test on the basis of article 39 of the LCP that is - his right to direct the actions of the authorities responsible for the detection and reporting of crimes and their perpetrators. Or, we can follow the logic applied by Damaška in the 60's of the 20th century, and conclude that, although not explicitly predicted in the LCP, polygraph test, as yet some form of examination and interrogation of the suspect, which is not contrary to the general principles on which the status and rights of the suspect regarding his

²⁸ Art. 39 of the Law on Criminal Procedure, Official Gazette no. 15/2010.

²⁹ Art. 276 para. 2, p. 7 of the Law on Criminal Procedure, Official Gazette no. 15/2010.

interrogation are based on, can be interpreted as allowed means of examination of the suspect.³⁰ Eitherway, it remains unclear what was the intention of the legislator when he left out the polygraph test from the new LCP leaving room for interpreting such a sensitive issue, or what's more leaving it to be regulated only by the Law on police, especially if we have in mind that the practice from the practice that criminal procedure bodies pay a great deal of attention to the polygraph tests and their outcomes.

Therefore, in our opinion, it is best if the LCP haven't left the polygraph test use in criminal procedure to interpretation, but instead it should have included provisions regulating its implementation. Moreover, incorporating the polygraph test between police powers in the Law on police, without being contained in the same time in the LCP which regulates all the activities that can be undertaken by the authorities in order to detect and prosecute crimes and their perpetrators, leaves in impression as if the polygraph test and examination were some kind of exclusive police power which is not affiliated with the criminal procedure.

In addition are presented data from the Ministry of Interior regarding the application of polygraph testing for the period from 2006 to 2012 - the data for each year are given in comparison with the data from the previous year.³¹

Criminal offence	Number of criminal offences		Number of polygraph tests	
	2006	2007	2006	2007
Murder	4	5	4	7
Robbery	2	4	3	4
Theft	16	27	59	50
Endangering with a generally dangerous weapon				
Causing a general danger	3	6	3	10
Grave body injury		1		2
False reporting	1		1	
Drug trafficking	1		1	
Taking away a motor vehicle with endangering traffic safety	1		2	
Verification of a given statement				
On request of other legal entities				
Total	28	44	73	74

³⁰ See: M. DAMAŠKA, Okrivljenikov iskaz kao dokaz u suvremenom krivičnom procesu, Narodne Novine, Zagreb, 1962, p. 157.

³¹ Source: Annual Report of the Ministry of Interior - Bureau of Public Safety - Central Police Services, Department of Forensics. Written records, internal records in electronic form (specially designed software package in LOTUS NOTES system which serves document-oriented database) and LIMS (Laboratory Information Management System - a professional system for management of laboratory information in the field of forensic science).

Criminal offence	Number of criminal offences		Number of polygraph tests	
	2007	2008	2007	2008
Murder	5	10	7	18
Robbery	4	9	4	14
Theft	27	18	50	52
Endangering with a generally dangerous weapon		2		2
Causing a general danger	6	1	10	6
Grave body injury	1	1	2	1
Facilitating an escape of a person deprived of liberty	1		1	
Drug trafficking				
Misuse of official position and authorizations				
Desecration of a tomb				
Verification of a given statement				2
On request of other legal entities				
Total	44	41	74	96

Criminal offence	Number of criminal offences		Number of polygraph tests	
	2008	2009	2008	2009
Murder	10	19	18	19
Robbery	9	10	14	11
Theft	18	27	52	74
Endangering with a generally dangerous weapon	2	1	2	1
Causing a general danger	1	6	6	7
Grave body injury	1	1	1	2
Kidnapping-disappearance of a person		3		24
Drug trafficking		1		1
Misuse of official position and authorizations		1		2
Desecration of a tomb	1		1	
Verification of a given statement			2	
On request of other legal entities				22
Total	41	69	96	163

Criminal offence	Number of criminal offences		Number of polygraph tests	
	2009	2010	2009	2010
Murder	19	9	19	19
Robbery	10	18	11	23
Theft	27	27	74	60
Endangering with a generally dangerous weapon	1		1	
Causing a general danger	6	3	7	8

Grave body injury	1		2	
Kidnapping-disappearance of a person	3	3	24	5
Drug trafficking	1		1	
Misuse of official position and authorizations	1		2	
Severe crimes against traffic safety		2		3
Verification of a given statement		1		1
Receiving/giving bribe		3		3
False reporting		2		2
Fraud		1		1
On request of other legal entities			22	4
Total	69	69	163	129

Criminal offence	Number of criminal offences		Number of polygraph tests	
	2010	2011	2010	2011
Murder	9	10	19	18
Attempted murder		1		1
Robbery	18	11	23	16
Theft	27	29	60	83
Taking away a motor vehicle		5		6
Causing a general danger	3	3	8	3
Grave body injury		1		1
Kidnapping-disappearance of a person	3	3	5	3
Severe crimes against traffic safety	2	2	3	7
Verification of a given statement	1		1	
Receiving/giving bribe	3		3	
False reporting	2		2	
Fraud	1		1	
Sexual assault of a child		1		1
On the request of other legal entities			4	1
Total	69	66	129	140

Criminal offence	Number of criminal offences		Number of polygraph tests	
	2011	2012	2011	2012
Murder	10	6	18	8
Attempted murder	1	/	1	/
Robbery	11	15	16	19
Theft	29	24	83	50
Taking away a motor vehicle	5	2	6	2
Causing a general danger	3	1	3	5
Grave body injury	1	1	1	1
Kidnapping-disappearance of a person	3	1	3	5
Drug trafficking	/	/	/	/
Severe crimes against traffic safety	2	/	7	/
Verification of a given statement	/	/	/	/
Receiving/giving bribe	/	1	/	2

False reporting	/	/	/	/
Fraud	/	/	/	/
Sexual assault of a child	1	1	1	1
On request of other legal entities	/	/	1	/
Total	66	52	140	93

Concluding observations

The development of the natural sciences and the technology, as well as their application in the forensics and the criminal procedure, evolved the idea that the psychophysiological responses that occur during interrogation can be measured with precise instruments, and not be left solely on the assessment of the examiner. The polygraph test and its results are a joint product of an interview or interrogation technique and a psychophysiological measurement or testing technique. It is a misleading to characterize the polygraph examination as a purely physiological measurement technique.

The objections addressed to polygraph testing as a method of finding out the truth in criminal procedure most often refer to few points. Namely, some consider the polygraph as not enough reliable, or that since the essence of a polygraph test is measuring the internal reactions of the suspect, which occur independently of his will, it practically represents interference with his right to defence. Moreover, there is a doubt if physiological responses that polygraph registers are strongly and uniquely associated with deception, and that there are conditions other than deception that could produce the same responses. However, despite the continuing lack of consensus in the scientific community about the validity of polygraph testing, it is treated as a highly valid technique for detecting deception and guilt.

In our opinion, polygraph examination can not be by itself, a proof in the criminal procedure upon which the judgment would be based since the diagnosis about someone's guilt obtained by polygraph testing is still not reliable enough. But, on the other side, there is no room for a dispute regarding its use as an operational means undertaken by the police in the course of investigation in order to detect the perpetrators of crimes. That is the polygraph results should be used for obtaining information during investigation, but not as evidence in court. We do not consider correct nor sustainable the objections that the polygraph should be considered a prohibited method of examination of the

suspect. We find the argument, that it is contrary to the rights of the suspect to register psycho-physiological changes that occur without his will or even against it, quite unjustified. Also, we don't consider problematic the confession given right before the polygraph test is conducted, or immediately thereafter, given that neither is elicited by the application of prohibited methods of examination, nor is obtained by fraud, misleading or otherwise.

Concerning the polygraph examination in Macedonian criminal procedure, we conclude that the application of polygraph examination, already in an advanced stage of the procedure, as it happens in the practice goes against the spirit of understanding the polygraph as operational forensic tool used for elimination of suspects, identifying perpetrators of crimes, finding clues, objects or other evidence of crime. The other issue is that, unlike in the previous LCP, the polygraph examination is not at all contained in the provisions of the new LCP from 2010, which instead of solving the problem, creates even greater one. Eventhough, given this, it was added to the Law on police with its amendments from 2012 as authorization of the police, these provisions need to be corrected since they have a number of flaws.

In our opinion, it is best if the LCP haven't left the polygraph test use in criminal procedure to interpretation, but instead it should have included provisions regulating its implementation. Moreover, incorporating the polygraph test between police powers in the Law on police, without being contained in the same time in the LCP which regulates all the activities that can be undertaken by the authorities in order to detect and prosecute crimes and their perpetrators, leaves an impression as if the polygraph test and examination were some kind of exclusive police power which is not affiliated with the criminal procedure.

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