



Marcin Gołaszewski, *Metody interpretacji danych w badaniach poligraficznych. Metody interpretacji danych w badaniach poligraficznych [Methods of interpreting data in polygraph examinations, the problem of expert subjectivity in forming opinions]*, Krakow: Andrzej Frycz Modrzewski Krakow University, 2023 (in Polish)

The research problem addressed by Marcin Gołaszewski has been considered previously, but until now, no single publication has addressed the problem of expert subjectivity in polygraph examinations in a comprehensive manner.

Gołaszewski states in his introduction that polygraph examinations were originally designed for investigative purposes, although they are now used in a much broader context, even by the private sector. He further provides a detailed account of the examinations in question, with a particular focus on their use as evidence in criminal trials followed by a brief overview of polygraph examinations in the eye of Polish law, including their admissibility and the limitations imposed by the Code of Criminal Procedure. The author then proceeds to cite the etymology of the word “polygraph” itself and its Polish equivalent, *wariograf*, proposed by P. Horoszowski, and refers to the Polish synonym in a critical manner. In a series of brief overviews, Gołaszewski discusses the construction of the modern polygraph, the object of interest to the examiner, and the two fundamental polygraph examination techniques: the Control Question Technique (CQT) and the one most prevalent currently, the Guilty Knowledge Test (GKT). From here, he moves to the issue of the expert’s opinion, outlining the requirements it has to meet to be used in criminal proceedings and briefly describing the role of the expert in the trial. That is followed by a comprehensive analysis of the issue of scientific evidence, including opinions on polygraph examinations that addresses both the historical development of the admissibility of scientific evidence from the examinations in question and the use of scientific methods in criminal proceedings in general. It is essential here to focus more specifically on the three distinct levels of scientific thinking Gołaszewski elucidated, as they are of paramount importance in the assessment of evidence, as proposed by W. Thomas (pp. 25–27). Gołaszewski dedicates most attention to the second level, being techniques and procedures, and to the third level – the appropriate adjustment of the specific procedure to the context of the case. In a concise and comprehensive manner, he introduces the subject of polygraph examinations in the introduction, presenting the most important issues of their admissibility, the nature of the examinations, the subject of their interest, and the role of the person performing such examinations in the criminal procedure. Pages 30 and 31 are dedicated to the detailed discussion of the five research problems presented here.

The first chapter is a study of the factors that influence the reliability and consistency of polygraph assessments. It commences by delineating the areas of subjectivity inherent in expert opinions within the field and emphasises that the sources of unreliable opinions among expert witnesses may be manifold and should be attributed both to the examination methodology itself and to the human factor (p. 33). Referencing the problem of the expert’s lack of impartiality, he mentions that it can manifest itself as favouritism towards the accuser (pp. 34, 37–41). Ad-

addressing the issue of insufficient validation of the method, he notes that it translates into an unverified diagnostic value of the examinations carried out according to it (p. 35). He then turns to the subject of accessibility and representativeness heuristics, which can result in the neglect of other, often complex solutions that are overlooked by following simplistic thinking. This is where Gołaszewski presents the issue of attribution error in polygraph studies, and goes on to present the problem of perceiving a truthful person as a liar and the Othello effect. The argument moves on to the impact of time pressure and the current emotional state of the expert, and the impact of peer pressure and the influence of the information given to the expert on the expert's opinion. Quoted here is G. Barland's doctoral thesis (1975) demonstrating that 17 out of 19 polygraphers who had shared their initial opinion before the examination on the basis of materials they had previously obtained upheld their original opinion after the actual polygraph examination (p. 52). Continuing the above subjects, the author moves to describe Israeli research from the early 1990s (pp. 52–55) and experiments conducted jointly by D. Krapohl and D. Dutton (pp. 56–58). However, a reference to A. Ginton supports the argument that misjudgements in the experiments conducted do not occur to a statistically significant degree. This becomes the springboard for tacking the issue of amending the provisions of the Polish Code of Criminal Procedure governing the provision of case files to experts, with Gołaszewski pointing out that even the appointment of the person ordering the examination may be subjective. He then recalls the conditions under which a polygraph examination should be carried out, and once more describes the devices that the polygraph consists of and the way they record the data to draw attention to a problem that arises when tests are carried out with a computerised polygraph, whereby the recording differs depending on whether the data is recorded in automatic or manual mode. This is illustrated with the recorded curves showing reaction on the EDA channel (p. 79). The further discussion concentrates on the appointment of an expert by the court and the verification of such expert's credibility. The author correctly criticises polygraphers who lack the appropriate qualifications and yet are listed as expert witnesses in court. For the sake of this argument, he cites the position of S. Waltoś that entry on the list of expert witnesses does not guarantee that the expert will provide an opinion in accordance with the highest scientific standards. This segways the argument to the description of the standards of the American Polygraph Association and the training standards adopted by the Polish Society for Polygraph Examination. Gołaszewski remarks that the authoritative confirmation of the qualifications of an expert in polygraph examinations in Poland is provided by certificates issued by entities accredited by the aforementioned organisations, the Polish Association of Polygraph Examiners, and

government agendas. The chapter closes with a description of the personal qualities of a professional polygrapher.

The second chapter opens with a succinct analysis of data analysis, tracing its historical evolution from the highly subjective qualitative method to the partially objectified quantitative-qualitative methods, and follows on to the evaluation of polygraph examinations methods and their underlying assumptions. They are then classified according to three key principles: the method of variable analysis, diagnostic rationale, and decision rules (pp. 116–120). The numerical evaluation scales, which can be classified as qualitative-quantitative, is discussed on pp. 121–155), and followed by the study of the independent polygrapher conducting the examinations and the practice known as blind interpretation (pp. 158–162) and the degrees of automation of operations in manual and computer-based analysis (pp. 162–181). Providing an insight into computer algorithms, Gołaszewski uses the development of the Polyscore system as an example, and additionally cites experiments conducted at the University of Utah, which returned the conclusion that there was no significant difference between the accuracy of expert and computer-generated analyses (p. 167). On that, a Polish experiment, conducted at the University of Silesia in Katowice, is cited. It involved comparative studies between human assessment on a 7-item scale in accordance with the rules of the federal system and the indications of the OSS-2 system (p. 175). The author then proceeds to discuss the use of tools helping human interpretation of data, mentioning the PLE Amplitude Tool and the RLE Tool. Chapter Two concludes with the author's own research into the accuracy of polygraph diagnoses employing a range of analytical techniques. Gołaszewski participated in "Instrumental and non-instrumental methods of insincerity detection – forensic, ethical and legal problems", a project involving fifteen professional polygraphers conducted at the Andrzej Frycz Modrzewski Kraków University whose results were published in 2014 and 2018 (pp. 192–199). Three of the participating polygraphers conducted the tests, while the others performed a blind evaluation of the polygrams obtained. The project allowed the author to identify discrepancies in the reliability of the tests performed and to identify the problems that needed addressing. These discussion of the actual issues became part of the following chapter.

Chapter Three builds upon the preceding section by exploring the potential for reducing the margin of subjectivity in polygraph examinations. Gołaszewski cites the validation of methods for performing polygraph examinations outlining a list of techniques approved for the examinations in question by to the American Pol-

graph Association according to its standard (pp. 207–208). Further comes the rationale for diagnosis, commencing with the Backster system, and moving on to the federal system and the one developed at the University of Utah. The section concludes with the more recent Empirical Scoring System and Empirical Scoring System Multinomial. The chapter concludes with the subject of judicial review of expert opinions, and brings out the legal rationale for limiting subjectivity in polygraph examinations in order to provide the most complete, reliable and subjective examination opinions possible.

The reviewed work concludes with a wrap-up on pp. 241–251. The author's reflections and conclusions are worth consideration. His comprehensive description of the issue of subjectivism and the attempts made to reduce it provides a valuable contribution to the existing body of knowledge in the field of polygraph research. It is important to note that the research in question is the subject of ongoing studies that aim at improving the quality of the data obtained. Nevertheless, there are no other equally comprehensive works describing expert subjectivity and propose measures to address it at the moment. *Methods of interpreting data in polygraph examinations, the problem of expert subjectivity in forming opinions*, with argumentation is conducted in a logical manner, and the selection of examples, both historical and stemming from the author's research, comprehensively covers the chosen subject matter, is certainly a valuable contribution.

References

- Barland, G.H. (1975), *Detection of Deception in Criminal Suspects. A Field Validation Study*. Salt Lake City.
- Ekman, P. (2015), *Kłamstwo i jego wykrywanie w biznesie, polityce i małżeństwie*. Tłum. S.E. Draheim, M. Kowalczyk. Warszawa, pp. 83–84.
- Ginton, A. (2019), Basic vs. Applied Psychology perspectives lead to different implications from the same data: reevaluating the impact of prior expectations on polygraph outcomes. *Social Sciences & Humanities Open*, 1, 1–6.
- Holmes, W.D. (1957), *The Degree of Objectivity in Chart Interpretation*. In: Leonard, V.A., *Academy Lectures on Lie-detection*. Vol. 2 (pp. 67–70). Springfield.
- Krapohl, D.J. & Dutton, D.W. (2018), Believing Is Seeing. The Influence of Expectations on Blind Scoring of Polygraph Data. *Polygraph*, 47(2), 91–107.

Thomas, W.A., *Some Observations by Scientist*. 115 F.R.D., 198.

Waltoś, S. (2015), *Opinie biegłych – na ostrym zakręcie w polskim procesie karnym*, In: Czapska, J., Okrasa, A. (eds.), *Bezpieczeństwo – policja – kryminalistyka. W poszukiwaniu wiedzy przydatnej w praktyce*. Kraków, p. 33.

Wicklander, D.E. & Hunter, F.L. (1975), The Influence of Auxiliary Sources of Information in Polygraph Diagnosis. *Journal of Police Science and Administration*, 3(4), 405–409.

Konrad Porzycki*

* Andrzej Frycz Modrzewski Kraków University; e-mail: konradporzycki@gmail.com.