

# POLYGRAPH USAGE IN CRIMINALISTIC PRACTISE

Prof., JUDr., Ph. D., **Marek Fryšták**,  
Masaryk University,  
Žerotínovo nám. 617/9, 601 77 Brno, Czech Republic,  
<Marek.Frystak@law.muni.cz>

Mgr., LL. M., **David Texl**,  
Masaryk University,  
Žerotínovo nám. 617/9, 601 77 Brno, Czech Republic,  
Police Academy of the Czech Republic,  
Lhotecká 559/7, 143 00 Praha 4-Kamýk, Czech Republic,  
<david.texl@mail.muni.cz>

## Summary

This article discusses the possibilities of using physical detection in modern forensic practice and what problems are encountered when using the polygraph. It also analyzes the place of this method in criminal practice, whether the result of the application of this method can be evidence in criminal proceedings, and if so, what conditions must be met. Argued thoughts are also presented on what changes are necessary so that the physiodetection method is more widely applied in practice. Given the scope of this issue, it is not possible

to provide a detailed analysis of the question of the use of the polygraph in practice, therefore, attention is focused only on some problematic aspects. The purpose of this article is to stimulate the reader to think and start a discussion, and the insights born from it can be successfully applied in legislative work.

**Keywords:** polygraph, physical detection method, evidence, criminal process.

## Introduction

It is the lie that is often cited as something we encounter on a daily basis. The very first person who ever lied was Cain about not killing his brother Abel. However, the omniscient God was not fooled and exposed his lie. We, as mere mortals, do not have this ability, and so over time we have developed various means to help us make such revelations.

Some lying occurs in the world's favorite card game, poker. Players who place high bets even when their hand is miserable are bluffing, essentially lying. In poker tournaments, we often see fierce psychological battles where, especially in the final battles, both players try to expose each other's bluffing. The term poker face, or an expression from which nothing can be read at any price, is therefore a distinctive art of the best players.

The quest to expose lies runs not only through humanity, but through the entire history of criminalistics. In earlier times, various unscientific methods were used for this purpose, which were based more on superstition and often also associated with religion. Exposing the lie has often been associated with so-called witchcraft and witch trials. However, with the development of modern criminalistics, scientifically based procedures that were verifiable began to be used, thus ensuring their objectivity. The results of the application of these methods could then be, and often are, used as evidence in criminal proceedings.

Since in some criminal cases it is not easy to obtain evidence of the guilt of a particular person, it is the endeavor of criminalistics to develop new methods and procedures to facilitate this situation. The polygraph, as a device used for physiodetection, i.e. the scanning of certain bodily values in order to detect a lie, is sometimes referred to by the lay public as a "lie detector". The essence of a polygraph examination is the detection, recording and evaluation of physiological changes occurring in the human body in relation to questions asked during the examination.

The polygraph began to be used for lie detection purposes in the early 20th century. The desire to be able to detect lies by scientific means was behind everything<sup>1</sup>, and the polygraph was to be used for interrogations during the Second World War. Today, however, it is a generally accepted fact that lies as such cannot be detected in any way using scientific methods, since lies themselves have no specific manifestations. What can be detected, however, are those manifestations which are associated with situations in which a person tells a falsehood, that is to say, although we cannot detect the lie itself directly, we can detect certain signals that the person is not answering the question truthfully. These physiological processes cannot be influenced by the will of the individual and are therefore, so to speak, objective nature, even if the person under investigation tries to suppress them.

1 Even at this point, one can recall one of the most influential and quoted psychologists of the 21st century, the American psychologist Paul Ekman. He became famous for his originally specific system for detecting lies, which is now relied upon by various investigative or psychological bodies. It involves split-second changes in facial expressions, called micro-expressions. These are almost imperceptible gestures, such as a subtle holding of the breath, a glance to the left corner, a twitch of the lip or an irregular wink. These are all micro-expressions that reveal a lie.

### The concept of a physical examination and how it should be carried out

As already indicated in the introductory section, the physiological examination, which is carried out with the help of an instrument called a polygraph, is based on the measurement and examination of various physiological values, and their changes are examined when questions are asked. As Porada states, „*Psychophysiological examination for the purpose of verifying truthfulness in a statement is the process by which we determine whether a particular person is truthful with respect to the subject matter of the investigation.*”<sup>2</sup> Thus, it is a standardized procedure in which the person involved is asked predetermined questions to which that person is asked to answer truthfully. At the same time, selected physiological data of the respondent are measured and analysed. Examples of physiological reactions that may be relevant in the context of this examination are changes in blood pressure, rapid breathing, rapid heart rate, skin resistance or muscle tension, etc. Reactions to all questions asked are recorded during the examination. Those questions which the examinee perceives as threatening, i.e. where he/she is aware that a truthful answer to the question would cause him/her some complications, induce certain physiological changes in the examinee's organism, as described above. These changes are sensed and recorded during the examination for later evaluation.

The examination is carried out on a special machine known as a polygraph and is always carried out by a suitably trained specialist. The physiological examination places great demands on accuracy, and it is essential to properly determine the questions to which the person will answer, as well

as their correct evaluation, or the evaluation of the physical reactions of the examinee to the questions asked.

The detection of lies by various unscientific methods has its roots in ancient times. Experiments with a grain of rice are very well known and were applied in ancient China. The idea was that several suspicious persons were gathered together, and these persons were asked to swallow a grain of rice. Those who failed to swallow it were found guilty.<sup>3</sup> The fact is that this method also has its rational basis, because it must be remembered that the actual perpetrator in this situation usually has a stress reaction, which is manifested, among other things, by a feeling of dry mouth. If saliva production is restricted, it is logical that a grain of rice will be difficult to swallow, if not impossible.

The origins of the use of physiodetection as a criminalistic method can be found in the early 20th century in the USA. In 1914, at the beginning of the First World War, William Marston was commissioned by the US government to investigate the possibilities of lie detection for military purposes. In 1921, forensic psychiatrist John Larson created the first modern polygraph, then known as the kymograph, which recorded on paper a person's cardiovascular activity as well as the regularity of their breathing. The polygraph was then first used in court in 1923 by William Maston in the case of *Frye vs. US*. Based on the use of the polygraph in this case, the so-called Rule 702 was formulated, which states that „*the polygraph is admissible as scientific evidence in a court of law if it is accepted by the entire scientific community.*”<sup>4 5</sup>

### Use of physiological examination in our country

In the Czech, respectively Czechoslovak Republic, physiological examination has been used since the 1950s. In the 1960s, it was used more frequently in practice and the method was also discussed in the scientific literature.<sup>6</sup> A significant milestone was reached in 1969, when experts concluded that the physiological method was widely used abroad, which was evidence of its usefulness in the process of crime detection.<sup>7</sup> The initial knowledge of the possibilities of using the polygraph in our country, taking into account foreign experience, came from the Institute of Criminalistics at the Faculty of Law of Charles University in Prague.<sup>8</sup> In 1981, the use of physiological detection methods was transferred to the Institute of Criminalistics in Prague, where a special workplace was established for this purpose.

As far as the use of the polygraph in criminalistic practice is concerned, it can be stated that the use of this device has a clearly positive effect on the clarification and conduct of criminal investigations. The polygraph is used in particular

in the investigation of serious crime, where it can have a major impact on the detection of the perpetrator. At present, the polygraph is used in our country mainly as a means by which the police authority can obtain additional knowledge (clues) important for the conduct of the investigation. Thus, it is not only that on the basis of this examination the police authority concludes that the person under investigation is making a false statement about certain facts, but on the basis of the physical examination the police authority may obtain some valuable information which it would not otherwise have obtained, for example, on the basis of operational and search activities, and on the basis of this information it may then discover and secure further evidence which may play an important role in establishing the objective truth in the proceedings before the court. Polygraph examinations are also used in situations where there are a large number of suspects in a case and there is a need to somehow eliminate this selection and narrow down the number of suspects. In such

2 Porada, V. et al. (2016). *Kriminalistika. Technické, forenzní a kybernetické aspekty*. 81.

3 Straus, J., Vavera, F. et al. (2012). *Dějiny kriminalistiky*. 333.

4 Michalicová, Z. (2017). *Psychofyziologické overovanie pravdovravnosti. Forenzní vědy, právo, kriminalistika*. 1, 2.

5 Rule 702 was modified in 1993 as a result of *US v. Daubert*, where the court declared that psychophysiological verification of truthfulness is the scientific method.

6 Matiašek, J., Bárta, B., Soukup, J. (1966). *Výslech a psychologie*. 145 and so.

7 Kohout, J. (2009). *K některým aspektům fyziodetekčního vyšetření. Kriminalistika*. 3, 42.

8 Kohout, J., Vraná, J. (1995). *Detektor lži – fyziodetekční vyšetření. Bulletin advokacie*. 5, 33 and so.

a case, the polygraph is then used in the opposite sense - the aim is actually to detect those persons who testify truthfully, which (in conjunction with other established facts) usually

removes them from suspicion. The position of the physical examination in the context of Czech evidence law will be discussed in a separate section on evidence.

### Use of physiological examination in the world

The issue of physiological examination is perceived as an interesting question in many countries, while the attitude of countries towards the use of this method in criminalistic practice is different. Generally, however, two attitudes can be detected - acceptance of this method and its introduction into criminalistic practice and, on the other hand, rejection of this method as a method that cannot achieve objective results, or its use is in conflict with any of the fundamental human rights or procedural rights. The first approach is characteristic mainly of Eastern countries such as China or Russia, and the second, more rejectionist attitude is characteristic of Western countries, especially the European Union states, where the attitude towards this means of criminalistic practice is relatively uniform.

As already indicated in the introduction of the paper, the method of physiological examination began to develop mainly in the USA, where it is also widely used in practice and where they have nearly seventy years of experience with this method. The USA has a wealth of experience in the use of this method, and the experts working on this method in Europe draw heavily on this knowledge.<sup>9</sup> In the USA, the American Polygraph Association<sup>10</sup> has also been set up, where all staff who carry out polygraph examinations in practice receive regular training.<sup>11</sup> According to American judicial practice, the result of a polygraph examination is essentially meaningless as evidence. In practice, however, the approach is somewhat different: the result of a physical examination may be used as evidence in criminal proceedings, subject to the prior consent of all parties.<sup>12</sup> At the same time, however, it is necessary to reflect the specifics of the judicial system in the USA, where each state has more or less different legal regulations and case law. This leads to a situation where some courts admit the result of polygraph examination as evidence (usually as circumstantial evidence) and others radically reject it.

As far as European countries are concerned, the attitude is different from that of the USA, in particular more restrained. In 2012, Lithuania initiated research in European countries to find out how these countries use the method of physical examination in practice and what their attitude towards this method is in the context of evidence in criminal proceedings.

Based on the research, it was found that the practice varies from state to state. Some states do not use the polygraph at all in the context of investigations, while others use it as a means of procuring additional evidence. Exceptionally, some states admit the result of the physical examination as evidence in court proceedings.<sup>13</sup>

As Strigáčová states, „EU Member States that do not carry out psychophysiological examinations of the truthfulness of testimony cite as a reason primarily the absence of legal regulation of such a method and the fact that polygraph examinations are contrary to the basic principles of legality, in particular, the principle of the contradictory nature of proceedings, the principle of the inviolability of the person and human dignity, the principle of the inadmissibility of the use of violence and coercion in evidence and, last but not least, the prohibition of self-incrimination.”<sup>14</sup> In Slovenia, the UK (now outside the EU), Estonia, Hungary, Slovakia or Poland, the result of a polygraph examination is not seen as reliable evidence that could stand up in court. This does not mean, however, that these countries do not use the polygraph at least in the course of investigating (especially the most serious) crimes.

If we look at our eastern neighbors, i.e. Slovakia, there is a prevailing negative attitude towards the use of the result of polygraph examinations as evidence in criminal proceedings, even though their procedural rules are based on practically the same definition of the term „evidence” as our Criminal Procedure Code.<sup>15</sup> The case law of the Supreme Court of the Slovak Republic can be cited, according to which „The results of a polygraph examination, so-called polygraph, cannot be used as evidence in criminal proceedings, because the essence of such an examination is the interrogation of the accused about the facts relating to the crime. However, in criminal proceedings, only those findings which the accused has provided in accordance with the provisions of Article 91 et seq. of the Code of Criminal Procedure may be used, which is not the case in the case of his polygraph examination (interrogation).”<sup>16</sup> Polygraph examination is not used in criminal practice either, as the position of the Slovak courts is that it would be an illegally conducted interrogation.<sup>17</sup>

Although Germany was one of the first European countries to have experience with the use of the polygraph, having

9 On the possibilities of using the physiodesection method in the USA, cf. Kohout, J., Vraná, J. (1995). Detektor lži – fyziodetekční vyšetření. *Bulletin advokacie*. 5, ibid.

10 Hereinafter referred to as “APA”.

11 For more information about this association, visit [www.polygraph.org](http://www.polygraph.org).

12 Kohout, J., Vraná, J. (1995). Detektor lži – fyziodetekční vyšetření. *Bulletin advokacie*. 5, ibid.

13 Council of the European Union Draft Note NO 18030/12, final report of the research „Use of polygraph examination and other non-traditional tools in criminal and other investigations in the European Union member states” (Council of the European Union Draft Note No 11349/2/13).

14 Strigáčová, D. (2015). Detektor lži jako dokazný prostriedok v trestnom konaní In: Kalvodová, V., Hrušáková, M. *Dokazování v trestním řízení. Právní, kriminologické a kriminalistické aspekty*. 321-341.

15 On this, cf. below.

16 On this, cf. Resolution of the Supreme Court of the Slovak Republic of 30 July 2002, Case No. 6 Tz 13/02.

17 Strigáčová, D. (2015). Detektor lži jako dokazný prostriedok v trestnom konaní In: Kalvodová, V., Hrušáková, M. *Dokazování v trestním řízení. Právní, kriminologické a kriminalistické aspekty*. 336.

produced such devices of its own design as early as the 1920s, this device was not permanently introduced into practice, primarily because the Federal Supreme Court had already ruled in 1954 that the use of the polygraph was prohibited. This was mainly because the use of this method allegedly interfered with a person's freedom of decision.<sup>18</sup>

For similar reasons to those in Germany, and also in view of the historical links between the two countries and the similarity of their legislation, polygraph examinations were also banned in Austria.<sup>19</sup>

In Poland, the attitude of law enforcement authorities towards polygraph examinations is somewhat different. The first attempts to use the polygraph in this country date back to the early 1960s. Two cases had an impact on the attitude towards the polygraph: the so-called *Olsztyn case*, where a murderer was discovered on the basis of a polygraph examination, and the so-called *Lublin case*, where the result of a polygraph examination was also submitted to the court as evidence, but the court stated that it could not be admitted because it was based on an experimental examination.<sup>20</sup> A more comprehensive position on this issue was then taken by the Polish Supreme Court in 1976, when it admitted the possibility of using the polygraph, but with the proviso that the polygraph examination was only of a supportive nature and could not be seen as independent evidence.<sup>21</sup>

Lithuania is more open to polygraph examinations, and its approach to this method is in many ways specific. There is a separate piece of legislation governing polygraph examinations in that State.<sup>22</sup> The introduction to this legislation defines basic concepts such as polygraph, polygraph examination, the person carrying out the examination, etc. It also regulates the conditions for conducting such examinations – “*In their activities, entities conducting an examination shall act in compliance with the Constitution of the Republic of Lithuania, this Law and other laws as well as other legal acts adopted by the Seimas, international treaties of the Republic of Lithuania, decrees of the President of the Republic, Government*

*resolutions and other legal acts.*”<sup>23</sup> However, the performance of polygraph examinations is limited only to a narrow circle of persons defined by Article 4(2) of the Law: „*persons whose activities are related to the use of, protection of or familiarisation with classified information:*

1) *civil servants from respective institutions, employees working under employment contracts, officials and servicemen, persons selected for service or work at these institutions as well as covert participants of criminal intelligence and covert human intelligence sources;*

2) *civil servants, employees working under employment contracts, officials and servicemen, persons selected for civil service or work as well as covert participants of criminal intelligence where this is requested by other state institutions of the Republic of Lithuania.*”

Thus, the results of polygraph examinations are not perceived as sufficiently reliable to serve as evidence in criminal proceedings, even in Lithuania. This is also commented on in Lithuanian case law, where the Supreme Court states that „*A polygraph is a device which records physiological changes occurring in a person's body during an examination by this device and on which the evaluation of the statements of the person examined by this device is based. The data obtained from a polygraph examination does not meet the requirements for evidence set out in Article 20 of the CPC. However, the fact that a polygraph was used in the pre-trial proceedings at the request of the person under investigation does not in itself give rise to a claim that there has been a fundamental breach of the CPC in the case in question.*”<sup>24</sup>

However, despite the above, polygraph examination is used in Lithuanian judicial practice, even though its result is not admissible as evidence. Nevertheless, this examination has an important place in criminalistic practice, where it helps in detecting perpetrators of criminal offences. The possibilities of using the polygraph in practice have been discussed, for example, by the authors Saldžiūnas and Kovalenka.<sup>25</sup>

### On the possibilities of using polygraph examinations as evidence in the Czech criminal proceedings.

The question of whether the result of a polygraph examination can be used as evidence in criminal proceedings has long been disputed and the position on this issue is not unanimous. As indicated above, some States allow the use of such evidence, others do not. In this section, we would like to assess the current approach to this issue in the Czech Republic and also reflect on whether this state of affairs is satisfactory and what changes, if any, might be beneficial.

Currently, the use of polygraph examinations is not

legislated in the Czech Republic (unlike other countries such as Lithuania - see above). If we proceed from the definition of evidence as enshrined in the Criminal Procedure Code<sup>26</sup>, then anything that can contribute to the clarification of the case can serve as evidence (Cf. § Section 89(2) of the Code of Criminal Procedure). In the law there follows a list of possible means of evidence, which, however, is only exhaustive. If this definition is respected, it can be concluded that the use of polygraph examinations can be subsumed under the concept of

18 Kohout, J., Vraná, J. (1995). Detektor lži – fyziodetekční vyšetření. *Bulletin advokacie*. 5, ibid.

19 Ibid.

20 Ibid.

21 Widacki, J. (2014). *Badania poligraficzne w Polsce*. 31 and so.

22 Law on the use of the Polygraph, 29 August 2000, No VIII-1906.

23 Cf. Article 3 of the Act.

24 Cf. cassation decisions in criminal cases No. 2K-31-511/2018 and 2K-191-697/2018.

25 Saldžiūnas, V., Kovalenka, A. (2013). Legal regulation and practice of psychophysiological polygraph examinations in the Republic of Lithuania. *APA Magazine*.

26 Act No. 141/1961 Coll., on Criminal Procedure (Criminal Procedure Code), as amended, hereinafter referred to as the “Criminal Procedure Code”.

evidence, as it follows from this definition. At the same time, it is not an inadmissible method of proof (Cf. § Section 89(3) of the Code of Criminal Procedure).

However, despite the above, in current Czech criminal law practice, the result of a polygraph examination is not perceived as suitable for use as evidence in criminal proceedings.<sup>27</sup> For this reason, this method is used only in criminalistics, at the stage of investigation of a crime and detection of its perpetrator. It finds its application particularly in cases where a large number of suspects are given and some need to be eliminated. Polygraph examination is used only in the most serious crime cases, typically in murder investigations. This is logical, as the difficulty of this examination precludes its more widespread use. This is also due to the fact that polygraph examinations are only carried out at the Institute of Criminalistics in Prague and only a few personnel are trained to perform them according to APA standards.

In order to ensure that the results of polygraph examinations can be used as evidence in criminal proceedings and not as mere clues in the course of investigations, more precise legal regulation would be appropriate. In our opinion, this does not have to be at the level of a law<sup>28</sup>, as in the case of Lithuania mentioned above, but would be sufficient at the level of an internal act, such as a binding instruction from the President of the Police. There is also the question of how to make the result of this examination more objective. One possibility is to formulate the conclusion of the physical examination as an expert opinion, which could add to its validity. In the context of objectification, it is then worth considering whether the procedure by which the examination is carried out should be modified in some way. At present, it is carried out by specially trained staff of the Institute of Criminalistics with the prior consent of the person undergoing the examination. According to current practice, no one must be present during the examination except the examiner and the person being examined. We see room for some changes on this point. In our opinion, it could help to objectify this method if another person not involved in the examination were present during the physical examination (i.e. similar to a person not involved

in a search). Such a procedure might not even interfere with the examination, since the non-participant could be present in a room other than the one where the examination is being carried out, with the sole advantage of being able to observe the examination, for example through a window. The presence of a so-called non-participant could dispel later doubts as to how the examination was carried out, whether the person being examined was under duress, whether the questions in the examination report correspond to those actually asked, etc. We are aware, however, that it may be difficult for the police authority to obtain such a person, but, as already mentioned, the use of this method (e.g. in comparison with the aforementioned search) is not so frequent, and therefore the presence of uninvolved persons would not be such a complication for the conduct of this examination, especially in comparison with the fact that the probative value of the use of this method could be increased as a result.

According to us, therefore, the use of the result of the physiological examination as evidence in criminal proceedings is not excluded, and in some cases it may be very appropriate. However, several conditions must be fulfilled - the examination must be voluntary, the examination must be proceeded with its performance to request the interruption or termination of this examination. Furthermore, it is advisable to focus on greater objectification of this method, for example by bringing in a so-called non-participant. It is also worth considering whether to legislate on this method. Although this is not necessary in the context of the principle of free evaluation of evidence and in view of the definition of evidence under Article 89(2) of the Code of Criminal Procedure, it could contribute to the validation of this method. In our opinion, if these conditions are met, the result of the polygraph examination may be admitted as circumstantial evidence which will appropriately supplement the other evidence. By its nature, however, it can never be exclusive evidence and will always be subject to a free evaluation of the evidence, which means that it will always be up to the judge in question to decide for himself whether to give any weight to this method.

### Conclusion

In conclusion, there is a multiplicity of perspectives on the issue of polygraph examinations, which evokes a large number of problematic issues. However, it is not possible to cover all the issues in a completely satisfactory manner within the scope of this short article, therefore we have focused only on some problematic aspects. The introduction of the article was devoted to defining the concept of physiological examination and presenting its application in different countries.

Then, we focused on the possibilities of using this method in our country and considered the question of the possibility of using the result of the polygraph examination as evidence in criminal proceedings. In this section we have presented some *de lege ferenda* considerations, but it is nevertheless worth reiterating that the aim of this article is not to provide a clear conclusion, but rather to initiate a discussion on this issue.

27 The opinion on the physiological examination as inapplicable as evidence in criminal proceedings has been repeatedly expressed by the Czech judicial practice (especially of the Constitutional Court and the Supreme Court): the physiological examination has the character of a so-called operative search device only, and the results of this examination cannot therefore serve as procedurally relevant evidence (cf. No. 8/1993 Coll. of Criminal Procedure judgement or III.ÚS 861/11).

28 If this method were to be regulated at the statutory level, it would be appropriate to include it among the so-called special methods of evidence regulated in the Code of Criminal Procedure.

## POLIGRAFO NAUDOJIMAS KRIMINALISTINĖJE PRAKTIKOJE

Marek Fryšták,  
David Textl

### Santrauka

Šiame straipsnyje aptariamos fiziodetekcijos panaudojimo galimybės šiuolaikinėje kriminalistinėje praktikoje ir su kokiomis problemomis susiduriama naudojant poligrafą. Taip pat analizuojama, kokia šio metodo vieta kriminalistinėje praktikoje, ar šio metodo taikymo rezultatas gali būti įrodymas baudžiamajame procese ir jei taip, kokios sąlygos turi būti tenkinamos. Taip pat išdėstomos argumentuotos mintys, kokie pakeitimai būtini, kad fiziodetekcijos metodas būtų plačiai taikomas praktikoje. Atsižvelgiant į šio klausimo

apimtį, neįmanoma pateikti išsamios poligrafo naudojimo praktikoje klausimo analizės, todėl sutelkiamas dėmesys tik į kai kuriuos probleminius aspektus. Šio straipsnio tikslas yra paskatinti skaitytoją susimąstyti ir pradėti diskusiją, ir iš jos gimusias išvalgas būtų galima sėkmingai pritaikyti ir teisėkūroje.

**Raktiniai žodžiai:** poligrafas, fiziodetekcijos metodas, įrodymai, baudžiamasis procesas.